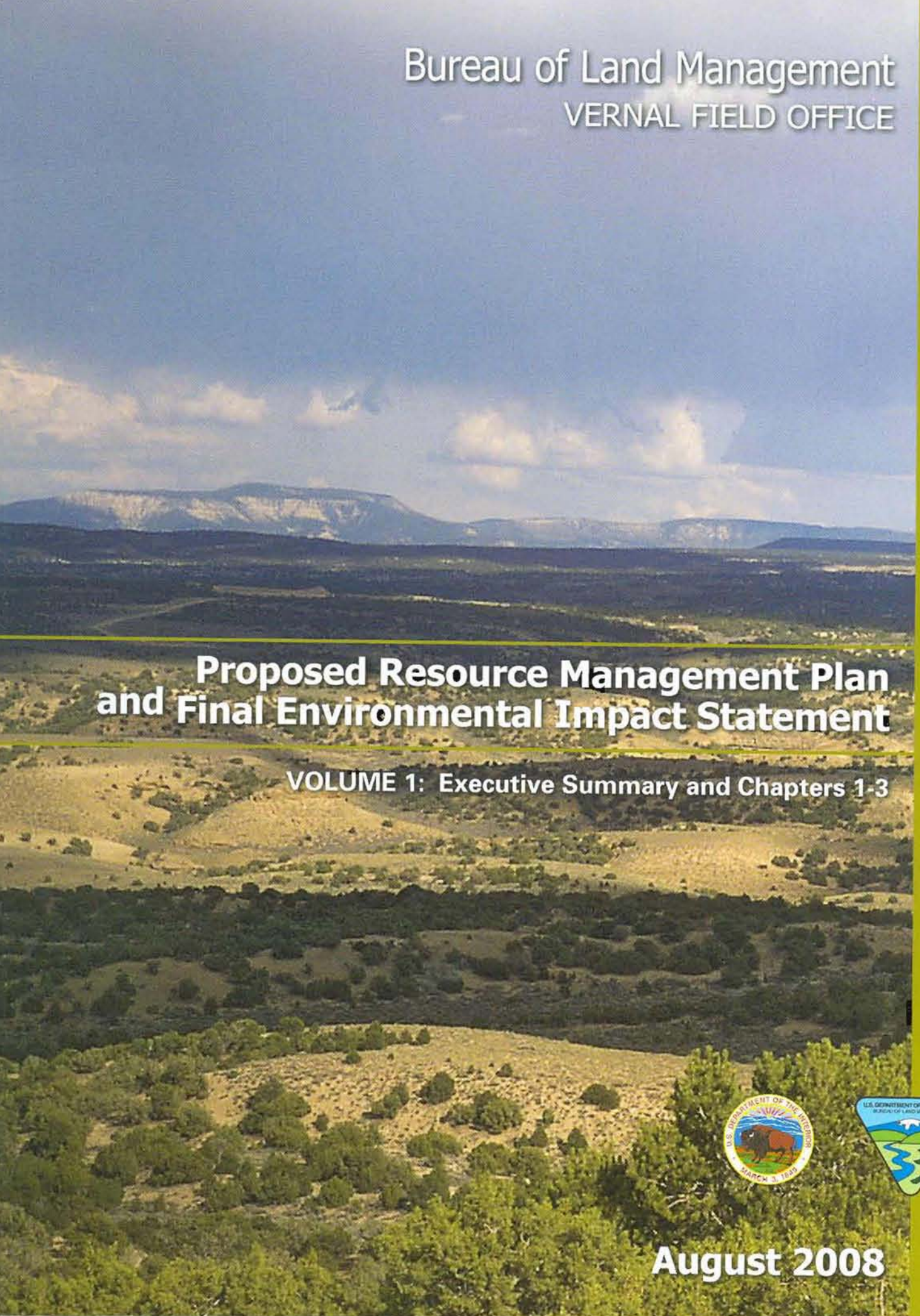

BLM

Bureau of Land Management
VERNAL FIELD OFFICE

Proposed Resource Management Plan and Final Environmental Impact Statement

VOLUME 1: Executive Summary and Chapters 1-3

August 2008

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

THE VERNAL FIELD OFFICE PROPOSED RESOURCE MANAGEMENT PLAN AND FINAL ENVIRONMENTAL IMPACT STATEMENT

Bureau of Land Management
Utah State Office
Salt Lake City, Utah

Prepared by the
Vernal Field Office
August 2008

Selma Sierra
Utah State Director

United States Department of the Interior
BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155
http://www.blm.gov

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

UT-080-1610-010J

Dear Reader:

Enclosed is the Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS) for the Vernal Field Office. The Bureau of Land Management (BLM) prepared the PRMP/FEIS in consultation with cooperating agencies, taking into account public comments received during this planning effort. This PRMP/FEIS provides a framework for the future management direction and appropriate use of BLM-administered lands and resources located in Daggett, Duchesne, and Uintah Counties, as well as 3,000 acres of public lands in Grand County, Utah. The document contains both land use planning decisions and implementation decisions to guide the BLM's management of the Vernal Field Office. The PRMP/FEIS is open for a 30-day review and protest period beginning the date the U.S. Environmental Protection Agency (EPA) publishes the Notice of Availability of the FEIS in the *Federal Register*.

This PRMP/FEIS has been developed in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Federal Land Policy and Management Act of 1976 (FLPMA). The PRMP/FEIS is largely based on Alternative A, the Preferred Alternative in the Draft RMP and EIS, which was released in January 2005. A Supplement to the Draft RMP/EIS evaluating non-WSA lands with wilderness characteristics was released in October 2007. This PRMP/FEIS contains the proposed plan and potential impacts of the proposed plan. The alternatives presented in the Draft and Draft Supplement RMP/EIS are also provided for comparative purposes. Major comments received during the public review period of the Draft RMP/EIS as well as the Draft Supplement and responses to these comments are provided on an attached CD. To aid the reader, substantive changes made between the Draft RMP/EIS and the PRMP/FEIS are described in Chapter 1 and are detailed in Appendix N.

Pursuant to BLM's planning regulations at 43 CFR 1610.5-2, any person who participated in the planning process for this PRMP and has an interest which is or may be adversely affected by the planning decisions may protest approval of the planning decisions within 30 days from date the Environmental Protection Agency publishes the Notice of Availability in the *Federal Register*. For further information on filing a protest, please see the accompanying protest regulations in the pages that follow (labeled as Attachment 1). The regulations specify the required elements of your protest. Take care to document all relevant facts. As much as possible, reference or cite the planning documents or available planning records (e.g. meeting minutes or summaries, correspondence, etc.). To aid in ensuring the completeness of your protest, a protest check list is attached to this letter (labeled as Attachment 2). If your protest does not include all of the elements outlined in 43 CFR 1610.5-2 the BLM will not respond to your protest.

E-mailed and faxed protests will not be accepted as valid protests unless the protesting party also provides the original letter by either regular or overnight mail postmarked by the close of the protest period. Under these conditions, the BLM will consider the e-mailed or faxed protest as an advance copy and will afford it full consideration. If you wish to provide the BLM with such advance notification, please direct faxed protests to the attention of Brenda Hudgens-Williams- BLM protest coordinator at 202-452-5112, and e-mailed protests to: Brenda_Hudgens-Williams@blm.gov.

All protests, including the follow-up letter (if e-mailing or faxing) must be in writing and mailed to the following address:

Regular Mail:	Overnight Mail:
Director (210)	Director (210)
Attention: Brenda Williams	Attention: Brenda Williams
P.O. Box 66538	1620 L Street, N.W., Suite 1075
Washington, D.C. 20035	Washington, D.C. 20036

Before including your address, phone number, e-mail address, or other personal identifying information in your protest, be advised that your entire protest – including your personal identifying information – may be made publicly available at any time. While you can ask us in your protest to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

The BLM Director will make every attempt to promptly render a decision on each protest. The decision will be in writing and will be sent to the protesting party by certified mail, return receipt requested. The decision of the BLM Director shall be the final decision of the Department of the Interior.

Upon resolution of all land use plan protests, the BLM will issue an Approved RMP and Record of Decision (ROD). The Approved RMP and ROD will be mailed or made available electronically to all who participated in the planning process and will be available to all parties through the "Planning" page of the BLM national website (*http://www.blm.gov/planning*), or by mail upon request.

Unlike land use planning decisions, implementation decisions are not subject to protest under the BLM planning regulations, but are subject to an administrative review process, through appeals to the Office of Hearings and Appeals (OHA), Interior Board of Land Appeals (IBLA) pursuant to 43 CFR, Part 4 Subpart E. Implementation decisions generally constitute the BLM's final approval allowing on-the ground actions to proceed. Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process or other administrative review as prescribed by specific resource program regulations once the BLM resolves the protests to land use planning decisions and issues an Approved RMP and ROD. Implementation-level decisions in the PRMP/FEIS are indicated by *italic text* and an asterisk (*) in Chapter 2. The Approved RMP and ROD will also clearly identify the implementation decisions made in the plan that may be appealed to the Office of Hearing and Appeals.

Sincerely,

Selma Sierra
Utah State Director

Attachment 1

[Code of Federal Regulations]
[Title 43, Volume 2]
[Revised as of October 1, 2002]
From the U.S. Government Printing Office via GPO Access
[CITE: 43CFR1610.5-2]

TITLE 43--PUBLIC LANDS: INTERIOR

CHAPTER II--BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR

PART 1600--PLANNING, PROGRAMMING, BUDGETING--Table of Contents

Subpart 1610--Resource Management Planning

Sec. 1610.5-2 Protest procedures.

(a) Any person who participated in the planning process and has an interest which is or may be adversely affected by the approval or amendment of a resource management plan may protest such approval or amendment. A protest may raise only those issues which were submitted for the record during the planning process.

(1) The protest shall be in writing and shall be filed with the Director. The protest shall be filed within 30 days of the date the Environmental Protection Agency published the notice of receipt of the final environmental impact statement containing the plan or amendment in the Federal Register. For an amendment not requiring the preparation of an environmental impact statement, the protest shall be filed within 30 days of the publication of the notice of its effective date.

(2) The protest shall contain:

(i) The name, mailing address, telephone number and interest of the person filing the protest;

(ii) A statement of the issue or issues being protested;

(iii) A statement of the part or parts of the plan or amendment being protested;

(iv) A copy of all documents addressing the issue or issues that were submitted during the planning process by the protesting party or an indication of the date the issue or issues were discussed for the record; and

(v) A concise statement explaining why the State Director's decision is believed to be wrong.

(3) The Director shall promptly render a decision on the protest. The decision shall be in writing and shall set forth the reasons for the decision. The decision shall be sent to the protesting party by certified mail, return receipt requested.

(b) The decision of the Director shall be the final decision of the Department of the Interior.

Attachment 2

Resource Management Plan Protest
Critical Item Checklist

The following items *must* be included to constitute a valid protest whether using this optional format, or a narrative letter.
(43 CFR 1610.5-2)

Before including your address, phone number, e-mail address, or other personal identifying information in your **protest**, be advised that your entire **protest**--including your personal identifying information--may be made publicly available at any time. While you can ask us in your **protest** to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations and businesses, will be available for public inspection in their entirety.

Resource Management Plan (RMP) or Amendment (RMPA) being protested:

Name:
Address:
Phone Number: ( )

Your interest in filing this protest (how will you be adversely affected by the approval or amendment of this plan?):

Issue or issues being protested:

Statement of the part or parts of the plan being protested:

Chapter:
Section:
Page:
(or) Map:

Attach copies of all documents addressing the issue(s) that were submitted during the planning process by the protesting party, <u>OR an indication of the date the issue(s) were discussed for the record</u>.
Date(s):

A concise statement explaining why the State Director's decisions is believed to be wrong:

Abstract

Proposed Vernal RMP and Final EIS

Proposed Vernal Resource Management Plan and Final Environmental Impact Statement

Lead Agency: U.S. Department of the Interior, Bureau of Land Management

Type of Action:	Draft ( )	Final (X)
	Administrative (X)	Legislative ( )

Jurisdiction: Dagget, Duchesne, Uintah, and a small portion of Grand Counties, Utah

Abstract: The Vernal Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) describes and analyzes the Proposed RMP and draft alternatives for the planning and management of public lands and resources administered by the Bureau of Land Management (BLM), Vernal Field Office. The Vernal Field Office is located in the northeast corner of Utah and administers lands within Daggett, Duchesne, and Uintah Counties, plus a small portion of Grand County. There are 5,518,859 acres within the boundary of the Vernal Field Office, of which 1,725,512 acres (approximately 30%) are BLM-managed surface lands. The Vernal Field Office administers energy-related mineral activities on 3.9 million acres of Federal mineral lands (includes 1.3 million acres of National Forest Service lands) and post-lease mineral operations on Indian trust mineral lands. The 1,911,000 acres of BLM-managed mineral estate includes the split estate mineral lands within the Hill Creek Extension (consisting of 185,500 acres of mineral estate underlying Indian trust surface).

The Proposed RMP is open for a 30-day review and protest period beginning with the date the U.S. Environmental Protection Agency publishes the Notice of Availability of the Final EIS in the *Federal Register*.

Alternatives A through D were presented in the Draft RMP and EIS. Alternative E was presented in the Supplement to the Draft RMP and EIS. The management direction of **Alternative A (Preferred Alternative)** is generally broad and accommodates a wide variety of values and uses. **Alternative B** provides for most resource uses but would emphasize oil and gas development, where feasible. **Alternative C** would strongly emphasize maintenance of watershed conditions, species viability, properly functioning ecosystems, and a reduction of habitat fragmentation. **Alternative D (Current Management/No Action)** would maintain present uses by continuing current management direction and activities by all new mandates, Executive Orders, and directives that have been implemented since the Books Cliffs and Diamond Mountain RMPs were completed. **Alternative E** gives emphasis to all non-WSA lands with wilderness characteristics, including closure of these areas to mineral leasing and off-road vehicles, exclusion of rights-of-way, protection of undisturbed landscapes, and providing opportunities for primitive and semi-primitive recreation.

The Proposed RMP/Final EIS is primarily based on the Preferred Alternative (Alternative A) from the Draft RMP/EIS. However, it has been modified to include aspects of all alternatives analyzed after careful consideration of both public and internal comments received on the Draft and Supplement RMP/EIS. The major issues addressed consist of: (1) travel management, (2) energy and mineral resource exploration and development, (3) special designations, (4) non-WSA lands with wilderness characteristics, and (5) special status species.

Protest/Comment: Protests on the Vernal Proposed Resource Management Plan and Final Environmental Impact Statement Proposed must be postmarked or received no later than 30 days after publication of the EPA Notice of Availability in the *Federal Register*. The 30-day protest period (identified above) will not be extended. The close of the review and protest period will be announced in news releases, newsletters, and on the Vernal RMP/EIS website at http://www.blm.gov/ut/st/en/fo/vernal/planning.1.html.

For Further Information Contact:
Bureau of Land Management, Vernal Field Office
Attn: Kelly Buckner, RMP Project Manager
170 South 500 East
Vernal, Utah, 84078
Telephone (435) 781-4400
Kelly_Buckner@blm.gov

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(Maps contained in Volume 4)

LIST OF APPENDICES

(Appendices contained in Volume 4)

Compact Disk – All substantive comments from:

- Draft RMP/EIS
- ACEC Comment Period
- Supplement to the Draft RMP/EIS

These three databases have been sorted both by commenter name and by resource.

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Vernal Field Office (VFO) of the Bureau of Land Management (BLM) Utah is revising and integrating the Book Cliffs and Diamond Mountain Resource Management Plans (RMPs) into a single new RMP. The revised RMP will be called the Vernal Field Office Resource Management Plan (VFO RMP) and will provide planning guidance for public land and the federal mineral estate managed by the VFO in Daggett, Duchesne, and Uintah counties, as well as in a small portion of Grand County in northeastern Utah. The consolidated Diamond Mountain and Book Cliffs areas will be referred to as the Vernal Planning Area (VPA) or the VFO.

There are 5,518,859 acres within the boundary of the VFO, of which 1,725,512 acres (approximately 30%) are BLM-managed surface lands. The VFO administers energy-related mineral activities on 3.9 million acres of federal mineral lands, including 1.3 million acres of U.S. Forest Service (USFS) lands, and post-lease mineral operations on Indian Trust mineral lands. The 1,911,000 acres of BLM-managed mineral estate includes the split-estate mineral lands within the Hill Creek Extension, comprising 185,500 acres of mineral estate underlying Indian Trust surface. Table 1.4.1 clarifies in detail land ownership in the VPA and surrounding areas.

Most of the land that the BLM manages is in the eastern and southern portions of the VPA and is generally characterized by habitats associated with the Uinta Basin and Colorado Plateau. Other agencies managing land in the vicinity of the VFO include the USFS, Bureau of Indian Affairs (BIA), National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), Utah Division of Wildlife Resources (UDWR), and Utah Division of Lands and Forestry. Additional lands are held in private ownership or in trust by the U.S. for the Ute Indian Tribe or for individual Native Americans.

The Diamond Mountain portion of the VPA includes BLM-administered lands and minerals in Daggett and Duchesne counties and a portion of Uintah County northwest of the Green River. The plan is responsible for the administration of public land in Browns Park and the Diamond Mountain Plateau for the Little Snake Field Office of Colorado. The Little Snake Field Office administers public land in Browns Park for some resources. Administration of these agreed-upon resources is in accordance with the parent resource area's management plan. There is also a fire-suppression agreement between the VFO and Little Snake Field Office.

The Book Cliffs portion of the VPA is located in northeastern Utah. It is bounded by the Utah–Colorado state line on the east, the Book Cliff Mountains to the south, the Green River to the west, and Blue Mountain to the north (see Map Figure 1). The Book Cliffs area includes public land and minerals in Uintah and Grand counties. The VFO boundary officially ends at the Uintah County line; however, a small portion of the public lands in Grand County of the Moab Field Office are administered by the VFO under a memorandum of understanding (MOU).

A small portion of the Flume Canyon Wilderness Study Area (WSA) lies within the VPA. However, this WSA is managed by the Moab Field Office due to easier access to this area from Moab.

A small portion of the West Cold Springs and Diamond Breaks WSAs lie within the Vernal Planning Area. A Memorandum of Understanding (MOU) is in place between the Little Snake Field Office in Craig, Colorado, and the VFO. The Little Snake Field Office has administrative responsibility for managing both of these areas.

A small number of grazing allotments straddle the Utah/Colorado border. An MOU is in place between the White River Field Office and the Vernal Field Office, where each office, depending on the allotment boundaries, administers livestock grazing for the other office.

Land ownership patterns within both the Diamond Mountain and Book Cliffs planning areas range from large blocks of BLM-administered public lands to small, privately owned blocks. This is complicated by lands where BLM administers a fractional percentage of the minerals, while other owners hold the other interests in the land. Land ownership, surface administration and mineral management responsibilities within the VPA are shown in Map Figure 1 and described in Table 1.4.1.

Decisions and actions of the RMP only apply to BLM lands. In the case of split estate lands, such as lands within the planning area that are split between the BLM and the Uintah and Ouray Indian Tribe, actions affecting the surface must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner.

ES.2 PURPOSE AND NEED FOR THE ACTION

ES 2.1 PURPOSE

The purpose of this project is to revise and integrate the Book Cliffs and Diamond Mountain RMPs into a new single comprehensive RMP that will guide management of public lands in the VPA. Mineral development in the VPA is one of the major issues driving this land use planning effort. However, due to mineral development, many of the other decisions necessary to complete a comprehensive resource management plan needed to be updated and revised.

In 2002, the BLM prepared a projected reasonable foreseeable development (RFD) scenario in order to project environmental impacts across a 15-year period; this RFD has been modified (2008) for oil and gas development only in order to project environmental impacts for up to five years. Development projections included in-depth reviews of potential for occurrence, past well production, current well production, and future potential for production. During the pendency of this planning effort (beginning with public meetings in 2001 and 2002 for scoping purposes through the notice of availability of the Draft RMP/EIS published in the Federal Register on January 14, 2005), the RFD scenario, which is a planning tool and not a prediction or limit to development, did not track completely with the pace of development in the Uinta Basin. The BLM has carefully monitored industry trends and believes that the RFD used as an analytical tool in this Proposed RMP can be considered accurate up to approximately five years from the time the Record of Decision (ROD) is signed.

Within the next five years, the BLM will monitor impacts to resources of continued development in the VPA and ensure that the impacts disclosed in this Proposed RMP are not exceeded by the pace of development.

ES 2.2 NEED

Current management of these public lands is guided by the Book Cliffs and Diamond Mountain RMPs. This RMP revision process is necessary because of the dated nature of the Book Cliffs RMP, completed in 1985, and to ensure consistency between the Book Cliffs and Diamond Mountain RMPs. Significant changes have occurred since completion of the Diamond Mountain and Book Cliff RMPs. Population growth and increased need for resource development has occurred, while concern for the environment has also increased. In addition to traditional consumptive uses (e.g., oil and gas development, mining and livestock grazing), there is now an increased interest in uses that emphasize aesthetic values such as open space and increased recreational opportunities. These often conflicting uses need to be addressed in terms of how they affect local communities; national, regional, and state interests: and ecosystem health. Additionally, policy guidance has resulted in the initiation or completion of local and national activity plans, recovery plans, and Programmatic Environmental Impact Statements (PEISs) that have changed land management direction in the VFO since the Book Cliffs RMP was written.

A large block of 188,500 acres of federal mineral estate within the Hill Creek Extension of the Uintah and Ouray Indian Reservation has not been previously analyzed for oil and gas leasing. This issue has been addressed as part of this RMP revision.

Ownership of federal land formerly managed by the Department of Navy and, more recently, by the Department of Energy (DOE) was transferred to the Ute Indian Tribe. The BLM managed certain resource programs for the Department of Energy on these 47,978 acres. This Vernal RMP will not analyze management of these programs.

These changes have been addressed as part of this RMP revision and integration process. See Section 1.5 for a description of the BLM's land use planning process.

ES.3 PLANNING ISSUES

Key planning issues identified through the scoping process that have been addressed in the RMP are:

- Air Quality
- Cultural and Paleontological Resources
- Fire Management
- Lands and Realty
- Minerals Management
- Non-WSA Lands with Wilderness Characteristics
- Off-highway Vehicle (OHV) Use and Transportation
- Rangeland Management and Health
- Recreation Resource Management
- Special Management Designations
- Visual Resource Management

- Watershed Management, Soils, and Vegetation
- Wild Horse Management
- Wildlife Habitat and Fisheries Management
- Woodland and Forest Management

ES.4 PROPOSED RMP AND DRAFT RMP ALTERNATIVES

Five management alternatives were developed to address the major planning issues and to provide direction for resource programs influencing land management. Each alternative emphasizes a different combination of resource uses, allocations, and restoration measures to address issues and resolve conflicts among uses to allow program goals to be accomplished in varying combinations across the alternatives. Management scenarios for programs not tied to major planning issues and/or mandated by law often contain few or no differences in management between alternatives.

Alternative D, continuation of current management (No Action), is based on existing planning decisions that remain valid, as well as on current direction and policy. The remaining alternatives were developed with input received during scoping and with expertise from the interdisciplinary planning team and input from local, state, federal, and tribal governments.

The alternatives were developed in response to the issues identified in the public scoping process and the planning criteria.

The BLM recognizes that social, economic, and environmental issues cross land ownership lines and that extensive cooperation is needed to actively address issues of mutual concern. To the extent possible, the alternatives were crafted using the input from public scoping comments and from comments submitted by Duchesne, Daggett, and Uintah county representatives and other cooperating agencies, including the Ute Indian Tribe.

All management under any of the alternatives would comply with state and federal regulations, laws, standards, and policies. Management items common to all and a more detailed discussion for each alternative may be found in Tables 2.1.1 through 2.1.27.

A comparison of the alternatives regarding these key management decisions are given in Tables ES.1 through ES.5 below.

Proposed RMP

The Proposed RMP/Final EIS is primarily based on the decisions from the Preferred Alternative (Alternative A) from the Draft RMP/EIS (January 14, 2005). However, it has been modified to include aspects of all alternatives analyzed after careful consideration of public comments, cooperating agency review, and internal review. The reviews were provided on the Draft RMP/EIS; call for information on Areas of Critical Environmental Concern (ACECs) (Federal Register Notice, December 13, 2005); and, Alternative E from the supplement that was issued on October 5, 2007, analyzing the management of non-WSA lands with wilderness characteristics. These alternatives are combined in the Proposed RMP/Final EIS. Some changes to the draft alternatives have been made in response to the public comments received during the comment period. These changes are limited, for the most part, to correcting mistakes and refining technical

points. Changes in the Proposed RMP/Final EIS from the Draft RMP/EIS Alternative A (Draft RMP/EIS Preferred Alternative) are summarized for the reader in Appendix N.

Alternative A (Draft RMP/EIS Preferred Alternative)

Management direction is generally broad and accommodates a wide variety of values and uses. The VPA would be managed to provide a sustainable flow of resources for human use, while protecting important watersheds and providing viable populations of native and desirable non-native plants species, and to provide wildlife habitat and opportunities for recreation use.

Alternative B

This alternative provides for most resource uses but would emphasize oil and gas development, where feasible. Renewable resources would be protected by balancing the development of mineral resources with focused and prudent mitigation measures.

Alternative C

The natural succession of ecosystems would be allowed to proceed in select management areas. This alternative would strongly emphasize maintenance of watershed conditions, species viability, properly functioning ecosystems, and a reduction of habitat fragmentation.

Alternative D (Current Management/No Action)

Maintain present uses by continuing present management direction and activities while abiding by all new mandates, executive orders, and directives that have been implemented since the previous RMPs were completed.

Alternative E

Alternative E gives emphasis to protection of all non-WSA lands with wilderness characteristics, including closure of these areas to mineral leasing and off-road vehicles, avoidance of rights-of-way, protection of undisturbed landscapes, and providing opportunities for primitive and semi-primitive recreation. The natural succession of ecosystems would be allowed to proceed in these and other select management areas. This alternative strongly emphasizes maintenance of watershed conditions, species viability, properly functioning ecosystems, and a reduction of habitat fragmentation. It also includes designation of ACECs and determinations for wild and scenic river suitability, while still providing for resource uses in other parts of the VFO, including mineral and energy development and motorized recreation use.

Alternative E is the same as Alternative C, except that it adds a protective management prescription to 277,596 acres of land in 25 areas that comprise non-WSA lands with wilderness characteristics. Alternative E, however, applies to all public lands within the VPA. The proposed decisions that apply to the lands outside of non-WSA lands with wilderness characteristics remain the same as those in Alternative C.

Table ES.1. Proposed RMP and Alternatives Comparison: Oil and Gas and Coal-bed Methane Leasing (acres)

Leasing Category	Proposed RMP	Draft RMP/EIS Alternative A (Preferred)	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Open	860,651	983,905	1,113,116	858,619	918,315	818,891
Administratively Open with Controlled Surface Use	779,730	796,955	706,281	768,466	617,715	680,570
Administratively Open with No Surface Occupancy	86,789	69,302	42,053	58,670	136,930	47,629
Closed	186,917	63,839	52,550	228,246	52,540	367,037

Table ES.2. Proposed RMP and Alternatives Comparison: ACECs (acres)

ACECs	Proposed RMP	Draft RMP/EIS Alternative A (Preferred)	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Bitter Creek	0	68,834	0	147,425	0	147,425
Bitter Creek–P.R. Spring	0	0	0	78,591	0	78,591
Browns Park	18,490	52,721	18,475	52,721	52,721	52,721
Coyote Basin	0	87,743	47,659	124,161	0	124,161
Four Mile Wash	0	0	0	50,280	0	50,280
Lears Canyon	1,375	1,375	1,375	1,375	1,375	1,375
Lower Green River Corridor	8,470	8,470	8,470	8,470	8,470	8,470
Lower Green River Expansion	0	1,700	0	1,700	0	1,700
Main Canyon	0	0	0	100,915	0	100,915
Middle Green River	0	0	0	6,768	0	6,768
Nine Mile Canyon	44,168	48,000	44,181	81,168	44,181	81,168
Pariette	10,437	10,437	10,437	10,437	10,437	10,437
Red Creek	24,475	24,475	24,475	24,475	24,475	24,475
Red Mountain–Dry Fork	24,285	24,285	24,285	24,285	24,285	24,285
White River	0	17,810	0	47,130	0	47,130
Total Acres	**133,400**	**345,850**	**179,357**	**759,901**	**165,944**	**759,901**

Table ES.3. Proposed RMP and Alternatives Comparison: Wild and Scenic River Suitability Recommendations (linear miles)

WSR Designations	Proposed RMP	Draft RMP/EIS Alternative A (Preferred)	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Argyle Creek	0	0	0	22	0	22
Bitter Creek	0	0	0	22	0	22
Evacuation Creek	0	0	0	21	0	21
Lower Green River	30	30	30	30	30	30
Middle Green River	0	0	0	36	0	36
Nine Mile Creek between Green River and Duchesne County Line	0	0	0	13	0	13
Nine Mine Creek between Carbon County Line and Confluence with Gate Canyon (two segments)	0	0	0	6	0	6
Upper Green River	22	22	22	22	22	22
White River (three segments)	0	44	0	44	0	44
Total Linear Miles	**52**	**96**	**52**	**216**	**52**	**216**

Table ES.4. Proposed RMP and Alternatives Comparison: OHV Use

Categories of OHV Use	Proposed RMP	Draft RMP/EIS Alternative A (Preferred)	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Open to OHV (acres)	6,202	6,202	5,434	5,434	787,859	5,434
Limited to OHV (acres)	1,643,475	1,643,475	1,659,901	1,353,529	887,275	1,326,024
Closed to OHV (acres)	75,845	75,845	60,187	366,559	50,388	392,818
Designated OHV Routes (miles)	4,860	4,860	4,861	4,707	0	4,654

Table ES.5. Proposed RMP and Alternatives Comparison: Non-WSA Lands with Wilderness Characteristics (acres)

PROPOSED RMP	Draft RMP/EIS Alternative A (Preferred)	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
106,178	0	0	0	0	277,596

ES.5 AFFECTED ENVIRONMENT

Resources within the VPA include mineral resources, wildlife, fisheries, botanical (including listed and non-listed sensitive species), rangeland, wild horses, wilderness, cultural resources, water resources, wetlands and riparian resources, visual resources, and recreational resources. Land use and economic resources include oil and gas, phosphate, tar sands, gilsonite, livestock grazing, woodland products, building stone, and rights-of-way. Opportunities for hunting, sightseeing, hiking, viewing historic sites, camping, fishing, and OHV use provide public enjoyment, as well as additional revenues to businesses in and adjacent to the VPA. Unique features within the VPA include the White and Green rivers; Browns Park, which provides crucial deer winter range and a high density of cultural and historical sites; the Pariette Wetlands, which provide habitat for over 100 species of wildlife; Red Mountain, with its high mountain vistas and plentiful recreational opportunities; Nine Mile Canyon, with its Fremont rock art; and the Book Cliffs, an area rich in resources with abundant management opportunities.

ES.6 ENVIRONMENTAL IMPACTS

The environmental impacts of the project alternatives are summarized in Table 2.2 of Chapter 2 of this EIS.

ES.7 SUMMARY OF CHANGES MADE BETWEEN THE DRAFT RMP/EIS AND THE PROPOSED RMP/FINAL EIS

The BLM has made numerous changes between the Draft RMP/EIS and the Proposed RMP/Final EIS. These changes are described below and detailed in Appendix N. BLM has prepared this Appendix to document if changes between the Draft RMP/EIS and the Proposed RMP/Final EIS resulted in a significant change in circumstances or conditions, or if the Proposed RMP/Final EIS contains different information from that which was presented to the public in the Draft RMP/EIS. Finally, in order to confirm that all changes made to the Proposed RMP/Final EIS fall within the range of alternatives presented and analyzed in the Draft RMP/EIS and the Supplement to the Draft RMP/EIS.

The regulation controlling whether or not a supplement is required is found at 40 CFR 1502.9(c), which provides that agencies:

> *Shall prepare supplements to either draft or final environmental impact statements if:*
> *The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or*
> *There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact.*

May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.
Shall adopt procedures for introducing a supplement into its formal administrative record, if such a record exists.
Shall prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement unless alternative procedures are approved by the Council.

All changes to the Vernal Field Office Draft RMP/EIS were made in response to public comment and/or internal review. The majority of the changes were editorial changes made to add clarity to the document. In some cases, alternatives presented in the Draft RMP/EIS were modified in the Proposed RMP to reflect technical corrections and data updates. In other cases, such as in Chapter 3, incorporation of updated information was necessary to refine the analysis in Chapter 4 that was incomplete or needed augmentation.

None of the changes described above and further detailed in Appendix N meet the regulatory definition for significance as found in 40 CFR 1508.27(a) and (b). These regulations require an agency preparing a NEPA document to review the changes for significant new circumstances or information relevant to environmental concerns and bearing on the Proposed RMP or its impacts, using context and intensity as the trigger for significance. The BLM has reviewed each substantive change through this regulatory standard and has determined that none of the changes, individually or collectively, require a supplement to this Final EIS.

Following is an executive summary of the major changes between the Draft RMP/EIS and the Proposed RMP/Final EIS. The summary of changes has been broken into two parts:

- Summary of Changes to Decisions Between the Draft RMP/EIS Preferred Alternative (Alternative A) and the Proposed RMP/Final EIS
- Summary of Editorial Changes Made Between the Draft RMP/Draft EIS and Proposed RMP/Final EIS.

ES 7.1 SUMMARY OF CHANGES TO DECISIONS BETWEEN THE DRAFT RMP/EIS PREFERRED ALTERNATIVE (ALTERNATIVE A) AND THE PROPOSED RMP/FINAL EIS

- **Air Quality** decisions were refined based upon State of Utah, Department of Air Quality correspondence included in Appendix O.
- The Draft RMP alternatives made proposed decisions for **Combined Hydrocarbon Areas/Special Tar Sand Areas**. The Proposed RMP now defers those decisions to the Programmatic Tar Sands Oil Shale EIS discussed in Section 1.10.9 of Chapter 1.
- **Wild horses** will no longer be permitted in the Winter Ridge Herd Area and Hill Creek Herd Area due to disease (e.g., Equine Infectious Anemia) and trespass of private horses because of mixed surface ownership with the Ute Indian Tribe, State of Utah, and privately held lands. The Draft RMP Preferred Alternative allocated 2,340 AUMs for wild horses in the Winter Ridge Herd Area and the Hill Creek Herd Area.
- The Proposed RMP provides **Greater Sage-grouse** additional protection during lekking, nesting, brooding, and during winter by selecting the protections in Alternative C.

- All or portions of 15 areas, approximately 106,178 acres, would be managed as **non-WSA lands with wilderness characteristics**: Beach Draw, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, Vivas Cake Hill, White River, and Wild Mountain. The Draft RMP Preferred Alternative did not specifically provide management for non-WSA lands with wilderness characteristics. The Proposed RMP preserves and maintains management prescriptions in these areas and does not allow for surface-disturbing activities.
- Bitter Creek, Coyote Basin, Lower Green River Expansion **ACECs** were not brought forward from the Draft RMP Preferred Alternative.
- White River, Browns Park, and Nine Mile Canyon **ACECs** were brought forward, with a reduction in acreage.
- Manage 24,259 acres in Red Mountain-Dry Fork as a **SRMA** to provide for maintenance and development of OHV or non-OHV trails, minimal facilities necessary for human health and safety, watershed values, relict vegetation communities, and crucial deer and elk winter habitat. An activity plan for the SRMA would be developed to determine what areas are appropriate for day use only.
- The Draft RMP Preferred Alternative proposed 24,183 acres as the White River **SRMA**. The Proposed RMP identified 2,831 acres as a SRMA. A portion of the lands not included in the SRMA in the Proposed RMP are being carried forward for management as non-WSA with wilderness characteristics.
- The Draft RMP Preferred Alternative recommended two segments of the White River, the Upper Green River and the Lower Green River, for inclusion in the **National Wild and Scenic River System** as well as the Upper and Lower Green River. The Proposed RMP recommends only the Upper and Lower Green River.
- In the Draft RMP Preferred Alternative, the BLM identified the **Hill Creek Extension** as available for leasing. The BLM, in cooperation with Ute Indian Tribe, identified in the Proposed RMP specific oil and gas leasing constraints for the Hill Creek Extension.

ES 7.2 SUMMARY OF EDITORIAL CHANGES MADE BETWEEN THE DRAFT RMP/DRAFT EIS AND PROPOSED RMP/FINAL EIS

Throughout the Plan

- The Supplement to the Draft RMP/EIS has been merged into the Proposed RMP/Final EIS. The Supplement presents an analysis of the effects of managing non-Wilderness Study Area (WSA) lands with wilderness characteristics in a protective manner. This analysis is identified as Alternative E in the combined RMP.
- Acreage numbers and figures have been revised and clarified based on refined GIS techniques throughout all chapters.

Chapter 1

- Chapter 1 has been rewritten to emphasize the decisions brought forward in the Proposed RMP/Final EIS.

- Discussion on monitoring and evaluation and how it plays into the planning process has been added in Chapter 1.
- Chapter 1, Language Added: Utah Division of Wildlife Resources (DWR) Wildlife Habitat Classification System Change and included specific language regarding exceptions, modifications and waivers (Appendix K). This information has been graphically displayed on all maps highlighting wildlife habitat.

Chapter 2

- In Chapter 2 an additional column has been added to the matrices Tables 2.1.1 through 2.1.27 reflecting the Proposed RMP.
- All implementation–level decisions in Tables 2.1.1 through 2.1.27 have been italicized and asterisked with a footnote at the bottom of the page as follows: *This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information on protesting.
- Language provided by the State of Utah regarding Air Quality has been added to Chapter 2, Table 2.1.2 "Common to All" section.
- Language provided by the State of Utah concerning compressor engine emission controls has been added to Chapter 2, Table 2.1.9.
- Revised the WSR "Common to All" management actions in Table 2.1.19 to work with upstream and downstream water users and applicable agencies to ensure that water flows are maintained at a level sufficient to sustain the values from which affected river segments were designated.
- Table 2.4 in Chapter 2 of the Draft RMP/EIS was removed in the Proposed RMP/Final EIS.

Chapter 3 & 4

- Completely revised the Socioeconomics section of Chapters 3 and 4 to include the information provided by the State of Utah and cooperating counties included in the new Appendix M.

Chapter 5

- Chapter 5 – Table 5.7 has been added to show consistency findings between the Proposed RMP/EIS, Utah state law, and county plans.

References Added

- BLM, 2007. Northeast National Petroleum Reserve - Alaska Draft Supplemental Integrated Activity Plan/Environmental Impact Statement. USDOI BLM, August 2007. Available on the Internet: http://www.blm.gov/ak/st/en/prog/planning/npra_general/ne_npra/ne_npr-a_supplement.html.
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- Jeffery C. Mosely, Prescribed Sheep Grazing to Enhance Wildlife Habitat on North American Rangelands. "Sheep Research Journal," 1994, pp. 79-91
- K.M. Havstad, Sheep Grazing as a Rangeland Improvement Tool, "Sheep Research Journal," 1994, pp.72-78
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Appendices Added

- Utah Public Lands Study – Key Social Survey Findings for Daggett, Duchesne, and Uintah Counties (Appendix M)
- Document Change Appendix (Appendix N)
- Air Mitigation Strategies Appendix (Appendix O)
- SHPO 106 Concurrence Letter (Appendix P)

1.0 INTRODUCTION, PURPOSE AND NEED

1.1 INTRODUCTION

This chapter contains background information on the planning process and sets the stage for the information that is presented in the rest of the document. There are 11 main sections in Chapter 1, including:

- Background
- Purpose and Need for the Plan
- Planning Area Description
- Planning Process
- Scoping
- Identification of Issues
- Issues Beyond the Scope of the Plan
- Planning Criteria and Legislative Constraints
- Related Plans
- Summary of Changes Made between the Draft RMP/Draft EIS and the Proposed Plan/Final Environmental Impact Statement (EIS)

1.2 BACKGROUND

On March 12, 2001, the Bureau of Land Management (BLM) issued a Notice of Intent (NOI) in the Federal Register to prepare an RMP and an associated EIS for public lands administered by the VFO. As defined by the Federal Land Policy and Management Act of 1976, as amended, the "public lands" are those federally owned lands and interests in lands (for example, federally owned mineral estate) that are administered by the Secretary of the Interior, specifically through the BLM.

The approved RMP would meet the BLM statutory requirement for a land-use plan (LUP) as mandated by Section 202 of the Federal Land Policy and Management Act (FLPMA), which specifies the need for a comprehensive LUP consistent with multiple-use and sustained-yield objectives. The RMP/EIS also fulfills requirements of the National Environmental Policy Act (NEPA) of 1969, as amended, to disclose and address environmental impacts of proposed major federal actions through a process that includes public participation and cooperation with other agencies.

The BLM is the lead agency in preparing the RMP/EIS. Uintah (August 2003), Daggett (May 2002), and Duchesne (April 2002) counties have been cooperating agencies in this effort as local governments with special expertise. The Ute Indian Tribe and the Bureau of Indian Affairs (BIA) also became cooperating agencies with special expertise in September 2004. The State of Utah

became a cooperating agency in this effort in January 2003. The BLM is also coordinating closely with the U.S. Fish and Wildlife Service (USFWS) of the Department of Interior (DOI), the U.S. Forest Service (USFS), the National Park Service (NPS), the U.S. Environmental Protection Agency (EPA), and the Utah Division of State History in this planning effort.

1.3 PURPOSE AND NEED FOR THE PLAN

1.3.1 PURPOSE

The purpose for this project is to revise and integrate the Book Cliffs and Diamond Mountain RMPs into a single new comprehensive RMP that would guide management of public lands in the Vernal Planning Area (VPA). Through completion of an RMP/EIS, the BLM proposes to provide a single, comprehensive LUP that would guide management of the public lands and interests administered by the VFO into the future. The revised RMP, also referred to as the Vernal Field Office Resource Management Plan (VFO RMP), would coordinate the management of the VPA with other BLM offices. As appropriate, the VFO would collaborate with other land management agencies and private entities, including the State of Utah; the NPS; the USFS; the BIA; Daggett, Duchesne, and Uintah counties; and municipalities would be conducted. The revised RMP would also coordinate the management of federal subsurface mineral estates with private landowners, the Ute Indian Tribe, or other nonfederal surface owners.

1.3.2 NEED

Current management of these public lands is guided by the Book Cliffs and Diamond Mountain RMPs. This RMP revision process is necessary because of the dated nature of the Book Cliffs RMP, completed in 1985, and to ensure consistency between the Book Cliffs and Diamond Mountain RMPs. Significant changes have occurred since completion of the Diamond Mountain and Book Cliff RMPs. Population growth and increased need for resource development has occurred, while concern for the environment has also increased. In addition to traditional consumptive uses (e.g., oil and gas development, mining and livestock grazing), there is now an increased interest in uses that emphasize aesthetic values such as open space and increased recreational opportunities. These often conflicting uses need to be addressed in terms of how they affect local communities; national, regional, and state interests; and ecosystem health. Additionally, policy guidance has resulted in the initiation or completion of local and national activity plans, recovery plans, and Programmatic Environmental Impact Statements (PEISs) that have changed land management direction in the VFO since the Book Cliffs RMP was written.

A large block of 188,500 acres of federal mineral estate within the Hill Creek Extension of the Uintah and Ouray Indian Reservation has not been previously analyzed for oil and gas leasing. This issue has been addressed as part of this RMP revision.

Ownership of federal land formerly managed by the U.S. Department of the Navy and more recently the Department of Energy (DOE) was transferred to the Ute Indian Tribe. The BLM managed certain resource programs for the DOE on these 47,978 acres. This Vernal RMP will not analyze management of these programs.

These changes have been addressed as part of this RMP revision and integration process. See Section 1.5 for a description of the BLM's land-use planning process.

1.4 Planning Area Description

1.4.1 Geographic Setting

The VFO is located in the northeast corner of Utah and administers lands within Daggett, Duchesne, and Uintah counties, plus a small portion of Grand County. The VFO also has Native American Trust responsibilities for Northern Ute Tribe and allotted mineral trust lands located within these counties.

There are 5,518,859 acres within the boundary of the VFO, of which 1,725,512 acres (approximately 30%) are BLM-managed surface lands. The VFO administers energy-related mineral activities on 3.9 million acres of federal mineral lands (including 1.3 million acres of USFS lands) and post-lease mineral operations on Indian trust mineral lands. The 1,911,000 acres of BLM-managed mineral estate includes the split estate mineral lands within the Hill Creek Extension (comprises 185,500 acres of mineral estate underlying Indian trust surface).

Most of the land that the BLM manages is in the eastern and southern portions of the planning area and is generally characterized by habitats associated with the Uinta Basin and Colorado Plateau. Other agencies that manage land in the vicinity of the VFO include the USFS, BIA, NPS, USFWS, Utah Division of Wildlife Resources (UDWR), and Utah Division of Lands and Forestry. Additional lands are held in private ownership or in trust by the United States for the Ute Indian Tribe or for individual Native Americans.

The Diamond Mountain portion of the planning area includes BLM-administered lands and minerals in Daggett and Duchesne counties and a portion of Uintah County northwest of the Green River. The plan is responsible for the administration of public land in Browns Park and the Diamond Mountain Plateau for the Little Snake Field Office of Colorado. The Little Snake Field Office administers public land in Browns Park for some resources. Administration of these agreed-upon resources is in accordance with the parent resource area's management plan. There is also a fire-suppression agreement between the VFO and Little Snake Field Office.

The Book Cliffs portion of the planning area is located in northeastern Utah. It is bounded by the Utah–Colorado state line on the east, the Book Cliff Mountains to the south, the Green River to the west, and Blue Mountain to the north (see Map Figure 1). The Book Cliffs area includes public land and minerals in Uintah and Grand counties. The VFO boundary officially ends at the Uintah County line; however, a small portion of the public lands in Grand County of the Moab Field Office are administered by the VFO under a memorandum of understanding (MOU).

A small portion of the Flume Canyon Wilderness Study Area (WSA) lies within the VPA. However, this WSA is managed by the Moab Field Office due to easier access to this area from Moab.

A small portion of the West Cold Springs and Diamond Breaks WSAs lie within the VPA. An MOU is in place between the Little Snake Office in Craig, Colorado, and the VFO. The Little Snake Office has administrative responsibility for managing both of these areas.

A small number of grazing allotments straddle the Utah–Colorado border. An MOU is in place between the White River Field Office and the VFO, where each office, depending on the allotment boundaries, administers livestock grazing for the other office.

Land ownership patterns within both the Diamond Mountain and Book Cliffs planning areas range from large blocks of BLM-administered public lands to small, privately owned blocks. This is complicated by lands where the BLM administers a percentage of the minerals, while other owners hold the other interests in the land. Land ownership, surface administration, and mineral management responsibilities within the VPA are shown in Map Figure 1 and described in Table 1.4.1.

Decisions and actions of the RMP only fully apply to BLM lands. In the case of split estate lands, such as lands within the planning area that are split between the BLM and the Uintah and Ouray Indian Tribe, actions affecting the surface must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner.

1.4.2 Resource Setting

The Energy Policy Act of 2005 directed the implementation of management guidance that would allow energy-related minerals to be leased, explored for, and developed in an environmentally responsible manner. Programmatic EISs have been initiated and completed to carry out the following programs: Oil Shale/Tar Sands Development, West-wide Energy Corridors, and Wind/Solar Energy Development. A series of interim and permanent policy guidance were formulated and released under the policy act direction. These incorporated best management practices (BMPs), application processing timeframes, increased NEPA document consistency, and timeliness. In addition, under the policy act, the VFO was designated as a pilot office. Additional positions were identified for the VFO to provide needed expertise in renewable resource specialties and energy-related exploration, development, and monitoring. Memorandums of understanding were signed with the U.S. Department of Agriculture, the EPA, and the Army Corp of Engineers. Transferred funds were used to identify employees of these entities who would provide to the VFO needed expertise for consultations and other regulatory issues.

Resources within the VPA include botanical (including listed and non-listed sensitive species), cultural resources, fisheries, mineral resources, paleontological resources, rangeland, recreational resources, riparian resources, visual resources, water resources, wetlands, wild horses, wilderness, and wildlife. Land-use and economic resources include building stone, Gilsonite, livestock grazing, oil and gas, phosphate, rights-of-way tar sands, and woodland products. Opportunities for camping, fishing, hiking, hunting, off-highway vehicle (OHV) use, sightseeing, and viewing historic sites provide public enjoyment, as well as additional revenues to businesses

in and adjacent to the VPA. Unique features within the planning area include the Book Cliffs, an area rich in resources with abundant management opportunities; Browns Park, which provides crucial big game winter range and a high density of cultural and historical sites; Nine Mile Canyon, with its rock art; the Pariette Wetlands, which provide habitat for over 100 species of wildlife; Red Mountain, with its high mountain vistas and plentiful recreational opportunities; and the White and Green rivers.

Table 1.4.1. Land Ownership in the VPA and the Surrounding Area

Federal	Acres	Percent
Bureau of Land Management (BLM) Vernal Field Office (VFO)	1,697,039	30.75%
BLM Moab Field Office (MFO)	28,473	0.52%
Forest Service (USFS)	1,248,651	22.63%
National Park Service (NPS)	50,113	0.91%
Fish and Wildlife Service (USFWS)	10,898	0.20%
Bureau of Reclamation (BOR)	3,046	0.06%
Bureau of Indian Affairs [BIA (Indian Trust Lands for the benefit of the Ute Indian Tribe and Allottees)]	846,669	15.34%
Total	3,884,889	70.39%
State of Utah	**Acres**	**Percent**
Utah Division of Wildlife Resources (UDWR)	32,210	0.58%
School and Institutional Trust Lands Administration (SITLA)	377,969	6.85%
Total	410,179	7.43%
Private	**Acres**	**Percent**
Total	1,223,791	22.17%
Total Acreage in Vernal Planning Area (VPA)	**5,518,859**	**100.00%**

1.5 PLANNING PROCESS

The RMP is the master LUP that guides the management of public lands in a particular area or administrative unit. Resource management plans are usually prepared to cover the lands administered by a certain field office.

An approved RMP establishes the following items in a written document:

- Resource condition goals and objectives
- Allowable resource uses and related levels of production or use to be maintained
- Land areas to be managed for limited, restricted, or exclusive resource uses or for transfer from BLM administration
- Program constraints and general management practices and protocols
- General implementation schedule or sequences
- Intervals and standards for monitoring the plan

Preparation of an RMP involves several interrelated steps as illustrated and described below. Teams typically develop planning documents and complete other planning activities. The shapes in the image below represent minimum planning requirements, with different shapes representing different activities and documents.

The BLM frequently goes above and beyond the minimum requirements. For example, BLM strives to involve the public throughout the planning process—not just during the formal comment periods. Field offices may produce a wide variety of documents in addition to those shown below in Figure 1.5.1. The white rectangles represent planning documents. The green ovals represent the point at which the BLM is required to issue Federal Register Notices. The orange hexagons are minimum requirements for public comment and review. The purple ovals are other required steps.

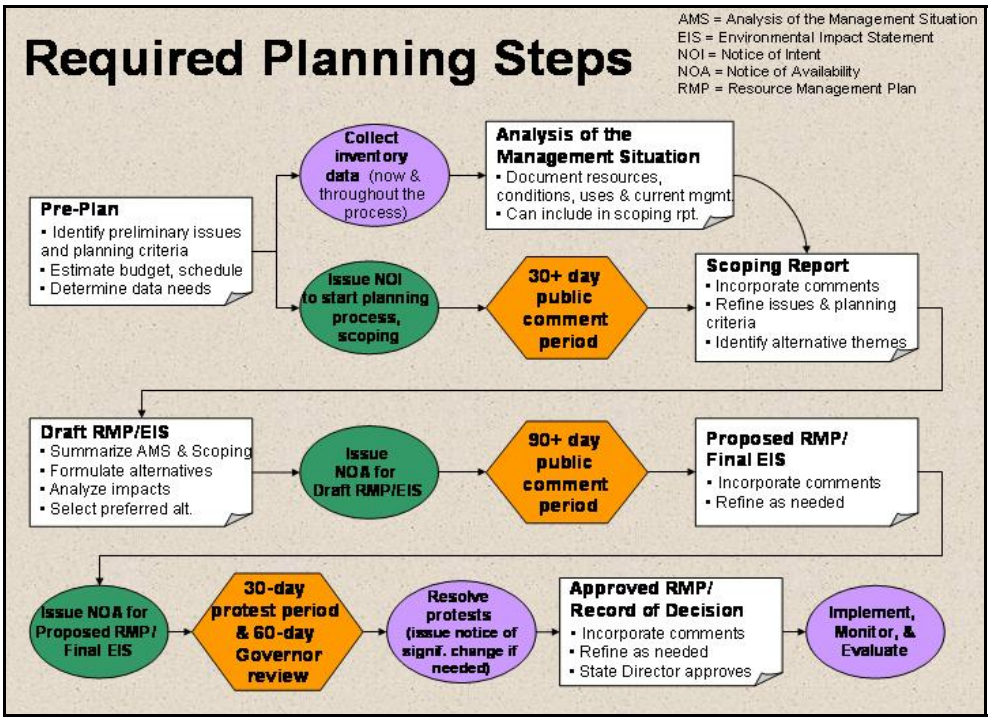

Figure 1.5.1. Required planning steps.

Steps in the BLM Land-use Planning Process	
Step 1 Identification of Issues	This planning step is designed to identify major problems, concerns, or opportunities associated with public land management in the planning area. Issues are identified by the public, the BLM, and other governmental entities. The planning process is then focused on resolving the planning issues.
Step 2 Development of Planning Criteria	Planning criteria are identified to guide development of the RMP and prevent the collection of unnecessary information and data.

Steps in the BLM Land-use Planning Process	
Step 3 Collect and Compile Inventory Data	This planning step involves the collation and collection of various kinds of environmental, social, economic, resource, and institutional data. In most cases, this process is limited to information needed to address the issues. The data required for land-use planning decisions is usually at a broader scale than data required in implementation level planning and analyses.
Step 4 Analysis of the Management Situation	This step calls for the deliberate assessment of the current situation. It identifies the way lands and activities are currently managed in the planning area, describes conditions and trends across the planning area, identifies problems and concerns resulting from the current management, and identifies opportunities to manage these lands differently. It also forms the basis for the "No Action" alternative.
Step 5 Formulate Alternatives	During this step, the BLM formulates a reasonable range of alternatives for managing resources in the planning area. Alternatives include a continuation of current management (No Action) alternative and other alternatives that strive to resolve the major planning issues while emphasizing different management scenarios. Alternatives usually vary by the amounts of resource production or protection that would be allowed, or in the emphasis of one program area over another.
Step 6 Estimation of Effects	This step involves estimating the physical, biological, economic, and social effects of implementing each alternative in order to provide a comparative evaluation of impacts in compliance with Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500).
Step 7 Selection of Preferred Alternative	Based on the information resulting from the estimation of effects, the BLM identifies a Preferred Alternative. The Draft RMP/EIS is then prepared for printing and distributed for a 90-day public review.
Step 8 Selection of RMP	Following review and analysis of public comments on the Draft RMP/EIS, the BLM makes adjustments as warranted and selects a Proposed Plan. The Proposed Plan and a Final EIS is then published. A final decision is made after a 60-day Governor's Consistency Review and a 30-day public protest period are completed. The BLM then publishes the Record of Decision (ROD) and prepares the approved RMP. When the BLM prepares the final RMP and ROD, it may select one of the alternatives in its entirety or management actions from more than one of the alternatives analyzed in the planning process. With respect to management of the non-WSA lands with wilderness characteristics, it means the BLM may choose to protect all, some, or none of the non-WSA lands with wilderness characteristics, or select all or some of the actions of the protective management prescription.

Steps in the BLM Land-use Planning Process	
Step 9 Monitoring and Evaluation	Step 9 is the monitoring and evaluation process. Monitoring is the repeated measurement of activities and conditions over time. Evaluation is a process in which the plan and monitoring data are reviewed to see if management goals and objectives are being met and if management direction is sound. Monitoring data gathered over time is examined and used to draw conclusions on whether management actions are meeting stated objectives, and if not, why. Conclusions are then used to make recommendations on whether to continue current management or what changes need to be made in management practices to meet objectives. The two types of monitoring that are tied to the planning process include implementation and effectiveness monitoring. Land-use plan monitoring is the process of (1) tracking the implementation of land-use planning decisions and (2) collecting and assessing data/information necessary to evaluate the effectiveness of land-use planning decisions. The two types of monitoring are described below. **Implementation Monitoring:** Implementation monitoring is the most basic type of monitoring and simply determines whether planned activities have been implemented in the manner prescribed by the plan. Some agencies call this compliance monitoring. This monitoring documents the BLM's progress toward full implementation of the LUP decision. There are no specific thresholds or indicators required for this type of monitoring. **Effectiveness Monitoring:** Effectiveness monitoring is aimed at determining if the implementation of activities has achieved the desired goals and objectives. Effectiveness monitoring asks the question: Was the specified activity successful in achieving the objective? This requires knowledge of the objectives established in the RMP as well as indicators that can be measured. Indicators are established by technical specialists in order to address specific questions, and thus avoid collection of unnecessary data. Success is measured against the benchmark of achieving desired future conditions established by the plan. Regulations at 43 CFR 1610.4-9 require that the Proposed Plan establish intervals and standards, as appropriate, for monitoring and evaluation of the plan, based on the sensitivity of the resource decisions involved. Progress in meeting the plan objectives and adherence to the management framework established by the plan is reviewed periodically. CEQ regulations implementing NEPA state that agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases (40 CFR 1505.2(c)). To meet these requirements, the BLM will review the plan on a regular schedule in order to provide consistent tracking of accomplishments and provide information that can be used to develop annual budget requests to continue implementation. Land-use plan evaluations will be used by the BLM to determine if the decisions in the RMP, supported by the accompanying NEPA analysis, are still valid. Evaluation of the RMP will generally be conducted every five years per BLM policy, unless unexpected actions, new information, or significant changes in other plans, legislation, or litigation triggers an evaluation. Land-use plan evaluations determine if decisions are being implemented, whether mitigation measures are satisfactory, whether there are significant changes in the related plans of other entities, whether there is new data of significance to the plan, and if decisions should be changed through amendment or revision. Evaluations will follow the protocols established by the BLM Land-use Planning Handbook H-1601-1 in effect at the time the evaluation is initiated. Specific monitoring and evaluation needs are identified by resource/uses throughout Chapter 2.

1.6 SCOPING

1.6.1 THE SCOPING PROCESS

Early in the planning process, the public and other agencies were invited to help the BLM identify planning issues and concerns relating to the management of BLM-administered lands and resources in the planning area. The formal scoping period began with publication of the Notice of Intent (NOI) in the Federal Register in March 2001. The scoping process included five scoping meetings conducted in locations within and outside of the planning area March 12, 2001 through December 31, 2001. News releases and radio announcements were also used to notify the public of the planning process and how to become involved. Management concerns were identified through discussions with BLM resource specialists.

As part of this scoping process, the following public meetings were held to solicit input:

- Duchesne County Courthouse, Duchesne, Utah; October 17, 2001
- Vernal Western Park, Vernal, Utah; October 18, 2001
- Utah Department of Natural Resources, Salt Lake City, Utah; October 25, 2001
- Daggett County Courthouse, Manila, Utah; November 1, 2001
- Green River City Offices, Green River, Utah; November 8, 2001

On January 14, 2005, the BLM published a notice of availability (NOA) of the Draft RMP/EIS in the Federal Register to announce and solicit public comment on the alternatives and impacts and effects of those alternatives on the human environment. The BLM distributed to relevant agencies and the interested public the Draft RMP/EIS for review and comment. The comment period ended April 14, 2005. The comments and the BLM's responses thereto are addressed in Chapter 5 of this Proposed Plan/Final EIS (PRMP/FEIS, or the Proposed Plan). The BLM received approximately 360 substantive letters during this comment period. Out of these comment letters, approximately 320 comments necessitated changes to the Draft RMP/Draft EIS. A more detailed breakdown of the letters and comments received are shown in the chart below.

Separate from the Draft RMP and EIS for the VFO planning area, the BLM published a NOA in the Federal Register on December 13, 2005, announcing the availability of information on existing and potential Areas of Critical Environmental Concern (ACECs) considered within the Draft RMP and EIS, as required in 43 CFR 1610.7-2. The Code of Federal Regulations (CFR) also provided an associated 60-day comment period beginning December 13, 2005. The BLM received 5 substantive letters during this comment period. Out of these comment letters, 10 comments necessitated changes to the Draft RMP/Draft EIS. A more detailed breakdown of the letters and comments received are shown in the chart below.

In order to adequately address the management of non-WSA lands with wilderness characteristics, a supplemental EIS (SEIS) fifth alternative (Alternative E) was published by the BLM in 2007. An NOA of the SEIS was published in the Federal Register on October 5, 2007. The 90-day public comment period to solicit public comment on Alternative E began October 5, 2007, and ended on January 3, 2008. The BLM received 191 substantive letters during this

comment period. Out of these comment letters, approximately 500 comments necessitated changes to the Draft RMP/Draft EIS. A more detailed breakdown of the letters and comments received are shown in the chart below.

Table 1.6.1 Letters and Comments Breakdown

	Draft RMP/Draft EIS	ACEC Comment Period	Supplement to the Draft RMP/Draft EIS
Total Substantive Letters	Approximately 320	5	Approximately 52
Total Non-Substantive Letters	Approximately 1,774	6,835	Approximately 20,000+
Total Letters	Approximately 2,094	6,840	Approximately 20,000+
Total Substantive Comments	Approximately 2,500	30	Approximately 500
Total Non-Substantive Comments	Approximately 438	32	Approximately 65
Total Comments	Approximately 2,938	37	Approximately 565
Total Comments that Changed the RMP	Approximately 320	10	Approximately 34

1.7 IDENTIFICATION OF ISSUES

The key planning issues identified as a result of the scoping process for developing alternatives in the RMP and EIS are outlined below.

1.7.1 AIR QUALITY

How can natural resources such as air quality be addressed in order to comply with the State of Utah and the EPA standards?

1.7.2 CULTURAL AND PALEONTOLOGICAL RESOURCES

How can cultural and paleontological resources be protected from resource uses such as motorized recreation, livestock grazing, and mineral development?

Note: The Proposed Plan provides for enhanced management of cultural and paleontological resources in the planning area. Many new discoveries, excavations, and analyses in the field of paleontology have occurred. These new findings are enhancing the BLM's understanding of these resources in the VPA.

1.7.3 RELATED CULTURAL AND PALEONTOLOGICAL ISSUES

- *What management practices (i.e., method of development and location) can be applied to human activities and uses in order to protect cultural and paleontological resources?*

- *Where can cultural and paleontological resources be used for scientific, educational, recreational, and traditional purposes?*

1.7.4 FIRE MANAGEMENT

Where is fire desired and not desired, and in what areas could fire be used as a management tool for vegetative treatments?

Note: Fire management planning is necessary to address high risk areas, fire prevention, prescribed burns, rehabilitation and restoration, hazardous fuels reduction, protection of life and property, and other wildfire-related issues.

1.7.5 LANDS AND REALTY

What lands within the VPA should be identified as targets for acquisition, disposal, or withdrawal?

Note: As mandated by Section 102 (a)(1) of FLPMA (43 U.S.C. § 1701), public lands are retained in federal ownership, the exception being those public lands that have future potential for disposal (i.e., sale or exchange), as described under Section 203(a) and Section 206 of FLPMA (43 U.S.C. §§ 1713 and 1716). Public lands cannot be effectively administered without legal and physical access. Therefore, public lands have potential for disposal when they are isolated and/or difficult to manage. Lands identified for disposal must meet public objectives, such as community expansion and economic development. The preferred method of disposal is land exchange. Other lands can be considered for disposal on a case-by-case basis. Disposal actions are usually in response to a public request or an application and result in a title transfer, wherein the lands leave the public domain.

Methods used to acquire legal rights to lands that meet resource management needs include negotiated purchase, donation, and exchange. In a withdrawal of lands, an area of public land is withheld from settlement, sale, location, or entry, for the purpose of limiting activities in order to maintain other public values.

Related Lands and Realty Issues

- How will transportation and utility right-of-way corridors (including avoidance areas and exclusion areas) be managed?
- What specific land-use authorization decisions will be determined to be appropriate in meeting specific resource goals and objectives?
- How will access needs and tenure adjustment proposals (all lands identified for disposal or retention) be addressed?
- How will land-tenure adjustments or ownerships and management agreements be addressed when they have not previously been addressed because they occurred since the completion of previous planning? (For example, Hill Creek federal minerals and private

lands were acquired as a part of the Book Cliffs initiative and the lands near the mouth of Nine Mile Creek were acquired as mitigation.)

1.7.6 MINERALS MANAGEMENT

What areas will be available for mineral development, and what restrictions should be imposed?

Note: Historically, the mineral industry has been an important aspect of the local economy in the VPA. Mineral development is considered a major issue for this planning area not only for economic reasons but also for the degree to which it can potentially affect other resources.

Related Minerals Management Issues

- How can hazardous materials issues be identified when they arise due to proposed oil, gas, and mineral development that are regulated by the state?
- How can conflicts be reduced between mineral development and increasing recreation?
- Where can mineral leasing and development occur, while protecting other resources?
- What are the economic benefits of mineral development?

1.7.7 NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

How should non-WSA lands with wilderness characteristics be managed?

Note: Certain non-WSA lands in the area managed by the VFO are proposed by members of Congress and/or members of the public for wilderness designation. After updating its wilderness inventory, the BLM found that some of these lands have wilderness characteristics as defined in Section 2(c) of the Wilderness Act of 1964, and others do not.

The Land-use Planning Handbook H-1601-1 guides the consideration of non-WSA lands with wilderness characteristics in land-use planning. The handbook provides that the BLM may not establish new WSAs. However, the BLM may consider information on wilderness characteristics in land-use planning efforts and manage such lands in a way that would protect or preserve some or all of those characteristics. This may include protecting certain lands in their natural condition and providing outstanding opportunities for solitude and primitive and unconfined types of recreation.

1.7.8 OHV USE AND TRANSPORTATION

How can increased recreation use, especially motorized vehicle access, be managed while protecting natural resource values?

Note: Growth of OHV use has become a significant issue within the planning area due to increased conflicts between OHV users and other recreationists, as well as the potential for increased soil damage, while protecting the natural and cultural values of the public lands. With the number of visitors growing, recreation is expanding further into the backcountry, while

resource and user conflicts are becoming more common. Although all recreational uses need to be managed, OHV use needs particular attention, including identifying areas to be open, restricted, or closed for the protection of other resource values.

1.7.9 Related OHV and Transportation Issues

- *Which areas should be designated as open, limited, or closed to OHV use, and which OHV routes should be designated within the limited category?*
- *What types of recreation travel should be available on which designated routes and under what limitations?*

1.7.10 Rangeland Management and Health

Are there areas where grazing should not be allowed due to resource conflicts?

Note: The Secretary of the Interior, through the BLM, manages approximately 264 million acres of public rangelands throughout the western U.S. The Taylor Grazing Act of 1934, the FLPMA, and the Public Rangelands Improvement Act of 1978 together guide the BLM's management of livestock grazing on public lands. The objectives for grazing administration regulations are to "promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning condition; to efficiently and effectively administer domestic livestock grazing; and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands" (43 CFR Part 4100.0-2).

Resource concerns and potential conflicts have arisen regarding the allocation and season of use of forage within the planning area. The BLM's grazing regulations recognize suspended non-use if carried on a permit prior to 1995. If a permit is reduced after 1995, the animal unit months (AUMs) are not carried on the permit. A permittee may apply for temporary non-renewable AUMs; however, the BLM must determine if forage is available. Isolated instances of resource degradation have occurred in site-specific areas particularly associated with seasons of use and forage allocation.

The BLM incorporates standards for rangeland health by:

- Evaluating adjustments in livestock and wildlife numbers and seasons of use.
- Evaluating forage allocation and carrying capacity for wildlife, wild horses, and livestock.
- Evaluating range capability, including potential impacts to range health for both wildlife and wild horse populations and permitted livestock use.

Related Rangeland Management and Health Issues

- *How should grazing be managed during times of drought?*
- *How should grazing be managed in riparian areas?*

1.7.11 RECREATION RESOURCES AND MANAGEMENT

Where should adaptive management practices be applied in response to unacceptable resource impacts?

Note: Recreation management is of significant concern within the planning area because it contains world-class recreational resources. Use has grown rapidly and is expected to continue to grow. This increase in recreational activities may bring additional risk of wildfire within Wildland Urban Interface (WUI) areas. Recreation uses and projected needs are reviewed on all lands to determine appropriate management for the following:

- **Special Recreation Management Areas** (SRMAs) requiring enhanced or special management for recreational uses, or for protection of recreation-related resource values;
- **Extensive Recreation Management Areas** (ERMAs) are areas where dispersed recreation is encouraged and where visitors have recreational freedom of choice with minimal regulatory constraint. These areas usually receive very little recreation use.

Related Recreation Resource Management Issues

- *How should recreational uses be managed to limit conflicts among recreational users?*
- *How should camping, human waste, fires, and wood collection be managed?*
- *Where should SRMAs be managed for recreational uses or for protection of recreation-related values?*
- *How should conflicts with other, non-recreational uses be reduced?*
- *What management actions should be implemented to mitigate damage caused by recreational uses, including vehicles, on other resources and sensitive areas, especially riparian areas?*
- *How should recreation in the VPA be managed to ensure public health and safety?*
- *Where and under what circumstances should permitted recreation uses be available?*
- *What types of recreational facilities and uses should be available, and what limitations should be required?*

1.7.12 SPECIAL MANAGEMENT DESIGNATIONS

What areas should have special designations such as ACECs and Wild and Scenic Rivers (WSR)?

Note: FLPMA and BLM policy require the BLM to give priority to designation and protection of ACECs during the land-use planning process. The Wild and Scenic River Act directs federal agencies to consider the potential for including watercourses into the National Wild and Scenic Rivers System during the land-use planning process.

As a cooperating agency involved with the development of the VFO RMP/EIS, the State of Utah has proposed that a statewide WSR review be completed. In accordance with Section 5(d) of the

Wild and Scenic Rivers Act, the BLM would continue to make WSR recommendations through the land-use planning process.

Related Special Management Designation Issues

- *What management prescriptions should be applied to areas with special designations?*
- *What resources need the protection provided by a special designation?*

1.7.13 VISUAL RESOURCE MANAGEMENT (VRM)

How will visual resources be managed?

Note: Changes in visitor use patterns and frequency, as well as intensive development, are causing concerns in some areas and enhanced protection of visual resources may be necessary. The VRM designations would be consistent with overall management plan goals and objectives.

1.7.14 WATERSHED MANAGEMENT, SOILS, AND VEGETATION

How can resources such as watersheds, soils, and vegetation be protected, maintained, or restored?

Note: Some resource uses (i.e., grazing, mineral development, OHV use, and recreation) can affect the natural function and condition of watersheds. A healthy cover of perennial vegetation stabilizes the soil, increases infiltration of precipitation, reduces runoff, provides clean water to adjacent streams, and minimizes noxious weed invasion. Plant communities provide habitat for wildlife as well as forage for domestic animals.

Related Watershed Management, Soils, and Vegetation Issues

- *Which watersheds may require special protection?*
- *Where and with what methods can noxious weeds be controlled?*
- *How should activities and uses be managed during drought?*
- *How should soil and vegetative resources be managed?*
- *What management prescriptions should be in place to allow for appropriate consideration to water quality concerns related to activities on public lands, including but not limited to, the requirements mandated by the Clean Water Act and the state water classifications in the 303D state water inventories, as well as at-risk water quality due to naturally occurring formations?*
- *What management prescriptions should be in place to ensure compliance with the Safe Drinking Water Act, the Unified Federal Policy for a Watershed Approach, and the Colorado River Basis Salinity Control Act?*
- *What management prescriptions are appropriate and consistent for flood plain protection?*

- *How will the VFO management for the inventory and protection of riparian areas in accordance with current BLM policy?*

1.7.15 WILD HORSE MANAGEMENT

How should wild horses be managed in the VPO?

Note: Management of wild horses remains difficult due to disease (e.g., EIA), trespass of private horses, and manageability of the herd. The Proposed Plan addresses the following:

- *Wild or feral horses will be gathered and removed.*
- *Forage allocation has been allocated until removal.*

1.7.16 WILDLIFE HABITAT AND FISHERIES MANAGEMENT

How can wildlife habitat and fisheries be managed to be protected, maintained, or restored?

Related Wildlife Habitat and Fisheries Management Issues

- *What restrictions could be placed on resource uses in identified areas to maintain the existence or promote the recovery of threatened and endangered species, or to prevent the listing of additional species?*
- *How should wildlife corridors and unfragmented, crucial wildlife habitat be protected or improved?*
- *What considerations should be made for state-listed sensitive plant and animal species and their associated habitats?*
- *What consideration should be made for animal damage control within the scope of the national and local MOU with Animal Plant Health Inspection Service (APHIS) and UDWR?*
- *What consideration should be made for reintroduction or transplants of native fish and wildlife species into the planning area that were not addressed during the previous planning efforts, including allocating AUMs, where appropriate?*
- *What consideration should be made for species not recognized during the previous planning efforts—such as newly listed threatened and endangered species, species proposed for listing, candidate species, and other non-listed special status species, including those on the Utah BLM State Director's Sensitive Species List?*

1.7.17 *WOODLAND AND FOREST MANAGEMENT*

What treatments and management prescriptions will be employed to address forest health, land health, sustainability, and resiliency to disturbances, fuel loadings, fire hazard, composition, structure, and function?

Note: Treatments across the planning area would need to be implemented to meet desired future conditions. Existing RMPs also do not address special forest vegetation product management such as seed collection [private and commercial]. In recent years the public demand for these types of products has grown significantly.

Related Woodland and Forest Management Issues

What areas should be available for fuel wood harvesting?

1.8 Issues Beyond the Scope of the Plan

Issues beyond the scope of the RMP planning process include all issues not related to decisions that would occur as a result of the planning process. They include decisions that are not under the jurisdiction of the MFO or are beyond the capability of the BLM to resolve as part of the planning process. Issues identified in this category include:

- The State of Utah, Uintah, Duchesne and Daggett counties may hold valid existing rights-of-way in the planning area pursuant to Revised Statute (RS) 2477, Act of July 28 1866, Chapter 262, 8, 14 Stat. 252, 253, codified at 43 USC 932. On October 21, 1976, Congress repealed R.S-2477 through passage of FLPMA. This RMP does not adjudicate, analyze, or otherwise determine the validity of claimed rights-of-way. However, nothing in the RMP extinguishes any valid right-of-way or alters in any way the legal rights the state and counties have to assert and protect RS-2477 rights or to challenge in federal court or other appropriate venue any use restrictions imposed by the RMP that they believe are inconsistent with their rights.
- New wilderness or WSA proposals.
- Eliminating grazing, mineral development, and OHV use on all public lands.
- Activities and uses beyond the jurisdiction of the BLM.
- Changing existing laws, policies, and regulations.
- Availability of funding and personnel for managing programs.
- Considering alternative energy sources as substitutes for activities related to mineral development.

1.9 Planning Criteria

The FLPMA is the primary authority for the BLM's management of public lands. This law provides the overarching policy by which public lands would be managed and establishes provisions for land-use planning, land acquisition and disposition, administration, range management, rights-of-way, designated management areas, and the repeal of certain laws and statutes. The National Environmental Policy Act (NEPA) provides the basic national charter for environmental responsibility and requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. In concert, these two laws provide the guidance for administration of all BLM activities.

Planning criteria are the standards, rules, and guidelines that help to guide data collection, alternative formulation, and alternative selection in the RMP development process. In conjunction with the planning issues, planning criteria assures the planning process is focused. The criteria also help guide the final plan selection and provide a basis for judging the responsiveness of the planning options.

The following criteria were developed by the BLM and reviewed by the public as part of the scoping process:

- The principles of multiple use and sustained yield as set forth in the Federal Land Policy and Management Act have been applied in the RMP.
- The RMP has complied with applicable federal and state laws and regulations.
- All decisions made in the RMP and subsequent implementation decisions would be subject to valid, existing rights.
- The RMP is accompanied by an EIS that would comply with NEPA requirements.
- RMP decisions apply to lands under jurisdiction of the VFO.
- The RMP relies on available inventories of public lands and their resources.
- Boundaries and recommendations on WSAs identified as a result of inventory conducted prior to October 21, 1993, under Section 603 of FLPMA and awaiting action by Congress would not be changed by the RMP.
- Although the formal Section 603(a) wilderness review process expired on October 21, 1993, the BLM has continuously maintained an inventory of current public land attributes, including lands that may have wilderness character, but which were either not analyzed in earlier planning efforts as having those characteristics, or which were determined presently to have these characteristics that may not have been present during earlier inventory efforts. It is not within the BLM's authority to designate additional WSAs.
- The RMP incorporates the Standards for Rangeland Health and Guidelines for Livestock Grazing as set out by the RAC.
- The RMP considers provisions of the Vernal Fire Management Plan.
- The RMP considers the existing recovery plans and management strategies and guidelines in place for federally listed threatened and endangered species that use the planning area. State management plans have been considered for delisted species.
- The RMP has considered conservation and management strategies developed for the protection, conservation, and restoration of westslope cutthroat trout, fluvial arctic grayling, and Greater Sage-grouse.
- The RMP recognizes the State of Utah's responsibility to manage fish and wildlife populations, including hunting and fishing uses.
- The RMP recognizes the State of Utah's authority regarding Utah water law and water rights.

- RMP decisions are compatible to the extent possible with the plans and mandates of other agencies and governments that have jurisdiction in the region.
- The RMP recognizes private land owner obligations under applicable tribal treaties and laws or executive orders relating to Native American reserved rights, religious freedoms, and traditional use areas.
- The RMP considers and integrates local, statewide, and national interests.

1.10 RELATED PLANS

The BLM's planning regulations require that plans be consistent with officially approved or adopted resource-related plans of other federal, state, local, and tribal governments to the extent those plans are consistent with federal laws and regulations applicable to public lands. Plans formulated by federal, state, local and tribal governments that relate to management of lands and resources have been reviewed and considered as the RMP/EIS has been developed.

Management of federal and state lands immediately adjacent to public land administered by the BLM was considered in the formulation of alternative management scenarios and land-use allocations. As cooperating agencies in development of the Vernal RMP, Uintah, Daggett, and Duchesne counties have evaluated consistency with appropriate county plans as the Proposed Plan/Final EIS has been developed. The main major planning documents of other federal, state, local, and tribal governments considered in development of the RMP are included below. (Note: This may not be a complete list.)

1.10.1 COUNTY LAND-USE PLANS

Daggett County, Utah	Daggett County General Plan
Duchesne County, Utah	Duchesne County General Plan
	Duchesne County Public Land Implementation Plan
Grand County, Utah	Grand County General Plan
Uintah County, Utah	Uintah County General Plan
	Uintah County Plan for Management of the Book Cliffs Resource Area Ordinance No. 9-25-2000A, Wild Horse Habitat on Public Land
Garfield County, Colorado	Garfield County General Plan
Moffat County, Colorado	Moffat County General Plan
Rio Blanco County, Colorado	Rio Blanco County General Plan
Sweetwater County, Wyoming	Sweetwater County General Plan

1.10.2 STATE OF UTAH

Division of State Parks and Recreation, Steinaker, and Red Fleet State Plans
2003. State Comprehensive Outdoor Recreation Plan
2001. Utah's Water Resources Planning for the Future
1999. Uintah Basin Water Plan
1990. Utah State Water Plan

1.10.3 OTHER FEDERAL PLANS

Ashley National Forest Land-use Plan
Dinosaur National Monument Plan
Ouray National Wildlife Refuge Plan
Browns Park National Wildlife Refuge Plan
Price BLM Field Office RMP
Moab BLM Field Office RMP
Green River BLM Field Office RMP
Little Snake BLM Field Office RMP
White River BLM Field Office RMP
Park City Management Framework Plan (Salt Lake City BLM Field Office)

1.10.4 *ACTIVITY PLANS*

1979. Desolation & Gray Canyons on the Green River—River Management Plan
1988–1989. John Jarvie Historic District Site Management Plan, completed in 1988 and amended in 1989
1994. Recreation and Cultural Management Plan for Nine-Mile Canyon; Joint Management Plan; Vernal and Price Field Offices
1996. Green River Management Plan; Joint Management Plan; VFO and Ashley National Forest

1.10.5 *HABITAT MANAGEMENT PLANS*

1979. Myton Habitat Management Plan
1983. Diamond Mountain/Ashley Creek Habitat Management Plan
1987. Browns Park Habitat Management Plan

1.10.6 *ENDANGERED SPECIES RECOVERY PLANS*

1983. Northern States Bald Eagle Recovery Plan
1987. The Recovery Implementation Plan for the Endangered Fish Species in the Upper Colorado River Basin
1988. Black-footed Ferret Recovery Plan
1990. Bonytail Chub Recovery Plan
1990. Humpback Chub Recovery Plan
1990. Uinta Basin Hookless Cactus Recovery Plan
1991. Colorado Squawfish Recovery Plan
1999. Razorback Sucker Recovery Plan
1995. Mexican Spotted Owl Recovery Plan
1995. Draft Ute Ladies-tresses Recovery Plan
2003. Conservation and Research Plans for Four Plant Species in Northeastern Utah (White River Beardtongue, Goodrich Beardtongue, Graham Beardtongue, and Horseshoe Milkvetch)

1.10.7 EXISTING ENVIRONMENTAL IMPACT STATEMENTS

1983. Uinta Basin Synfuels Development EIS
1983. Wild and Scenic River Study, Green and Yampa Rivers EIS
1984. Utah Combined Hydrocarbon Leasing Regional EIS
1985. PR Spring Combined Hydrocarbon Lease Conversion EIS
1990. Utah BLM Statewide Wilderness EIS

1.10.8 DOCUMENTS INCORPORATED BY REFERENCE

1991. Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States and associated Records of Decision. BLM Wyoming State Office, Casper Wyoming (BLM-WY-ES-91-036-4320)
2007. Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement and associated Record of Decision. USDI, Bureau of Land Management (FES 07-21)
2007. Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report. USDI, BLM (FES07-21)

1.10.9 NATIONAL PROGRAMMATIC EIS FOR TAR SANDS AND OIL SHALE RESOURCES

The VFO contains areas of tar sands and oil shale resources. The tar sand resources have been, and currently are, available for lease under the Combined Hydrocarbon Leasing Act of 1981 and in accordance with decisions in the existing BLM LUPs/plan amendments. There are, at present, no regulations in place to allow for leasing oil shale, nor any existing commercial oil shale leases upon BLM-managed lands. The VFO contains one research and development oil shale lease.

In Utah, the major tar sand resources lie within 11 designated Special Tar Sands Areas (STSAs) managed by the Vernal, Price, Richfield, and Monticello Field Offices. One of these STSAs lies within the Grand Staircase–Escalante National Monument where leasing is prohibited. The VFO wholly or in part manages seven of the remaining 10 STSAs.

Lands containing oil shale resources were originally identified through an inventory that portrayed the occurrence of the Green River geologic formation in Utah, Wyoming, and Colorado. Once identified, lands containing oil shale resources were withdrawn from mineral entry through a 1930 Executive Order, which was later modified to allow for oil, gas, sodium leasing, and leasing of U_A U_B Oil Shale tracts. Since that time, the economic potential for the oil shale resource has been further defined, now comprising a much smaller area in Utah, primarily in the southern part of the BLM VFO area with a small area in the northeast portion of the lands managed by the Price Field Office.

When the Vernal RMP revision was initiated in 2001, there was no reasonable foreseeable development (RFD) expectation for tar sands or oil shale over the life of the plan. The mineral report identified these resources, but did not foresee any leasing or development due to prevailing and anticipated economic factors.

Since the start of this RMP revision, Congress enacted the Energy Policy Act of 2005. Section 369 of the Energy Policy Act requires the Secretary of Interior to "complete a programmatic environmental impact statement for a commercial leasing program for oil shale and tar sands resources on public lands, with an emphasis on the most geologically prospective lands within each of the States of Colorado, Utah, and Wyoming." On December 13, 2005, the BLM published a Notice of Intent in the Federal Register initiating a Programmatic Environmental Impact Statement (PEIS) to support a commercial oil shale and tar sands leasing program on federal lands in these three states. Since that time, the scope of the PEIS has been revised. The BLM is no longer using the PEIS as the document that supports the NEPA requirements for leasing. Given that the development technologies for *in situ* production of oil shale are just emerging, there is a lack of information regarding resource use and associated impacts. Consequently, the BLM has changed this document to a resource allocation document that identifies the BLM-managed lands for which applications to lease oil shale and tar sands resources would be accepted in the future. However, although applications would be accepted, additional NEPA analysis would be performed before any leasing of the area would be considered.

All land-use planning decisions related to oil shale and tar sands resources (areas open to application for potential leasing) in this RMP will be made by the ongoing PEIS for oil shale and tar sands resources. The ROD on the final PEIS will amend the existing Diamond Mountain and

Book Cliffs RMP or the Vernal RMP by making land-use planning decisions on whether or not lands will be available for future application, leasing, and development of oil shale and tar sands on public lands for those areas where the resource is present. Additional site-specific NEPA analysis will be completed on each lease application before any leases would be issued.

As part of the site-specific NEPA analysis, the environmental consequences to specific resource values and uses within the areas and any alternative actions would be analyzed. Any decision to offer the lands for lease would be made based on a full disclosure of the impacts. If a decision is made to offer the lands for lease, specific mitigation measures will be developed to ensure that the commercial operations use practices that minimize or mitigate impacts.

This pre-leasing NEPA analysis would include the same opportunities for public involvement and comment that are part of this PEIS process and every other land-use planning and NEPA process the BLM undertakes. The decisions associated with the PEIS will be incorporated into the Vernal RMP as it is finalized or will amend the Vernal RMP. Additional opportunities for public involvement and comment will occur when the Proposed Plan Amendment/ Final PEIS is available.

This RMP will, however, provide allocation and leasing decisions for conventional oil and gas leasing in the STSAs and oil shale areas.

1.10.10 Relationship to the President's National Energy Policy and the Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves, and the Extent and Nature of Restrictions or Impediments to Their Development

The President's comprehensive National Energy Policy, issued in May 2001, directed the Secretary to "…examine land status and lease stipulation impediments to federal oil and gas leasing, and review and modify those where opportunities exist (consistent with the law, good environmental practice and balanced use of other resources).”

Under this directive the assistant secretary for Lands and Minerals Management delivered to Congress an inventory of U.S. oil and gas resources in five western basins, as well as the extent and nature of any restrictions or impediments to their development. This report was prepared at the request of Congress under the provisions of the 2000 EPCA).

In April 2003, the BLM specified four EPCA integration principles as follows:

- Environmental protection and energy production are both desirable and necessary objectives of sound land management practices and are not to be considered mutually exclusive priorities.
- The BLM must ensure the appropriate amount of accessibility to energy resources necessary for the nation's security while recognizing that special and unique non-energy resources can be preserved.

- Sound planning would weigh the relative resource values consistent with the Federal Land Policy and Management Act.
- All resource impacts, including those associated with energy development and transmission, would be mitigated to prevent unnecessary or undue degradation.

By July 29, 2003, the BLM started to provide direction necessary to outline a strategy for integrating EPCA inventory results into LUPs.

The VFO is located partially within the Uinta–Piceance oil and gas basin, one of seven areas identified as priority basins in the EPCA inventory. The VFO and their contractors conducted an extensive review of the inventory data regarding energy resources within the planning area. That data is profiled in the Proposed Vernal RMP and consists primarily of two types of information as outlined in EPCA: 1) data on oil and gas resources (volumetric data), and 2) data on leasing constraints. This data is considered an important part of the BLM's administrative record for the RMP.

The EPCA volumetric data is documented in the Affected Environment section of the EIS. The BLM also considered many other sources of energy-related data, including USGS and Utah Geologic Survey (UGS) information, industry information, as well as some academic work completed on oil and gas plays and areas with potential for occurrence of mineral resources. This information is part of the more detailed Mineral Potential Report prepared in support of the planning effort.

In 2002, the BLM prepared a projected reasonable foreseeable development (RFD) scenario to project environmental impacts across a 15-year period; this RFD has been modified (2008) for oil and gas development only to project environmental impacts for up to 5 years. Development projections included in-depth reviews of potential for occurrence, past well production, current well production, and future potential for production. During the pendency of this planning effort (beginning with public meetings in 2001 and 2002 for scoping purposes through the notification in the Federal Register on January 14, 2005, of the availability of the Draft RMP/EIS), the RFD scenario, which is a planning tool and not a prediction or limit to development, did not track completely with the pace of development in the Uinta Basin. The BLM has carefully monitored industry trends and believes that the RFD used as an analytical tool in this Proposed RMP can be considered accurate up to approximately 5 years from the time the Record of Decision (ROD) is signed.

Within the next 5-year timeframe, the BLM would monitor the impacts to resources of continued development in the VPA and ensure that the impacts disclosed in this Proposed RMP are not exceeded by the pace of development.

The BLM also conducted additional support work regarding energy-related management and energy benefits in the Analysis of the Management Situation (AMS), as well as the Socioeconomic Baseline Report; these characterize the significant beneficial impacts of energy and mineral development for the Uinta Basin.

Also, as part of EPCA, a review was provided outlining existing leasing constraints within the focus areas. Data on proposed and existing leasing constraints specific to the proposed Vernal RMP are provided in Table 2.1.9 (Minerals and Energy Resources) as found in Chapter 2.

1.10.11 Energy Policy Act of 2005 and the West-wide Energy Corridor Programmatic EIS (PEIS)

Section 368 of the Energy Policy Act of 2005 (designation of West-wide energy corridors) is being implemented via the current development of an interagency, Programmatic EIS (PEIS). The Final PEIS could amend numerous RMPs in the western U.S., providing decisions that would address numerous energy corridor-related issues, including the use of existing corridors (with enhancements and upgrades), identification of new corridors, supply and demand considerations, and compatibility with other corridor and project planning efforts.

1.11 Summary of Changes Made between the Draft RMP/EIS and the Proposed RMP/Final EIS

The BLM has made numerous changes between the Draft RMP/EIS and Proposed RMP/Final EIS. These changes are described below and detailed in Appendix N. BLM has prepared this Appendix to document if changes between the Draft RMP/EIS and the Proposed RMP/Final EIS resulted in a significant change in circumstances or conditions, or if the Proposed RMP/Final EIS contains different information from that which was presented to the public in the Draft RMP/EIS. Finally, BLM wanted to confirm that all changes made to the Proposed RMP/Final EIS fall within the range of alternatives presented and analyzed in the Draft RMP/EIS and the Supplement to the Draft RMP/EIS.

The regulation controlling whether or not a supplement is required is found at 40 CFR 1502.9(c), which provides that agencies:

(1) Shall prepare supplements to either draft or final environmental impact statements if:
- *(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or*
- *(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact.*

(2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.

(3) Shall adopt procedures for introducing a supplement into its formal administrative record, if such a record exists.

(4) Shall prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement unless alternative procedures are approved by the Council.

All changes to the Vernal Field Office Draft RMP/EIS were made in response to public comment and/or internal review. The majority of the changes were editorial changes made to add clarity to the document. In some cases, alternatives presented in the Draft RMP/EIS were modified in the Proposed RMP to reflect technical corrections and data updates. In other cases, such as in

Chapter 3, incorporation of updated information was necessary to refine the analysis in Chapter 4 that was incomplete or needed augmentation.

None of the changes described above and further detailed in Appendix N meet the regulatory definition for significance in 40 CFR 1508.27(a) and (b). These regulations require an agency preparing a NEPA document to review the changes for significant new circumstances or information relevant to environmental concerns and bearing on the Proposed RMP or its impacts, using context and intensity as the trigger for significance. BLM has reviewed each substantive change through this regulatory standard and has determined that none of the changes, individually or collectively, require a supplement to this Final EIS.

Following is an executive summary of the major changes between the Draft RMP/EIS and the Proposed RMP/Final EIS. The summary of changes has been broken into two parts:

- Summary of Changes to Decisions Between the Draft RMP/EIS Preferred Alternative (Alternative A) and the Proposed RMP/Final EIS
- Summary of Editorial Changes Made Between the Draft RMP/Draft EIS and Proposed RMP/Final EIS.

1.11.1 ES.7.1. Summary of Changes to Decisions Between the Draft RMP/EIS Preferred Alternative (Alternative A) and the Proposed RMP/Final EIS

- **Air Quality** decisions were refined based upon State of Utah, Department of Air Quality correspondence included in Appendix O.
- The Draft RMP alternatives made proposed decisions for **Combined Hydrocarbon Areas/Special Tar Sand Areas**. The Proposed RMP now defers those decisions to the Programmatic Tar Sands Oil Shale EIS discussed in Section 1.10.9 of Chapter 1.
- **Wild horses** would no longer be permitted in the Winter Ridge Herd Area and Hill Creek Herd Area due to disease (e.g., EIA) and trespass of private horses because of mixed surface ownership with the Ute Indian Tribe, State of Utah, and privately held lands. The Draft RMP Preferred Alternative allocated 2,340 AUMs for wild horses in the Winter Ridge Herd Area and the Hill Creek Herd Area.
- The Proposed RMP provides **Greater Sage-grouse** additional protection during breeding, nesting, brooding, and during winter by selecting the protections in Alternative C.
- All or portions of 15 areas, approximately 106,178 acres, would be managed as **non-WSA lands with wilderness characteristics**: Beach Draw, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, Vivas Cake Hill, White River, and Wild Mountain. The Draft RMP Preferred Alternative did not specifically provide management for non-WSA lands with wilderness characteristics. The Proposed RMP preserves and maintains management prescriptions in these areas and does not allow for surface disturbing activities.

- Bitter Creek, Coyote Basin, Lower Green River Expansion **ACECs** were not brought forward from the Draft RMP Preferred Alternative.
- White River, Browns Park, and Nine Mile Canyon **ACECs** were brought forward, with a reduction in acreage.
- Manage 24,259 acres in Red Mountain-Dry Fork as a **SRMA** to provide for maintenance and development of OHV or non-OHV trails, minimal facilities necessary for human health and safety, watershed values, relict vegetation communities, and crucial deer and elk winter habitat. An activity plan for the SRMA would be developed to determine what areas are appropriate for day use only.
- The Draft RMP Preferred Alternative proposed 24,183 acres as the White River **SRMA**. The Proposed RMP identified 2,831 acres as a SRMA. A portion of the lands not included in the SRMA in the Proposed RMP are being carried forward for management as non-WSA with wilderness characteristics.
- The Draft RMP Preferred Alternative recommended two segments of the White River, the Upper Green River and the Lower Green River, for inclusion in the **National Wild and Scenic River System** as well as the Upper and Lower Green River. The Proposed RMP recommends only the Upper and Lower Green River.
- In the Draft RMP Preferred Alternative, the BLM identified the **Hill Creek Extension** as available for leasing. The BLM, in cooperation with Ute Indian Tribe, identified in the Proposed RMP specific oil and gas leasing constraints for the Hill Creek Extension.

1.11.2 ES.7.2. Summary of Editorial Changes Made between the Draft RMP/Draft EIS and Proposed RMP/Final EIS

Throughout the Plan

- The Supplement to the Draft RMP/EIS has been merged into the Proposed RMP/Final EIS. The Supplement presents an analysis of the effects of managing non-Wilderness Study Area (WSA) lands with wilderness characteristics in a protective manner. This analysis is identified as Alternative E in the combined RMP.
- Acreage numbers and figures have been revised and clarified based on refined GIS techniques throughout all chapters.

Chapter 1

- Chapter 1 has been rewritten to emphasize the decisions brought forward in the Proposed RMP/Final EIS.
- Discussion on monitoring and evaluation and how it plays into the planning process has been added in Chapter 1.
- Chapter 1, Language Added: Utah Division of Wildlife Resources (DWR) Wildlife Habitat Classification System Change and included specific language regarding exceptions, modifications and waivers (Appendix K). This information has been graphically displayed on all maps highlighting wildlife habitat.

Chapter 2

- In Chapter 2 an additional column has been added to the matrices Tables 2.1.1 through 2.1.27 reflecting the Proposed RMP.
- All implementation–level decisions in Tables 2.1.1 through 2.1.27 have been italicized and asterisked with a footnote at the bottom of each page as follows: *This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.
- Language provided by the State of Utah regarding Air Quality has been added to Chapter 2, Table 2.1.2 "Common to All" section.
- Language provided by the State of Utah concerning compressor engine emission controls has been added to Chapter 2, Table 2.1.9.
- Revised the WSR "Common to All" management actions in Table 2.1.19 to work with upstream and downstream water users and applicable agencies to ensure that water flows are maintained at a level sufficient to sustain the values from which affected river segments were designated.
- Table 2.4 in Chapter 2 of the Draft RMP/EIS was removed in the Proposed RMP/Final EIS.

Chapter 3 & 4

- Completely revised the Socioeconomics section of Chapters 3 and 4 to include the information provided by the State of Utah and cooperating counties included in the new Appendix M.

Chapter 5

- Chapter 5 – Table 5.7 has been added to show consistency findings between the Proposed RMP/EIS, Utah state law, and county plans.

References Added

- BLM, 2007. Northeast National Petroleum Reserve - Alaska Draft Supplemental Integrated Activity Plan/Environmental Impact Statement. USDOI BLM, August 2007. Available on the Internet: http://www.blm.gov/ak/st/en/prog/planning/npra_general/ne_npra/ne_npr-a_supplement.html.
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Appendices Added

- Utah Public Lands Study – Key Social Survey Findings for Daggett, Duchesne, and Uintah Counties (Appendix M)
- Document Change Appendix (Appendix N)
- Air Mitigation Strategies Appendix (Appendix O)
- SHPO 106 Concurrence Letter (Appendix P)

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2.0 PROPOSED RMP AND ALTERNATIVES

2.1 INTRODUCTION

Chapter 2 contains the Proposed Resource Management Plan (RMP) and alternatives that describe different approaches to the management of public lands and resources in the Vernal Planning Area (VPA) that considered issues and concerns raised during the scoping period (see Chapter 1, Identification of Issues), planning criteria, and the guidance applicable to the resource uses. Each alternative as well as the Proposed RMP represents a complete and reasonable set of objectives, actions, and allocations to guide future management of public lands and resources in the VPA.

The Proposed RMP and five alternatives are presented in this chapter. The Proposed RMP specifies what management would be carried forward into future management. Alternative D (No Action Alternative) describes the continuation of current, existing management. The No Action Alternative is required by Council on Environmental Quality (CEQ) regulations and provides a baseline for comparison of the other alternatives. Four other alternatives (A, B, C, and E) describe proposed changes to current management.

This chapter provides a brief introduction followed by Tables 2.1.1 through 2.1.27, which summarize the differences between the Proposed RMP and the alternatives. The Proposed RMP as well as the alternatives within this RMP share many goals, objectives, standards, and guidelines that ensure protection of resources and compliance with applicable laws. A “Goals and Objectives” section is at the beginning of each resource, followed by “Management Common to All” in order to avoid redundancy. Each category then includes several subsections, each of which focuses on a particular resource, resource use, or program.

2.2 DEVELOPMENT OF THE PROPOSED RMP AND DRAFT RMP ALTERNATIVES

The development of the Proposed RMP and the Draft RMP alternatives for the Vernal RMP and Environmental Impact Statement (EIS) was guided by provisions of the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA), as well as by planning criteria listed in Chapter 1. Other laws, as well as Bureau of Land Management (BLM) planning regulations and policy, directed alternative considerations and focused the alternatives on appropriate decisions made at the level of the land use plan (LUP). To begin the alternative development process, goals and desired future conditions were identified by the planning team after carefully considering public comments received throughout the scoping period, as well as direction established by BLM national policy guidance.

The Proposed RMP/Final EIS is primarily based on the components from the Preferred Alternative (Alternative A) of the Draft RMP/EIS (January 14, 2005). However, it has been modified to include aspects of all alternatives analyzed after careful consideration of public comments, cooperating agency review, and internal review.

The Draft RMP, which includes the Supplement to the Draft, developed five management alternatives to address the major planning issues and to provide direction for resource programs influencing land management. Each alternative emphasizes a different combination of resource uses, allocations, and restoration measures to address issues and resolve conflicts among uses, to allow program goals to be accomplished in varying combinations across the alternatives. Management scenarios for programs not tied to major planning issues and/or mandated by law often contain few or no differences in management between alternatives.

Alternative D, continuation of current management (No Action), is based on existing planning decisions that remain valid, as well as on current direction and policy. The remaining alternatives were developed with input received during scoping and with expertise from the interdisciplinary planning team and input from local, state, federal, and tribal governments.

2.2.1 General Description of the Proposed RMP/Final EIS

The Proposed RMP/Final EIS is primarily based on the decisions from the Preferred Alternative (Alternative A) from the Draft RMP/EIS (January 14, 2005). However, it has been modified to include aspects of all alternatives analyzed after careful consideration of public comments, cooperating agency review, and internal review. The reviews were provided on the Draft RMP/EIS; call for information on Areas of Critical Environmental Concern (ACECs) (Federal Register Notice, December 13, 2005); and, Alternative E from the supplement that was issued on October 5, 2007, analyzing the management of non-WSA lands with wilderness characteristics. These alternatives are combined in the Proposed RMP/Final EIS. Some changes to the draft alternatives have been made in response to the public comments received during the comment period. These changes are limited, for the most part, to correcting mistakes and refining technical points. Changes in the Proposed RMP/Final EIS from the Draft RMP/EIS Alternative A (Draft RMP/EIS Preferred Alternative) are summarized for the reader in Appendix N.

2.2.2 General Description of the Draft RMPEIS Alternatives

The alternatives were developed in response to the issues identified in the public scoping process and the planning criteria.

The BLM recognizes that social, economic, and environmental issues cross land ownership lines and that extensive cooperation is needed to actively address issues of mutual concern. To the extent possible, the alternatives were crafted using the input from public scoping comments; from comments submitted by Duchesne, Daggett, and Uintah county representatives; and from input from other cooperating agencies such as the Northern Ute Tribe.

All management under any of the Proposed RMP and alternatives would comply with state and federal regulations, laws, standards, and policies. Management items common to all and a more detailed discussion for the Proposed RMP and the alternatives may be found in Table 2.1.1 through 2.1.27.

2.2.1.1 DRAFT RMP/EIS PREFERRED ALTERNATIVE (ALTERNATIVE A)

Management direction is generally broad and accommodates a wide variety of values and uses. The VPA would be managed to provide a sustainable flow of resources for human use, while protecting important watersheds and providing viable populations of native and desirable non-native plants species, as well as to provide opportunities for recreational use and wildlife habitat.

2.2.1.2 ALTERNATIVE B

This alternative provides for most resource uses but would emphasize oil and gas development, where feasible. Renewable resources would be protected by balancing the development of mineral resources with focused and prudent mitigation measures.

2.2.1.3 ALTERNATIVE C

The natural succession of ecosystems would be allowed to proceed in select management areas. This alternative would strongly emphasize maintenance of watershed conditions, species viability, properly functioning ecosystems, and a reduction of habitat fragmentation.

2.2.1.4 ALTERNATIVE D (CURRENT MANAGEMENT/NO ACTION)

This alternative would maintain present uses by continuing present management direction and activities while abiding by all new mandates, executive orders, and directives that have been implemented since the previous RMPs were completed.

2.2.1.5 ALTERNATIVE E

Alternative E gives emphasis to protection of all non-WSA lands with wilderness characteristics, including closure of these areas to mineral leasing and off-road vehicles, avoidance of rights-of-way, protection of undisturbed landscapes, and providing opportunities for primitive and semi-primitive recreation. The natural succession of ecosystems would be allowed to proceed in these and other select management areas. This alternative strongly emphasizes maintenance of watershed conditions, species viability, properly functioning ecosystems, and a reduction of habitat fragmentation. It also includes designation of ACECs and determinations for wild and scenic river suitability, while still providing for resource uses in other parts of the VFO, including mineral and energy development and motorized recreation use.

Alternative E is the same as Alternative C, except that it adds a protective management prescription to 277,596 acres of land in 25 areas that comprise non-WSA lands with wilderness characteristics. Alternative E, however, applies to all public lands within the VPA. The proposed decisions that apply to the lands outside of non-WSA lands with wilderness characteristics remain the same as those in Alternative C.

2.3 ALTERNATIVES AND MANAGEMENT OPTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Several organizations and individuals provided components of alternatives and management actions as possible ways of resolving individual resource management issues and conflicts. However, none of the submittals addressed the BLM's purpose and need (outlined in Chapter 1) and multiple-use requirements as identified in the Federal Lands Policy and Management Act (FLPMA). These submissions were considered during alternative development; however, none provided the full range of protections required. The following alternatives and management options were considered as possible ways of resolving resource management issues and conflicts but were eliminated from detailed analysis because they were unreasonable or not practical as a result of technical, legal, regulatory, or policy issues.

2.3.1 NO GRAZING ALTERNATIVE

An alternative that proposes to make the entire planning area unavailable for grazing would not meet the purpose and need of this RMP/Draft EIS. The National Environmental Policy Act (NEPA) requires that agencies study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. No issues or conflicts have been identified during this land-use planning effort which requires the complete elimination of grazing within the planning area for their resolution. Where appropriate, removal of livestock and adjustments to livestock use have been incorporated into the alternatives on an allotment or area basis to address issues identified in this planning effort. Since the BLM has considerable discretion through its grazing regulations to determine and adjust stocking levels, seasons-of-use, and grazing management activities, and to allocate forage to uses of the public lands in RMPs, the analysis of an alternative to entirely eliminate grazing is not needed.

An alternative that proposes to make the entire planning area unavailable for grazing would also be inconsistent with the intent of the Taylor Grazing Act, which directs the BLM to provide for livestock use of BLM lands; to adequately safeguard grazing privileges; to provide for the orderly use, improvement, and development of the range; and to stabilize the livestock industry dependent upon the public range. The Federal Land Policy and Management Act (FLPMA) requires that public lands be managed on a "multiple use and sustained yield basis" (FLPMA Sec. 302(a) and Sec. 102(7)) and includes livestock grazing as a principal or major use of public lands. While multiple-use does not require that all lands be used for livestock grazing, complete removal of livestock grazing on the entire planning area would be arbitrary and would not meet the principle of multiple use and sustained yield.

Livestock grazing is and has been an important use of the public lands in the planning area for many years and is a continuing government program. Although the Council on Environmental Quality (CEQ) guidelines for compliance with NEPA requires that agencies analyze the No Action Alternative in all EISs, for purposes of this NEPA analysis, the No Action Alternative is to continue the status quo, which includes livestock grazing (CEQ Forty Most Asked Questions, Question 3). For this reason and those stated above, a no grazing alternative for the entire planning area has been dismissed from further consideration in this RMP/EIS.

2.3.2 LIVESTOCK GRAZING ADJUSTMENTS ALTERNATIVE

During scoping and comment on the Draft EIS, it was suggested that the BLM consider adjustments to livestock numbers, livestock management practices, and the kind of livestock grazed on allotments within the Vernal Field Office (VFO) to benefit wildlife and protect and promote land health, including soils, hydrologic cycles, and biotic integrity.

The BLM's policy regarding adjustments to the levels of livestock use authorized is to monitor and inventory range conditions under existing stocking levels and make adjustments to livestock use as indicated by this data to help assure that standards for rangeland health and resource objectives are met. Regulations at 43 CFR 4130.3 require that the terms and conditions under which livestock are authorized "ensure conformance with the provisions of subpart 4180" (Standards for Rangeland Health) and further that "livestock grazing use shall not exceed the livestock carrying capacity of the allotment." It would be inappropriate and unfeasible to estimate and allocate the available forage, design-specific management practices, and determine if changes to the kind of livestock are necessary for each allotment in the VFO or in the area as a whole in the RMP/EIS. Such changes would not be supportable considering the type and amount of data required and the analysis necessary to make such changes.

According to BLM policy decisions regarding authorized livestock use levels and the terms and conditions under which they are managed is an implementation decision (H-1610-1, Appendix C, p. 15). The BLM assesses rangeland health, conducts monitoring and inventories, and evaluates this data on a periodic basis, normally on an allotment and/or watershed basis. After NEPA analysis, necessary changes to livestock management and implementation of Guidelines for Rangeland Management on Public Lands in Utah are implemented through a proposed decision in accordance with 43 CFR 4160. These decisions determine the exact levels of use by livestock in conformance with the LUP and to meet resource objectives and maintain or enhance land health. For these reasons this alternative has been dismissed from further consideration in this LUP revision.

2.3.3 GREATER DINOSAUR/BOOK CLIFFS HERITAGE PLAN

The BLM did not incorporate this plan in whole, but elements of the plan were incorporated in its action alternatives, particularly Alternatives C and E. The BLM has also incorporated several elements of this plan in its Proposed RMP/Final EIS. The Proposed RMP/Final EIS contains similar objectives in Management Common to All; they are:

- Mitigate or reduce long-term habitat fragmentation through avoidance and site-specific reclamation in order to return disturbed areas to productive levels.
- Ensure that management of native and naturalized plant species enhances and restores, and does not reduce, the biological and genetic diversity of natural ecosystems.
- Conserve and protect special status species and enhance their habitats.

2.3.4 NO LEASING ALTERNATIVE

During scoping and/or the comment period for the Draft RMP/EIS, commenters suggested that the BLM should address a "No-Leasing Alternative" because the No-Leasing Alternative is the equivalent of the No Action Alternative that must be analyzed in all EISs.

The No-Leasing Alternative in an RMP revision is actually an action alternative because where lands have already been leased, the no-action for NEPA purposes continues to allow for (honor) valid existing rights. Proposing a No-Leasing Alternative would require revisiting existing leases and either buying them back from the lessee or allowing them to expire on their own terms. The first option (buying back) is outside the scope of any RMP. This is a political decision that the BLM has no authority to undertake in planning. As a result, the BLM does not regularly include a No-Leasing Alternative. The second alternative (lease expiration) would occur to some degree under any alternative.

The purpose and need for the LUP is to identify and resolve potential conflicts between competing resource uses rather than to eliminate a principle use of the public lands in the VFO Area. Leasing of the public lands for oil and gas exploration and production is required by the Mineral Leasing Act of 1920, as amended, and the BLM's current policy is to apply the least restrictive management constraints to the principal uses of the public lands necessary to achieve resource goals and objectives. A field office–wide "No-Leasing Alternative" would be an unnecessarily restrictive alternative for mineral exploration and production on the public lands.

The National Environmental Policy Act (NEPA Section 102 [E]) requires that agencies "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." No issues or conflicts have been identified during this land-use planning effort that requires the complete elimination of oil and gas leasing within the planning area for their resolution. The BLM's Land Use Planning Handbook (BLM MANUAL Rel. 1-1693) requires that LUPs identify areas as open or unavailable for leasing.

Given the potential range of decisions available in the Draft RMP/Draft EIS, the analyzed alternatives include no leasing for certain areas; but a field office-wide No-Leasing Alternative is not necessary in order to resolve issues and protect other resource values and uses.

As mentioned above, a No-Leasing Alternative should not be confused with the No Action Alternative for purposes of NEPA compliance. Leasing and no-leasing on the public lands has previously been analyzed in several NEPA documents. In 1973, the Department of Interior published the Final EIS on the Federal Upland Oil and Gas Leasing Program (USDI, 1973). The Proposed Action was to lease federal lands for production of oil and natural gas resources. Alternatives included the No Action Alternative, which at initiation of the program was the No–Leasing Alternative. To supplement that EIS, the BLM prepared a series of environmental assessments (EAs, then referred to as environmental analysis records, or EARs), including the Vernal District Oil and Gas Program Environmental Analysis Record (EAR) of 1975, which addressed oil and gas leasing for the public lands in the VFO area. Alternatives again included the No Action or No-Leasing alternative. The outcome was a category system for leasing that

categorized all public and USFS lands into four groups: 1) open to leasing with standard lease stipulations, 2) special stipulations to address special concerns, 3) no surface occupancy, and 4) no leasing. Since completion of the EAR in 1975, oil and gas leasing in the VFO area has been an ongoing federal program under the established categories.

The CEQ (Section 1502.14[d] of NEPA) requires the alternatives analysis in an EIS to "include the alternative of no action," but explains that there are two distinct interpretations of "no action" that must be considered, depending on the nature of the proposal being evaluated. “The first situation might involve an action such as updating a land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases "no action" is "no change" from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the No Action Alternative may be thought of in terms of continuing with the present course of action until that action is changed (CEQ Forty Most Asked Questions, Question 3). Therefore, for the Vernal Draft RMP/Draft EIS and the Proposed RMP/Final EIS, the No-Action Alternative is to continue the status quo, which is to lease under the oil and gas stipulations (formerly categories) established in the Diamond Mountain RMP and the Book Cliffs RMP.

2.4 Brief Summary of the Proposed RMP and Draft RMP / EIS Alternatives in Tables 2.1.1 through 2.1.27

The major resources and uses where issues were identified during scoping were travel management, recreation, oil and gas leasing and development, special designations (ACECs and Wild and Scenic Rivers [WSR]), special status species, wildlife, and non-WSA lands with wilderness characteristics. These resources and uses, among others, are displayed under a range of management alternatives that set forth different priorities and measures to emphasize uses or resource values over other uses or resource values to achieve specific goals or objectives outlined in detail in Table 2.1.1 through 2.1.27. Below is a brief summary of the range of alternatives for those major resources and uses brought forward during scoping. Much more detail for each of these resources and uses, among others, and their proposed management is in Table 2.1.1 through 2.1.27. For ease of reference, the following list is provided:

2.4.1 TRAVEL MANAGEMENT

All public lands are required to have off-highway vehicle (OHV) area designations. Areas must be classified as open, limited, or closed to motorized travel activities. Off-highway vehicle designation areas, or categories, are listed by alternative. Within the Limited category, routes would be limited to "designated roads and trails" (43 CFR Part 8340.0-5(g)). Specific routes are being designated as open to motorized use by alternative as part of implementation-level planning. Table 2.1.22 portrays how travel and access management would be designated under the Proposed RMP and each alternative.

2.4.2 OIL AND GAS LEASING AND DEVELOPMENT

One of the major decisions in a LUP is to determine which areas should be:

- Open to leasing subject to the terms and conditions of the standard lease form stipulations.
- Open to leasing, subject to moderate constraints such as timing limitations (TL) or controlled surface use (CSU) restrictions.
- Open to leasing subject to major constraints such as no surface occupancy (NSO) stipulations.
- Administratively unavailable to leasing (closed).

All of these proposed decisions must be consistent with the goals and objectives of other resources and uses for each alternative. Table 2.1.9 depicts how oil and gas leasing would be managed under the Proposed RMP and each alternative.

In addition, this planning revision proposes to apply the same oil and gas stipulations to all other surface-disturbing activities where they are not contrary to laws, regulations, or policy under the Proposed RMP and all of the alternatives. For example, if an area has a timing stipulation on it for oil and gas development, it would also apply that same timing stipulation on a right-of-way (ROW) construction proposal or an organized recreational event. Appendix K contains proposed stipulations for surface-disturbing activities and applicable Waivers, Exceptions, and Modifications.

2.4.3 SPECIAL DESIGNATIONS—POTENTIAL ACECS

A Federal Register Notice of Availability (December 2005) announced the availability of information on existing and potential ACECs considered within the Draft RMP and EIS, as required in 43 CFR 1610.7-2. The CFR also provided an associated 60-day comment period

beginning December 13, 2005. In order to be considered and carried forward into the range of alternatives for planning, an ACEC must meet the relevance and importance criteria in 43 CFR 1610.7-2(a), and must require special management. The relevance and importance criteria encompass scenery, sensitive plant species, rare plants, cultural and historic resources, wildlife, fish, natural systems, and natural hazards. Table 2.1.18 shows the numbers and acres of ACECs considered by the Proposed RMP and alternatives. Where ACECs are designated, special management attention would be directed at the relevant and important values, resources, natural systems, and/or natural hazards.

2.4.4 Wild and Scenic Rivers

During planning, the BLM must assess all eligible river segments and determine which are suitable or non-suitable per Section 5(d)(1) of the Wild and Scenic Rivers Act of 1968, as amended. The VFO reviewed all river segments for WSR eligibility and suitability as part of the RMP process. The BLM Manual 8351 directs the BLM to provide tentative classifications of Wild, Scenic, or Recreational to the eligible river segments. The information considered by alternative and brought forward in the Proposed RMP is in Table 2.1.19. Where rivers are determined as suitable, protection of the outstandingly remarkable values, tentative classification, and free-flowing nature would be provided until a determination is made by Congress.

2.4.5 Special Status Species

Land use plan decisions must be consistent with the BLM's mandate to recover listed species and must be consistent with objectives and recommended actions in approved recovery plans, conservation agreements and strategies, MOUs, and applicable biological opinions for threatened and endangered species. Currently, the VFO has one federally listed bird species (and one candidate species), two federally listed mammal species, four federally listed fish species, and six federally listed plant species (and one candidate species). The information considered by alternative and brought forward in the Proposed RMP is in Table 2.1.21. Species conservation measures (Appendix L) have been developed in coordination with the U.S. Fish and Wildlife Service (USFWS). They will be implemented under the Proposed RMP and all alternatives. In addition, there are federally listed as well as state sensitive species where TLs and CSU stipulations are applied.

The BLM will work with UDWR, USFWS, and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data.

2.4.6 Non-WSA Lands with Wilderness Characteristics

During planning, the VFO identified decisions to protect, preserve, and maintain non-WSA lands with wilderness characteristics (naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation). There are 15 areas totaling 106,178 acres that were identified as non-WSA lands with wilderness characteristics that were

brought forward in the Proposed RMP. The total acreage considered, by alternative, is shown in Table 2.1.10.

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Table 2.1.1 Proposed RMP and Alternatives – Management Common to the Proposed RMP and All Alternatives

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES					
INTRODUCTION The Proposed RMP and all alternatives within this RMP share several goals, objectives, standards, and guidelines that ensure protection of resources and compliance with applicable laws. In order to avoid redundancy within the Proposed RMP and alternatives, these types of guidance are categorized as "Management Common to All."					
GOALS AND OBJECTIVES COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Utah BLM Rangeland Health Standards, described below, apply to all resource programs and authorized activities: o Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform. o Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate, and landform. o Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved. o The BLM would apply and comply with water quality standards established by the State of Utah (R317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM lands would support the designated beneficial uses described in the Utah Water Quality Standards (R317-2) for surface water and groundwater. • Joint monitoring and evaluation strategies would be implemented by the BLM and permittees to measure progress in accordance with Utah BLM Rangeland Health Standards based on site-specific conditions. Site-specific conditions must be documented in order to warrant modification of prescriptions. • The BLM recognizes that not all activities authorized by implementation of the Proposed RMP or any of the alternatives would comply with Rangeland Health Standards. All authorized activities would require reclamation and rehabilitation actions to ensure sustainability and productivity of the site. • Assure that counties and others, such as Native American tribes whose interests might be affected have a sufficient opportunity for productive participation in the BLM's planning and resource management decision-making.					
CLIMATE CONSIDERATIONS The BLM would continue to regularly monitor and evaluate climatic and vegetative data. This data would be shared and compiled with other land managing agencies of the VPA. Using a cooperative and collaborative approach, should the analysis of such data reveal a substantial shift (either upward or downward) in both the timing and level of production of native rangelands, either planning-area-wide or on specific sites within the VPA, the BLM would initiate actions to ensure any permitted/allowed use of such resources would not adversely affect the long-term productivity of such areas.					
EDUCATION, INTERPRETATION, AND RESEARCH The BLM would work with its partners, including local school districts and universities to develop a variety of opportunities to promote education, research, and interpretation on public lands. -					
FIRE, DROUGHT, AND NATURAL DISASTERS • The BLM would coordinate appropriate management responses (AMR) with affected parties where natural resources may be impacted by fire, drought, insects and diseases, or natural disasters. A variety of emergency or interim actions may be necessary to minimize land health degradations, such as reduced forage allocations; reductions in the number of livestock; wildlife; increased mitigation measures to ensure reclamation; limitations on energy field activities; and recreational uses. • Current Utah BLM Rangeland Health Standards would be incorporated, as appropriate, across all resource programs as a minimum. Management prescriptions in the form of constraints to use, terms and conditions, and stipulations may be needed to sustain rangeland health and viability. Management prescriptions would consider the following: o Livestock Grazing — Use would be allowed in both quantity and timing that would not result in a downward shift in rangeland health. The BLM would work cooperatively to affect a grazing strategy specific to a grazing permittee's individual grazing allotment(s), and make changes to the grazing authorizations as appropriate within the limits of the existing permit and in accordance with the grazing regulations. In the case of drought, the last recourse for the BLM would be to temporarily close the range, or portions of it, to livestock grazing. o Off Highway/Road Vehicles (OHV) — OHV use during period of prolonged dryness would be further restricted to existing routes; or, if site-specific conditions warrant, closure to OHVs would be implemented to minimize vehicle-induced injury or damage to rangeland and/or woodlands and forest and to minimize the potential of spark caused fires. o Recreation — During periods of prolonged dryness or drought, the BLM, in cooperation with local and state fire management agencies, would limit campfires to established fire rings or fully contained fires. The last resort would be to close the public lands to campfires of any kind. o Surface-disturbing Activities — These would be closely monitored to ensure compliance with authorizations/permits, conditions of approval, or terms and conditions. Actions minimizing new surface disturbance allowed by regulations, as well as actions insuring successful reclamation, would be of paramount concern. During periods of drought, the BLM would require additional actions such as changes to standard seed mix compositions, amounts of seed, and method of application. Methods to ensure successful revegetation following disturbance may include hydromulching, installation of drip irrigators, or fencing to exclude ungulate grazing/browsing. o Wild Horse Management — Wild or feral horses will be gathered and removed. Forage allocation has been allocated until removal. o Wildlife Management — During periods of prolonged dryness or drought, to the extent that wildlife grazing ungulate populations cannot be sustained due to competition for water and available forage, the BLM would enter into discussions with the Utah Division of Wildlife Resources (UDWR) regarding herd numbers and overall management options to ensure that rangeland health is maintained and to address the effects of drought.					
INTEGRATED PEST MANAGEMENT • Appropriately manage noxious and invasive weeds and prevent introduction of new invasive species through the implementation of a comprehensive weed program per national guidance and local weed management plans, including coordination with partners; prevention and early detection; education; inventory and monitoring; and using the principles of integrated pest management. • All projects that involve ground-disturbing activities should incorporate best management practices (BMPs) for control of weeds with an emphasis on prevention. • Use of pesticides and herbicides shall comply with the applicable federal and state laws. Pesticides and herbicides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. • Prior to the use of pesticides, project proponents shall obtain from the Authorized Officer written approval of Pesticide Use Proposal, which is a plan showing the type and quantity of material to be used; pest(s) to be controlled; method of application;					

Table 2.1.1 Proposed RMP and Alternatives – Management Common to the Proposed RMP and All Alternatives

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES					
location of storage and disposal of containers; and any other information deemed necessary by the Authorized Officer. Emergency use of pesticides shall be approved in writing by the Authorized Officer prior to use. In addition, within 24 hours of any pesticide application, a Pesticide Application Record must be completed. A similar procedure is required for the release of biological control agents.					
MANAGEMENT PRESCRIPTIONS The VPA includes a wide array of geographical landscapes and ecosystems. The expansive nature of the RMP mandates a broad scale of decision-making.					
SURFACE STIPULATIONS APPLICABLE TO ALL SURFACE-DISTURBING ACTIVITIES • Appendix K lists by alternative surface stipulations referred to throughout the Final RMP/EIS. • Surface stipulations (including exceptions, modifications, and waivers), would be applied to all land use authorizations, permits, and leases issued on BLM-administered lands.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ACTION ALTERNATIVES, BY RESOURCE PROGRAM					
GOALS AND OBJECTIVES • The goals and objectives described below apply to the Proposed Plan and Action Alternatives A, B, C, and E, not to the No Action Alternative D.D. • Goals and objectives for Alternative D are contained in the 1994 Diamond Mountain RMP and the 1985 Book Cliffs RMP. Acreage figures for Alternative D may reflect different sum totals, as calculations were determined using different technology.					

Table 2.1.10 Proposed RMP and Alternatives – Non-WSA Lands with Wilderness Characteristics

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS					
GOALS AND OBJECTIVES Protect, preserve and maintain the wilderness characteristics (i.e., appearance of naturalness, outstanding opportunities for primitive and unconfined recreation or solitude) of non-WSA lands with wilderness characteristics. Manage these primitive and backcountry landscapes for their undeveloped character and provide opportunities for primitive recreational activities and experiences of solitude.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES There are no non-WSA lands with wilderness characteristics actions common to the Proposed RMP and all alternatives.					
• Approximately 106,178 acres would be managed as non-WSA lands with wilderness characteristics for the following areas: Beach Draw, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, Vivas Cake Hill, White River, and Wild Mountain. • They would be managed with the following common prescriptions: o VRM Category II o Closed to oil and gas leasing, except for the White River area that would be open to leasing, subject to major constraints, (NSO). o Closed to solid mineral leasing. o Closed to disposal of mineral materials. o Closed to woodland product harvest. o Avoidance area for rights-of-way. o OHVs would be limited to designated routes, except for the upper portion of the Lower Flaming Gorge wilderness characteristics area, which would be closed. o No motorized vehicles would be allowed to travel on a single path up to 300 feet from designated routes to access a camp. o Retain public lands in federal ownership. • When compatible with the goals and objectives for management of non-	No specific actions are specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	• The following areas (277,596 acres) are non-WSA lands with wilderness characteristics (Figure 26): Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Cripple Cowboy, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Hells Hole Canyon, Hideout Canyon, Lower Bitter Creek, Lower Flaming Gorge, Mexico Point, Moonshine Draw, Mountain Home, Rat Hole Ridge, Stuntz Draw, Sweet Water Canyon, Vivas Cake Hill, White River, Wild Mountain, and Wolf Point. • All non-WSA lands with wilderness characteristics would be managed with the following prescription: o VRM class I (Figure 44) o Closed to OHV use (Figure 38) o Closed to oil and gas leasing (Figure 17) o Closed to solid mineral leasing o Closed to disposal of mineral materials o Proposed for withdrawal from mineral entry o Retain public lands in federal ownership o Exclusion area for ROWs o Closed to permitted commercial and personal-use wood cutting and seed collection (Figure 49) o Closed to new road construction o Permit maintenance of existing facilities o When compatible with the

Table 2.1.10 Proposed RMP and Alternatives – Non-WSA Lands with Wilderness Characteristics

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS					
WSA lands with wilderness characteristics: o Permit vegetation and fuel treatments using prescribed fire, mechanical and chemical treatments, and other actions compatible with the Healthy Lands Initiative (HLI). o Permit construction of wildlife water and livestock facilities, and minimal recreation facilities.					goals and objectives for management of non-WSA lands with wilderness characteristics: • Permit vegetation and fuel treatments using prescribed fire • Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities • Permit excavation of cultural resources sites. • Permit excavation of paleontological resources. • No actions would be allowed that would degrade the wilderness characteristics.

Table 2.1.11 Proposed RMP and Alternatives – Paleontology Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
PALEONTOLOGY RESOURCES					
GOALS AND OBJECTIVES Locate, evaluate, and manage paleontological resources, and protect them where appropriate. Facilitate suitable scientific, educational, and recreational uses of fossils. Ensure that significant fossils are not inadvertently damaged, destroyed, or removed from public ownership as a result of surface disturbance or land exchanges. Foster public awareness and appreciation of the area's paleontological heritage.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Recreational collectors may collect and retain reasonable amounts of common invertebrate and plant fossils for personal, non-commercial use. Surface disturbance must be negligible, and mechanized tools may not be used. • Vertebrate fossils may be collected only under a permit issued to qualified individuals. Vertebrate fossils include bones, teeth, eggs, and other body parts of animals with backbones such as dinosaurs, fish, turtles, and mammals. Vertebrate fossils also include trace fossils, such as footprints, burrows and dung. • Fossils collected under a permit remain the property of the federal government and must be placed in a suitable repository (such as a museum or university) identified at the time of permit issuance. • Lands identified for disposal or exchange would be evaluated to determine whether such actions would remove significant fossils from federal ownership. In areas where surface disturbance, either initiated by the BLM or by other land users, may threaten significant fossils, the BLM would follow its policy (see Manual and Handbook 8270-1) to assess any threat and mitigate damage. The BLM Washington Office Instruction Memorandum No. 2008-009, Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands, dated October 15, 2007, revised the classification system of Handbook 8270-1. • The BLM would work with local communities, interest groups, individuals, and other agencies to enhance the public's understanding and enjoyment of paleontological resources. • Where scientifically significant fossils are threatened by natural hazards or unauthorized collection, the BLM would work with permittees and other partners to salvage specimens and reduce future threats to resources at risk. • Implement regular patrols as feasible to protect areas where unauthorized use may occur. • Modify the existing General Agreement between the VFO, the NPS, the Vernal Field House of Natural History, and the Friends of Paleontology Chapter to encourage protection of paleontological resources planning-area wide. The modified agreement would ensure proper storage and curation of paleontological resources and include methods to promote interpretation and education.					
• Areas with significant fossils would be identified through predictive modeling and broad-scale sampling. • Assessment and mitigation would be required as needed in these areas.	Same as the Proposed RMP.	• Damage to significant fossils would be prevented through lease notices, stipulations, and other requirements. • Impacts would be mitigated in response to reports of finds	Same as Alternative A, but would require assessment and mitigation in all Class 4 or Class 5 areas and in Class 3 areas as needed	Assessment of fossil resources would be required on a case-by-case basis; mitigation would be required as necessary before and/or during surface disturbance.	• Areas with significant fossils would be identified through predictive modeling and broad-scale sampling. • Assessment and mitigation in all Class 4 or Class 5 areas and in Class 3 areas would be applied as needed.
Information on fossils and collecting rules would be provided to public through websites, publications, and personal contacts.	Same as the Proposed RMP.	Same as Alternative D.	• Interest groups and public land users would be contacted to provide information about fossils and appropriate uses. • Class 4 or Class 5 areas that receive high levels of development or visitor use would be identified and monitored.	Reports of theft or damage to fossil resources would be responded to.	Same as Alternative C.
Written and web-based information would be provided about fossils, hobby collecting, and local interpretive sites to promote visitor education.	Written and web-based information would be provided about fossils, hobby collecting, and local interpretive sites.	Same as Alternative D.	• New websites and publications would be developed and maintained to promote visitor education. • The BLM would assist in development of local museum exhibits on paleontology.	Written information about fossils and hobby fossil collecting would be provided.	Same as Alternative C.
Paleontological Resources Use permits would be issued for scientific study, promoting or supporting investigations in poorly known areas.	Same as the Proposed RMP.	Same as Alternative D.	• Paleontological Resources Use permits would be issued for scientific study, promoting or supporting investigations in poorly known areas. • The BLM would support investigations in lesser-known areas and in areas where surface disturbance is occurring or anticipated.	Paleontological Resource Use permits for scientific study would be issued.	Same as Alternative C.
• Collection of common invertebrate and plant fossils would be allowed for personal, non-commercial use. • Areas for hobby collection would be	• Collection of common invertebrate and plant fossils would be allowed for personal, non-commercial use. • Areas for hobby collection would be	Same as Alternative D.	Same as the Proposed RMP.	Collection of common invertebrate and plant fossils for personal, non-commercial use would be allowed.	Same as the Proposed RMP.

Table 2.1.11 Proposed RMP and Alternatives – Paleontology Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
PALEONTOLOGY RESOURCES					
identified, publicized, and monitored. • Areas with rare and significant invertebrate and plant fossils would be closed to hobby collection.	identified, publicized, and monitored.				
Permit excavation of fossils in non-WSA lands with wilderness characteristics, when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as the Proposed RMP.

Table 2.1.12 Proposed RMP and Alternatives – Rangeland Improvements

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RANGELAND IMPROVEMENTS					
GOALS AND OBJECTIVES Restore, maintain and/or improve rangeland conditions and productivity to maintain, meet or make substantial progress towards meeting rangeland health standards while meeting forage obligations in grazing permits and grazing preference decisions, as well as wildlife habitat.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES Specific improvements to rangeland health would include, but are not limited to, vegetation treatments, fencing, spring development, reservoirs, guzzlers, pipelines, and wells.					
Part or all of the following measures would be implemented to meet resource objectives for habitat enhancement: • Fencing (69 Miles) • Vegetation Treatment (34,640 Acres) Water Developments: • 812 Guzzlers/Reservoirs • Pipeline (38 Miles) • 51 Wells/Springs	Same as the Proposed RMP.	Part or all of the following measures would be implemented to meet resource objectives for habitat enhancement: • Fencing (369 Miles) • Vegetation Treatment (50,900 Acres) Water Developments: • 1,165 Guzzlers/Reservoirs • Pipeline (51 Miles) • 78 Wells/Springs	Part or all of the following measures would be implemented to meet resource objectives for habitat enhancement: • Fencing (129 Miles) • Vegetation Treatment (45,860 Acres) Water Developments: • 811 Guzzlers/Reservoirs • Pipeline (30 Miles) • 87 Wells/Springs	Part or all of the following measures would be implemented to meet resource objectives for habitat enhancement: • Fencing (65 Miles) • Vegetation Treatment (40,390 Acres) Water Developments: • 775 Guzzlers/Reservoirs • Pipeline (35 Miles) • 74 Wells/Springs	Same as Alternative C.
Permit use of prescribed fire in non-WSA lands with wilderness characteristics for vegetation treatments, when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics. Rehabilitation fire lines and other surface disturbances following completion of the burning operation.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as the Proposed RMP.
Permit construction of rangeland improvements in non-WSA lands with wilderness characteristics, when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as the Proposed RMP.

Table 2.1.13 Proposed RMP and Alternatives – Recreational Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION RESOURCES — MAP FIGURES 27 AND 28					
GOALS AND OBJECTIVES • Ensure the continued availability of quality outdoor recreation opportunities and experiences that are not readily available from other sources; protect the health and safety of visitors; protect natural, cultural, and other resources; encourage public enjoyment of public lands; and enhance recreational opportunities. • Work collaboratively with affected user groups and organizations, state and local officials, and other interested parties to provide for site-specific or area-specific comprehensive integrated activity level planning. • Assure there is a spectrum of recreation opportunities and settings through comprehensive integrated activity level planning. Such plans would include, but are not limited to the following: o Recreation use allocations o Group size or seasonal limitations o Opportunities for dispersed or organized camping, including large events o Facility development o Opportunities for interpretation or other signage o Campfire restrictions o Establish limits of acceptable change or other environmental indicators in order to provide for adaptive management					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Continue to implement public education and environmental awareness programs such as Tread Lightly and the Leave No Trace. • Continue to manage 1,014 acres at Pelican Lake as a Special Recreation Management Area (SRMA). The area would be open to oil and gas leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations and closed to mineral materials sales. • Manage 24,259 acres in Red Mountain-Dry Fork as a SRMA to provide for maintenance and development of OHV or non-OHV trails, minimal facilities necessary for human health and safety, watershed values, relict vegetation communities, and crucial deer and elk winter habitat. An activity plan for the SRMA would be developed to determine what areas are appropriate for day use only. • BLM lands within Dry Fork Canyon would be closed to the shooting of firearms. • Areas not managed as SRMAs would be managed for dispersed recreational uses that require minimum facility development. • Special Recreation Permits (SRPs) would continue to be considered on a case-by-case basis. All proposed applications for permits would be evaluated to determine compliance with the goals and objectives of this plan. • Motorized camping vehicles would be allowed to travel off designated routes on a single path up to 300 feet to access an existing disturbed dispersed campsite, except in non-WSA lands with wilderness characteristics and WSA lands. In designated travel route areas, an activity level plan would be used to identify areas suitable for camping that would allow motorized vehicles to travel from those designated routes. The BLM would monitor dispersed camping activities and would work with user groups to address adverse environmental conditions if warranted. If use is such that undue environmental impacts are taking place, the BLM would close and rehabilitate damaged areas. If monitoring indicates that developed camping is needed, the BLM would evaluate the viability of developed campsites. • Where routes would remain available for motorized use within, such use could continue on a conditional basis. Use of the existing routes in the WSAs (“ways” when located within WSAs — see Glossary) could continue as long as the use of these routes does not impair wilderness suitability, as provided by the IMP (BLM 1995). If Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance are found through monitoring efforts to impair the area’s suitability for wilderness designation, the BLM would take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is based on user compliance and non-impairment of wilderness values. • Establish signed pull-off wildlife viewing areas along the Book Cliffs Divide Ridge Road. • Develop comprehensive activity plans for Blue Mountain, Fantasy Canyon, and Pelican Lake. These plans would address appropriate levels of use and facility development. • Continue to implement the 1979 Green River Management Plan for Desolation and Gray Canyons to protect the Desolation Canyon National Historic Landmark within VFO and the Upper Green Recreation Management Plan to provide appropriate use levels while protecting other resources. • The Upper Green River from Little Hole to the Colorado state line would limit all surface-disturbing activities within line of sight up to one-half mile, except within established corridors or unless related to recreational infrastructure support. • All developed recreation sites within VFO would be closed to the shooting of firearms, closed to grazing, and all forms of surface-disturbing activities not directly related to recreation development. • Special recreation permit holders using horses in connection with their operation within Herd Management Areas would be required to have them tested for Equine Infectious Anemia (EIA) until all wild horses have been gathered and removed from the area. • Special recreation permit holders using horses from out of state would be required to test them for EIA per state law. • If cave resources are identified on public lands, then the VFO would develop a cave management plan that results in appropriate management to protect them from damage. • Maintain or expand infrastructure of all recreational sites, including, but not limited to, cabins, restrooms, campsites, and trail head development and ensure their safety for public use. • Stabilize and preserve Chipeta, Moonshine, Rat Hole, and Trujillo cabins. • Mountain bike use would be limited to designated roads and trails. **BLM RECREATION GUIDELINES** The following recreation management guidelines were developed to help achieve and maintain healthy public lands as defined by the Rangeland Health Standards. They are listed below with the standard that they apply to. <u>Light and Sound</u> BLM-contracted fixed wing and helicopter aircraft would not be authorized to fly over Dinosaur National Monument unless warranted by an emergency situation or approved in advance.					

Table 2.1.13 Proposed RMP and Alternatives – Recreational Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION RESOURCES — MAP FIGURES 27 AND 28					
Rangeland Health Standard 1 • Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform. • Designate areas for intensive recreational use or cross-country motorized travel where disturbance of soil and vegetation is acceptable, either because impacts are insignificant and/or temporary or because the value of intensive use of the land outweighs whatever ecological changes may occur. Decisions on such designation should take into account conflicts with other users as well as adverse effects on archaeological or historical sites, T&E species habitat, wildlife habitat, or social values such as beauty, solitude, and quiet. • In all other areas, travel routes and other disturbances should be kept to the minimum necessary to provide access and visitor facilities appropriate to the area. Through blocking, signing, and public education, unneeded travel routes should be eliminated and rehabilitated and unplanned development of new ones discouraged. • It may be necessary to manage some areas to be entirely free of planned travel routes. Rangeland Health Standard 2 • Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate, and landform. • Where feasible, and consistent with user safety, developed travel routes should be located/relocated away from sensitive riparian and wetland areas. • Camping in riparian areas should be avoided and must be managed, monitored, and modified as conditions dictate to reduce vegetation disturbance and sedimentation. • Stream crossings would be limited to the number dictated by the topography, geology, and soil type. Design any necessary stream crossings to minimize sedimentation, soil erosion, and compaction. Rangeland Health Standard 3 • Desired species, including native, T&E and special status species, are maintained at a level appropriate for the site and species involved. • Protect against the establishment and/or spread of noxious or other weeds from intensive recreation, including the use of riding and pack animals, hiking, motorized, or other mechanized vehicles. • Conduct an educational campaign to inform recreational users about the damage caused by noxious weeds and how their spread can be minimized. • Where appropriate, apply restrictions, (i.e., do not permit surface-disturbing activities). • Protect wildlife and plant and/or habitat by: o Preserving connectivity and avoiding fragmentation. o Controlling recreational activities that would interfere with critical wildlife stages such as nesting, reproduction, or seasonal concentration areas. o Avoiding creation of artificial attractions such as the feeding of wild animals or improper disposal of garbage. • Where necessary, control recreational use by changing location or kind of activity, season, intensity, distribution, and/or duration in order to protect plant and animal communities, especially those containing special status species, including listed T&E or candidate species. Rangeland Health Standard 4 • The BLM would apply and comply with water quality standards established by the State of Utah (R. 317-2) and the federal Clean Water and Safe Drinking Water Acts. Activities on BLM lands would fully support the designated beneficial uses described in the Utah Water Quality Standards (R. 317-2) for surface water and groundwater. • Manage recreational uses in coordination with other uses on public lands to comply with applicable water quality standards by: o Identifying areas where recreational activities may seriously impair water quality. o Establishing thresholds for numbers, types, and duration of visitor use, and when those thresholds are reached, by developing facilities and/or possibly limiting or relocating use. o Monitor and control disposal of human or domestic animal waste, trash, and other pollutants to prevent serious impairment of water quality.					
• Atchee Ridge, Book Cliff Divide, and Seep Ridge Routes would be designated as BLM Back Country Byways. • Appropriate interpretive and educational literature and signage would be developed.	Same as the Proposed RMP.	Same as the Proposed RMP.	Seep Ridge, Book Cliff Divide, and Atchee Ridge Routes would not be designated as Back Country Byways.	Unspecified in the current management plans.	Seep Ridge, Book Cliff Divide, and Atchee Ridge Routes would not be designated as Back Country Byways.
Additional cabins for permitted/ administrative use could be constructed at or near the existing Chipeta, Trujillo, Moonshine, Rat Hole, and Wolf Den cabins and at Westwater Point, Dick Canyon, and other locations.	Same as the Proposed RMP.	Same as the Proposed RMP.	Additional cabins in the Book Cliffs would not be constructed.	Unspecified in the current management plans.	Same as Alternative C.
Permit construction of minimal recreation facilities in non-WSA lands with wilderness characteristics, when	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as the Proposed RMP.

Table 2.1.13 Proposed RMP and Alternatives – Recreational Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION RESOURCES — MAP FIGURES 27 AND 28					
compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics.					

Table 2.1.14 Proposed RMP and Alternatives – Recreation: Special Recreation Management Areas

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION — SPECIAL RECREATION MANAGEMENT AREAS (SRMA)					
BLUE MOUNTAIN					
• Blue Mountain (42,729 acres) would be managed as an SRMA. • An integrated activity plan would be developed and implemented consistent with overall management objectives. • Recreation activities would be identified in the plan; these activities would include but are not limit to hang-gliding (competitive and special events), rock climbing, historic interpretation, and OHV use on designated routes. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	• Blue Mountain (42,758 acres) would be managed as an SRMA. • An integrated activity plan would be developed and implemented consistent with overall management objectives. • In the recreation portion of the plan the following uses would be emphasized: hang-gliding (competitive and special events), wildlife viewing, small and big game hunting, sightseeing, photography, equestrian use, camping, hiking, rock climbing, historic interpretation, and OHV use on designated routes. (This would not exclude other recreational opportunities).	An SRMA would not be established for Blue Mountain and an integrated activity plan would not be developed and implemented.	Same as Alternative A.	Unspecified in the current management plans.	Same as Alternative A.
The non-WSA lands with wilderness characteristics in the SRMA would be managed for primitive and non-motorized/non-mechanized forms of recreation, and the settings required to support those types of activities and experiences.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as the Proposed RMP.
BOOK CLIFFS					
• The Book Cliffs would not be designated as an SRMA. • Unlimited and unconfined recreation would continue to be provided for. **Note:** To protect high-value, old-growth pinyon pines, special management actions include the following: enhancing habitat utilizing forest manipulation and tree spraying' restricting woodcutting around old growth pinyon; and no surface occupancy (NSO) for old growth pinyon pine area. See Woodlands and Forest Resources, Section 2.1.27.	• An SRMA would be established for 273,486 acres in the Book Cliffs. • An integrated activity plan would be developed and implemented consistent with overall management objectives considering a frontier mystique of adventure and discovery (unconfined recreation, limited facilities). • The recreational portion of the plan would provide for the following uses: wildlife viewing, hunting, hiking, back packing, OHV use, camping, cultural values, including petroglyph viewing, picnicking, mountain biking, photography, back country horse riding, and visits to turn of the century homesteads.	Same as Alternative D.	• An SRMA would be established for 273,486 acres in the Book Cliffs. • An integrated activity plan would be developed and implemented consistent with overall management objectives considering a frontier mystique of adventure and discovery (unconfined recreation, limited facilities). • The recreational portion of the plan would provide for the following uses: wildlife viewing, hunting, hiking, back packing, OHV use, camping, cultural values, including petroglyph viewing, picnicking, mountain biking, photography, back country horse riding, and visits to turn of the century homesteads. • Wolf Point, Bitter Creek drainages, and the head of Sweetwater Canyon would be closed to mineral leasing.	Unlimited and unconfined recreation would continue to be provided for.	• An SRMA would be established for 273,486 acres in the Book Cliffs. • An integrated activity plan would be developed and implemented consistent with overall management objectives considering a frontier mystique of adventure and discovery (unconfined recreation, limited facilities). • The recreational portion of the plan would provide for the following uses: wildlife viewing, hunting, hiking, back packing, OHV use, camping, cultural values, including petroglyph viewing, picnicking, mountain biking, photography, back country horse riding, and visits to turn of the century homesteads. • Wolf Point, Bitter Creek drainages, and the head of Sweetwater Canyon would be closed to mineral leasing. • Non-WSA lands with wilderness characteristics in the SRMA would be managed for primitive and non-

Table 2.1.14 Proposed RMP and Alternatives – Recreation: Special Recreation Management Areas

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION — SPECIAL RECREATION MANAGEMENT AREAS (SRMA)					
					motorized/non-mechanized forms of recreation, and the settings required to support those types of activities and experiences.
BROWN'S PARK					
• Brown's Park (18,490 acres) would continue to have an SRMA designation that would provide for outstanding scenic, riparian, fisheries, special status species resource values, water quality, water based recreation, wildlife viewing opportunities, hunting, comprehensive trail system for hiking, biking, horseback riding, and OHV use, camping, cultural and historic interpretation and facility development. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	• Brown's Park (52,720 acres) would be managed as a SRMA to provide for outstanding scenic vistas and enhancement of resources and associated activities such as, riparian, fisheries, special status species, water quality, water-based recreation, hunting, comprehensive trail system for hiking, biking, horseback riding, and OHV use, camping, cultural and historic interpretation and facility development. • The south side of the river between Little Hole and Fire Flat extending around the Taylor Flat subdivision to Rye Grass Draw in the east would be managed for primitive recreation values, VRM I, and closed to surface-disturbing activities, except for activities that complement recreation values. • The area would be closed to OHV use. • The historic wagon route in Sears Canyon would be evaluated and analyzed along with other routes (i.e., Crouse Canyon and Rye Grass), to determine if an opportunity exists to provide a loop route for OHV use.	Same as Alternative D.	Same as Alternative A.	Brown's Park (17,000 acres) would continue to have an SRMA designation that would provide for outstanding scenic, riparian, fisheries, special status species resource values, water quality, water based recreation, hunting, comprehensive trail system for hiking, biking, horseback riding, and OHV use, camping, cultural and historic interpretation and facility development.	• Brown's Park (52,720 acres) would be managed as a SRMA to provide for outstanding scenic vistas and enhancement of resources and associated activities such as, riparian, fisheries, special status species, water quality, water-based recreation, hunting, comprehensive trail system for hiking, biking, horseback riding, and OHV use, camping, cultural and historic interpretation and facility development. • The south side of the river between Little Hole and Fire Flat extending around the Taylor Flat subdivision to Rye Grass Draw and in the east would be managed for primitive recreation values, VRM I, and closed to surface-disturbing activities, except for activities that complement recreation values. • The area would be closed to OHV use. • The historic wagon route in Sears Canyon would be evaluated and analyzed along with other routes (i.e., Crouse Canyon and Rye Grass), to determine if an opportunity exists to provide a loop route for OHV use. • Non-WSA lands with wilderness characteristics in the SRMA would be managed for primitive and non-motorized/non-mechanized forms of recreation, and the settings required to support those types of activities and experiences.
FANTASY CANYON					
• Fantasy Canyon (69 acres) would be managed as an SRMA. • An activity management plan would be developed and implemented consistent with overall management objectives. • In the recreation portion of the plan,	An activity management plan would be prepared for Fantasy Canyon (69 acres) to protect the unique geological formations and to address health and human safety consideration.	Fantasy Canyon would not be managed as an SRMA nor have an activity management plan prepared for it.	Fantasy Canyon (69 acres) would be managed as a SRMA to provide for the following uses: guided or self-guided tours, hiking, and interpretation.	Unspecified in the current management plans.	Same as Alternative C.

Table 2.1.14 Proposed RMP and Alternatives – Recreation: Special Recreation Management Areas

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION — SPECIAL RECREATION MANAGEMENT AREAS (SRMA)					
the following uses would be emphasized: protection of the unique geological formations, health and human safety considerations, guided or self-guided tours, hiking, and interpretation.					
NINE MILE CANYON					
Nine Mile Canyon (44,168 acres) would continue to have an SRMA designation and recreational opportunities would be managed to protect high-value cultural resources and scenic vistas. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	Nine Mile Canyon (81,168 acres) would be managed as a SRMA to protect high-value cultural resources and scenic vistas.	Same as Alternative D.	Same as Alternative A	Nine Mile Canyon (44,181 acres) would continue to have an SRMA designation and recreational opportunities would be managed to protect high-value cultural resources and scenic vistas.	• Nine Mile Canyon (81,168 acres) would be managed as a SRMA to protect high-value cultural resources and scenic vistas. • Non-WSA lands with wilderness characteristics in the SRMA would be managed for primitive and non-motorized/non-mechanized forms of recreation, and the settings required to support those types of activities and experiences.
WHITE RIVER					
• The White River (2,831 acres) would be managed as an SRMA from where the river exits the White River non-WSA land with wilderness characteristics and to where the river leaves Section 18, T10S, R23E. • An integrated activity plan would be developed and implemented consistent with overall management objectives. • Recreational activities would be identified in the activity plan. These activities would include but are not limited to canoeing, rafting, primitive camping, and hiking. • NSO would be within line of sight from the centerline, up to one-half mile either side of the river from where the river enters Section 28, T10S, R23E, to where it leaves Section 18, T10S, R23.	• 24,183 acres along the White River from where the river enters Section 12, T10S, R24E, to where it leaves Section 18, T10S, R23E, would be managed as a Special Recreation Management Area (SRMA). • An integrated activity plan would be developed and implemented. • In the recreational portion of the plan, some of the following uses would be provided for canoeing, rafting, camping, wildlife viewing, hunting, fishing, historic interpretation, and day hiking. (This would not exclude other recreational opportunities.)	Same as Alternative D.	• The White River (47,130 acres) would be managed as an SRMA along the White River from where the river enters Utah to the reservation boundary. • An integrated activity plan would be developed and implemented consistent with overall management objectives. • In the recreational portion of the plan, some of the following uses would be provided for canoeing, rafting, camping, wildlife viewing, hunting, fishing, historic interpretation, and day hiking. (This would not exclude other recreational opportunities.)	Recreational use with minimal management oversight would continue to be provided for.	Same as Alternative C except the non-WSA lands with wilderness characteristics in the SRMA would be managed for primitive and non-motorized/non-mechanized forms of recreation, and the settings required to support those types of activities and experiences.

Table 2.1.15 Proposed RMP and Alternatives – Recreation: Trail Maintenance and Development

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION — TRAIL MAINTENANCE AND DEVELOPMENT					
Up to 400 miles of hiking, horseback riding, and mechanized (non-motorized) trails would be signed, improved, and/or developed in the following areas: Bitter Creek, Boulevard Ridge, Burnt Timber Canyon, Centennial Book Cliffs Trail, Chipeta Canyon, Daniels Canyon, Devils Hole, Green River, Dry Fork, Ely/Rainbow Park, Home Mountain, Little Mountain, Nine Mile, Rat Hole Canyon, Spitzenberg/Warren Ridge, Taylor Canyon, Westwater Point, Willow Creek, Yellow Pine, other additional trails.	Same as the Proposed RMP.	Hiking, horseback riding, and mechanized (non-motorized) trails would not be developed.	Same as the Proposed RMP.	About 55 miles of hiking and/or horseback trails would be developed in the following areas: • Ashley Creek, Beaver, Green River, Nine Mile, Willow, other places in the resource area. • Approximately 2 miles of mountain bicycle trails would be established using existing rural road and trails. • A non-motorized trail along Sears Canyon would be established.	• Up to 400 miles of hiking, horseback riding, and mechanized (non-motorized) trails would be signed, improved, and/or developed in the following areas: o Bitter Creek, Boulevard Ridge, Burnt Timber Canyon, Centennial Book Cliffs Trail, Chipeta Canyon o Daniels Canyon, Devils Hole o Green River, Dry Fork, Ely/Rainbow Park, Home Mountain, Little Mountain, Nine Mile, Rat Hole Canyon, Spitzenberg/Warren Ridge, Taylor Canyon, Westwater Point, Willow Creek, Yellow Pine, other additional trails • Where these trail projects cross non-WSA lands with wilderness characteristics, uses would be limited to primitive and non-mechanized form of recreation, and the settings required to supports those activities and experiences.
Up to 800 miles of motorized routes would be signed, improved, and/or developed.	Same as the Proposed RMP.	Same as the Proposed RMP.	Up to 800 miles of motorized routes would not be improved and/or developed.	The Red Mountain trail would be managed and maintained as a motorized trail.	Same as Alternative C.
OHV use for big game retrieval off designated routes would not be allowed.	Same as the Proposed RMP.	Big game retrieval off designated routes would be allowed within 24 hours after a tag has been punched. (Limited to one vehicle).	Same as the Proposed RMP.	Unspecified in the current management plans.	• OHV use for big game retrieval off designated routes would not be allowed. • In WSAs and non-WSA lands with wilderness characteristics, there would be no off-road motorized access to dispersed campsites.
• The BLM would work in conjunction with the National Park Service to minimize noise and light pollution adjacent to Dinosaur National Monument using best available technology. • Movement of operations to mitigate sound and light impacts would be required to be at least 200 meters from the Monument boundary unless otherwise designated by oil and gas leasing constraint or a determination is made that natural barriers or view sheds would meet these mitigation objectives.	• The BLM would work in conjunction with the National Park Service to minimize noise and light pollution adjacent to Dinosaur National Monument using best available technology, such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to direct noise away from the monument. • There would be a requirement to reduce light pollution by using methods such as limiting height of light poles, timing of lighting	• Same as Alternative A.	• The BLM would work in conjunction with the National Park Service to minimize noise and light pollution adjacent to Dinosaur National Monument using best available technology, such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to direct noise away from the monument. • There would be a requirement to reduce light pollution by using methods such as limiting height of light poles, timing of lighting	Unspecified in the current management plans.	• The BLM would work in conjunction with the National Park Service and energy companies to minimize noise and light pollution adjacent to Dinosaur National Monument using best available technology, such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to direct noise away from the monument. • There would be a requirement to reduce light pollution by using methods such as limiting height of light poles, timing of lighting

Table 2.1.15 Proposed RMP and Alternatives – Recreation: Trail Maintenance and Development

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION — TRAIL MAINTENANCE AND DEVELOPMENT					
	operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. • Movement of operations to mitigate sound and light impacts would be required to be at least 200 meters from the Monument boundary for VRM Classes II, III, and IV, unless otherwise designated by oil and gas leasing constraint or a determination is made that natural barriers for view sheds would meet these mitigation objectives.		operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. • Lands would be open to oil and gas leasing, subject to major constraints such as No Surface Occupancy (NSO) for one-half mile from the monument boundary. • VRM Class designations would be I, II, and III.		operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. • Lands would be open to oil and gas leasing, subject to major constraints such as No Surface Occupancy (NSO) for one-half mile from the monument boundary. • VRM Class designations would be I, II, and III. • Non-WSA lands with wilderness characteristics contiguous to Dinosaur National Monument and the Moonshine Draw WSA would be managed as VRM I, and closed to mineral leasing, OHV use and biking.

Table 2.1.16 Proposed RMP and Alternatives – Riparian Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RIPARIAN RESOURCES					
GOALS AND OBJECTIVES • Maintain, restore, improve, protect, and expand riparian-wetland areas so they are in Proper Functioning Condition (PFC) and meet Utah Rangeland Health Standards for their productivity, biological diversity, and sustainability, and achieve an advanced (late-climax seral stage) ecological status, except where resource management would require an earlier ecological status for such purposes as vegetation diversity. • PFC is the minimum acceptable riparian goal. However, PFC may not provide the streamside and aquatic conditions to meet goals for other resources. These include, but are not limited to, fisheries habitat, migratory bird habitat, unique recreational values, and/or forage. Specific objectives and management actions such as those stated below would be implemented in order to meet riparian goals. o Maintain the natural configuration of all streams. o Stream bank damage caused by livestock would be less than 10% of a stream segment within an allotment/pasture. o Site-specific plans, where appropriate, would be prepared in collaboration with affected livestock operators, the UDWR, the Central Utah Water Conservancy Districts, and other interested parties, agencies, or organizations to identify desired plant communities, establish specific management objectives, and recommend practices to be employed to achieve desired results. o Monitoring and evaluation strategies would be implemented to measure progress in accordance with Utah's Rangeland Health Standards and Guidelines for Grazing Management. • Certain situations may occur that would allow the BLM to modify specific grazing objectives set forth in this plan.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Appropriate management actions to meet riparian objectives could include fencing, herding, change of livestock class, temporary closures, and/or change of season. • Allow no new surface-disturbing activities within active flood plains, public water reserves, or 100 meters of riparian areas unless: o There are no practical alternatives. o Impacts would be fully mitigated. o The action was designed to enhance the riparian resources. • Acquire and expand riparian-wetland areas through exchange, donation, or purchase as opportunities arise. • Restore and/or re-establish cottonwood, willow, and other riparian species along major riparian and other wetland areas. • Development of springs and seeps to improve livestock and wildlife distribution would be designed and constructed to protect ecological processes and functions. • Restrict or mitigate those surface-disturbing activities that would adversely affect wetlands. • Adjust livestock management practices on riparian areas that do not satisfactorily respond to improved grazing management after all other options have been pursued. • Where feasible, fence spring sources and any other areas that may need special protection (such as amphibian ecosystems) on a site-by-site basis. • The following mitigation measures would be included as applicable: o Keep construction of all new stream crossings to a minimum. Stream crossings with culverts would be designed and constructed to allow fish passage, where needed. All stream crossings would be designed and constructed to keep impacts to riparian and aquatic habitat to a minimum. o Relocate existing routes out of riparian areas where feasible or necessary to restore watershed and riparian stability. • As identified in the preliminary riparian inventory, maintain 295 miles and 3,674 acres of riparian areas currently in proper functioning condition. Improve 133 miles and 1,452 acres functioning at risk and 79 miles and 1,213 acres not in properly functioning condition. **Note:** These are preliminary numbers and they may change as the inventory is completed.					
The following management strategies would be employed in riparian areas that are not achieving proper functioning condition: • Key streamside herbaceous riparian vegetation, where stream bank stability is dependent upon it, would have a minimum stubble height at the end of the growing season capable of trapping and assuring retention of sediment during high flows • Management actions could be based on residual stubble height or utilization of current year's growth at the end of the growing season. • An initial management action would	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	• **Diamond Mountain**: Where grazing is allowed on riparian areas, the objective would be to maintain an average minimum herbage stubble height of 3 inches after livestock grazing in order to provide sufficient herbaceous biomass to meet requirements of plant, vigor, maintenance, bank protection, and sediment entrapment. • **Book Cliffs:** Unspecified in the current management plan.	Same as the Proposed RMP.

Table 2.1.16 Proposed RMP and Alternatives – Riparian Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RIPARIAN RESOURCES					
be to set a stubble height of 4 inches or 30% utilization on key species if riparian conditions in that reach are to be maintained and 6 inches or <20% utilization if riparian conditions need to be improved. • This initial stubble height or utilization level would need to be monitored to verify if it provides for maintenance or improvement objectives, with adjustments in allowable utilization or stubble height being made as needed.					
• Key herbaceous riparian vegetation in riparian areas, other than the stream banks, would not be grazed more than would allow for trapping and retention of sediment during high water events. • Management actions would be based on residual stubble height or utilization of current year's growth at the end of the growing season. • An initial management action that has been shown to obtain riparian goals is to set a stubble height of 4 inches or 30% utilization if riparian conditions in that reach are to be maintained and 6 inches or <20% utilization if riparian conditions need to be improved. • This initial stubble height or utilization level would need to be monitored to verify if it provides for maintenance or improvement objectives, with adjustments in allowable utilization or stubble height being made as needed.	Same as the Proposed RMP.	Key herbaceous riparian vegetation in riparian areas, other than the stream banks, would not be grazed more than 50% during the growing season, or 60% during the dormant season.	Same as the Proposed RMP.	• **Diamond Mountain**: o Where grazing is allowed on riparian areas, the objective would be to maintain an average minimum herbage stubble height of 3 inches after livestock grazing in order to provide sufficient herbaceous biomass to meet requirements of plant, vigor, maintenance, bank protection, and sediment entrapment. • **Book Cliffs:** o Unspecified.	Same as the Proposed RMP.
• Key riparian woody vegetation would not be browsed more than allows for the adequate recruitment to maintain or recover the woody component. Specifically, more plants in the combined sprout and young categories would be managed for than in the combined mature and dead categories. • Management action would be based on utilization of the current annual twig growth that is within reach of the animals.	Same as the Proposed RMP.	Key riparian woody vegetation would not be used more than 50% of the current annual twig growth that is within reach of the animals.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as the Proposed RMP.

Table 2.1.16 Proposed RMP and Alternatives – Riparian Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RIPARIAN RESOURCES					
• An initial management action that has been shown to obtain riparian goals is to set a woody vegetation utilization level of 30%. • The specific utilization would need to be monitored to verify if it provides for maintenance or improvement objectives, with adjustments in allowable utilization being made as needed.					

Table 2.1.17 Proposed RMP and Alternatives – Soil and Water Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOIL AND WATER RESOURCES					
GOALS AND OBJECTIVES • Eliminate or reduce discharge of pollutants into surface waters and achieve water quality that provides protection and propagation of fish, amphibians, wildlife, livestock, and recreation in and on the water. Implement BMPs, as applicable, adopted by UDEQ to limit surface discharges into water. Implement BMPs, as applicable, adopted by Utah Division of Environmental Quality ("DEQ") to limit surface discharges into water. • Restore and maintain the chemical, physical and biological integrity of the area's waters as required by the State of Utah's and EPA's water quality standards. • Restore and maintain soil quality and long-term productivity through the implementation of applicable BMPs, guidelines for rangeland health and other soil protection measures. • Reduce salinity loading where possible to accomplish the goals outlined in the Colorado River Basin Salinity Control Act. • Pipeline crossings of perennial, intermittent, and ephemeral stream channels should be constructed to withstand 100-year floods to prevent breakage and subsequent accidental contamination of runoff during high flow events. Design pipeline crossings through riparian areas and across stream channels to minimize impacts to these resources. Guidance may be updated over the life of the plan, but current technical guidance can be found in BLM Technical Note 423: Hydraulic Considerations of Pipelines Crossing Stream Channels (Fogg 2007), which as of April 2008, was available at ftp://ftp.blm.gov/pub/nstc/TechNotes/TechNote423.pdf. Specific recommendations regarding surface and subsurface crossings are found in Guidance for Pipeline Crossings (See Appendix B). • VFO would operate under the unified policy to protect water quality and aquatic ecosystems on federal lands (Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management). This policy guides protection of water quality and aquatic ecosystem health through the reduction of polluted runoff, the improvement of natural resources stewardship, and an increase in public involvement in watershed management on federal lands.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Collaborate with the USFS, state, counties, Native American tribes, and the Division of Water Rights when possible to protect and enhance priority watersheds. • Cooperate with states and Native American tribes to review processes for issuing and renewing use authorizations and licenses when these uses/licenses may affect watershed condition and water quality. Revise these processes if necessary to ensure that they address watershed protection, improvement, and monitoring and water quality compliance needs. • Continue partnership with State of Utah, Daggett County, UDWR, USFS, Wyoming Fish and Game, and Rock Springs BLM to develop a watershed activity plan for Red Creek in Daggett County. • Restore and protect water quality and severe and critical erosion areas by restricting or mitigating surface disturbance. • Comply with standards identified in "The Surface Operating Standards for Oil and Gas Exploration and Development" (Gold Book) unless otherwise specified in the plan. • The BLM would adhere to criteria outlined in the Colorado River Salinity Control Act. • The BLM implements multiple types of water uses on public lands that require water rights from the State of Utah, such as livestock watering, wildlife watering and habitat, wild horse watering, recreation facilities, and fire suppression. The BLM will continue to implement actions to maintain its current water rights for these purposes, such as filing proofs of beneficial use, filing diligence claims, changing existing water rights to fit new uses and projects, and filing protests as necessary to protect existing BLM water rights. The BLM will also file for new water rights in accordance with and when allowed under state water law procedures. Situations in which the BLM will file for new water rights include locations where existing water rights are insufficient or not in place to support the water use, or when existing water rights cannot be changed to support the water use on public land. • Work in partnership with the State of Utah and others to reduce potential effects of selenium loading on the Ouray National Wildlife Refuge and Pariette Wetlands. • Ensure the physical presence and legal availability of water on public lands. Ensure that those waters meet or exceed established federal and state water quality standards for specific uses, and mitigate activities to prevent water quality and watershed degradation. • Reduce sediment and salinity production on important watersheds and critical soils through intensive management and construction measures to reduce water degradation of the Green River, White River, and their tributaries. • The State of Utah's Non-Point Source Management Plan would be used as a standard to reduce potential non-point source of pollution impacts. Coordinate with the Utah Division of Water Quality as needed. • On a case-by-case basis, major water developments would be permitted if they are consistent with the plan. **BIOLOGICAL SOIL CRUSTS** • Measures would be taken to identify and avoid biological soil crust areas when possible by considering the following factors: disturbance type, intensity, timing, frequency, duration, or event. Monitor on-going investigations regarding the values of biological soil crusts and relationships of other ecosystem parameters. • Specific activities that would include biological crust considerations would be prescribed fire, post-fire management, invasive weed control, energy development, grazing, OHV use, and range improvement projects. Biological crusts will be considered along with all other resource values in site-specific NEPA analyses.					
• The "Surface Operating Standards for Oil and Gas Exploration and Development" (Gold Book), would be used as a guide for surface-disturbing proposals on steep slopes/hillsides. • Specific to oil and gas activities, steep hillsides should be avoided in the construction of routes, pipelines, and flowlines. • If surface-disturbing activities cannot be avoided on slopes 21-40%, an approved plan would be required prior to construction and maintenance that would include:	• Same as the Proposed RMP.	• The "Surface Operating Standards for Oil and Gas Exploration and Development" (Gold Book), would be used as a guide for surface-disturbing proposals on steep slopes/hillsides. • Specific to oil and gas activities, steep hillsides should be avoided in the construction of routes, pipelines, and flowlines. • If surface-disturbing activities cannot be avoided on slopes greater than 20%, an approved plan would be required prior to construction and maintenance that would include:	• The "Surface Operating Standards for Oil and Gas Exploration and Development" (Gold Book), would be used as a guide for surface-disturbing proposals on steep slopes/hillsides. • Specific to oil and gas activities, steep hillsides should be avoided in the construction of routes, pipelines, and flowlines. • If surface-disturbing activities cannot be avoided on slopes 21-40%, an approved plan would be required prior to construction and maintenance that would include:	For minerals only, no occupancy or other surface disturbance would be allowed on slopes in excess of 40%.	Same as Alternative C.

Table 2.1.17 Proposed RMP and Alternatives – Soil and Water Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOIL AND WATER RESOURCES					
o An erosion control strategy o GIS modeling o Proper survey and design by a certified engineer o For slopes greater than 40%, no surface disturbance would be allowed unless it is determined that it would cause undue or unnecessary degradation to pursue other placement alternatives.		o An erosion control strategy o GIS modeling o Proper survey and design by a certified engineer	o An erosion control strategy o GIS modeling o Proper survey and design by a certified engineer o No surface disturbance would be allowed on slopes greater that 40%.		
• Old agricultural fields could be irrigated and existing ditches and diversion structures could be restored on acquired lands in Bitter Creek and Rat Hole Drainages. • New ditches and diversion structures would be constructed, as well.	Old fields would be irrigated and existing ditches and diversion structures would be restored on acquired lands in Bitter Creek and Rat Hole Drainages.	Old fields in Bitter Creek and Rat Hole Drainages would not be irrigated.	Same as Alternative A plus new ditches and diversion structures constructed as well.	Unspecified in the current management plans.	Same as the Proposed RMP.
Implement BMPs adopted by UDEQ to limit surface discharges into water.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plan.	Same as Alternative C.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
GOALS AND OBJECTIVES Designate and manage areas as ACECs where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; or other natural system or processes, or to protect life and safety from natural hazards.					
BITTER CREEK					
Bitter Creek would not be designated as an ACEC.	• 68,834 acres referred to as Bitter Creek would be designated as an ACEC/Research Natural Area to protect high-value, old-growth pinyon pines, cultural resources, historical features, and watersheds. • Special management actions would include the following: o Establishing a research/monitoring program; o Enhancing habitat utilizing forest manipulation and tree spraying, o Restricting woodcutting around old-growth pinyon. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 68,674 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 160 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 400 acres would be administratively unavailable for leasing. • VRM class designations would be I, II, or III, and OHV use would be closed or limited to designated routes.	Same as the Proposed RMP.	• 147,425 acres referred to as Bitter Creek (includes Bitter Creek and Bitter Creek/PR Spring) would be designated as an ACEC to protect high-value, old-growth pinyon pines, cultural resources, historical features, and watersheds. • Special management actions would include the following: o Establishing a research/monitoring program o Enhancing habitat utilizing forest manipulation and tree spraying o Restricting woodcutting around old-growth pinyon. • For oil and gas leasing: o Approximately 207 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 10,323 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 459 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 57,744 acres would be administratively unavailable for leasing. • VRM class designations would be I, II, or III, and OHV use would be closed or limited to designated routes.	Unspecified in the current management plans.	Same as described in Alternative C. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.
BROWN'S PARK					
• Brown's Park consists of approximately 18,490 acres and would continue to be designated as an ACEC. • A comprehensive integrated activity	• 52,721 acres in Brown's Park would be managed as an ACEC. • A comprehensive integrated activity plan would be developed/implemented that would	• Brown's Park consists of 18,474 acres and would be designated as an ACEC. • A comprehensive integrated activity plan would be	Same as Alternative A.	• Brown's Park would continue to be designated as an ACEC (52,721 acres) to protect and enhance crucial deer winter range and outstanding scenic, cultural, riparian, fisheries,	• 52,721 acres in Brown's Park would be designated as an ACEC. • A comprehensive integrated activity plan would be developed/implemented that would

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
plan would be developed/implemented that would address protection of high-value scenic views, wildlife habitat, and cultural and historic resources. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 3,137 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 5,014 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 10,188 acres would be administratively unavailable for leasing. • OHV use would be closed or limited to designated routes. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	address protection of high-value scenic views, wildlife habitat, and cultural and historic resources. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 27,969 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 6,415 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 17,996 acres would be administratively unavailable for leasing. • OHV use would be closed or limited to designated routes.	developed/implemented that would address protection of high-value scenic views, wildlife habitat, and cultural and historic resources. • For oil and gas leasing: o Approximately 2,152 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 7,191 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 6,857 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 2,135 acres would be administratively unavailable for leasing. • OHV use would be closed or limited to designated routes.		and special status species resource values. • For oil and gas leasing: o Approximately 2,178 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 18,479 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 25,019 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 6,706 acres would be administratively unavailable for leasing. • OHV use would be open, closed or limited to designated routes.	address protection of high value scenic views, wildlife habitat, and cultural and historic resources. • For oil and gas leasing: o Approximately 273 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 10,966 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 6,237 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 34,907 acres would be administratively unavailable for leasing. • Visual resources would be managed as Class I or II. • OHV use would be closed or limited to designated routes. • For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
COYOTE BASIN					
Coyote Basin would not be designated as an ACEC.	• 87,743 acres in Coyote Basin would be designated as an ACEC/Research Natural Area to protect high value critical ecosystem for the white-tailed prairie dog and the numerous special status wildlife species that are closely associated with this ecosystem. • Special management attention would include controlling noxious weeds, restoring a natural fire regime, implementing actions to maintain or enhance ferret habitat and associated prey base, and establishing a research-monitoring program. • For oil and gas leasing: o Approximately 83,250 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 4,312 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 99 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM class designations would be II, III, or IV. • OHV use would be limited to designated routes.	• 47,659 acres in Coyote Basin would be designated as an ACEC/Research Natural Area to protect high-value critical ecosystem for the black-footed ferret. • Special management attention would include actions to maintain or enhance ferret habitat and associated prey base. • Special management attention would include controlling noxious weeds, restoring a natural fire regime, implementing actions to maintain or enhance ferret habitat and associated prey base, and establishing a research-monitoring program. • For oil and gas leasing: o Approximately 47,282 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 248 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 110 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing.	• 124,161 acres in Coyote Basin, Snake John, Shiner, and Kennedy Wash sub-complexes and the Myton Bench complex would be designated as an ACEC. • For oil and gas leasing: o Approximately 94,821 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 23,104 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 5,325 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM class designations would be II, III or IV. • OHV use would be limited to designated routes or closed. • Special management attention would include controlling noxious weeds, restoring a natural fire regime, implementing actions to maintain or enhance ferret habitat and associated prey base, and establishing a research-monitoring program.	Unspecified in the current management plans.	• Coyote Basin-Shiner, Coyote Basin-Snake John, and Coyote Basin-Kennedy Wash sub-complexes and the Coyote Basin-Myton Bench complex: 124,161 acres would be designated as an ACEC/Research Natural Area. • For oil and gas leasing: o Approximately 94,821 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 23,104 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 5,342 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM class designations would be II, III or IV. • OHV use would be limited to designated routes or closed. • Special management attention would include controlling noxious weeds, restoring a natural fire regime, implementing actions to maintain or enhance ferret habitat and associated prey base, and establishing a research monitoring program.
FOUR MILE WASH					
The Four Mile Wash area would not be designated as an ACEC.	Same as the Proposed RMP.	Same as the Proposed RMP.	• 50,280 acres in the Four Mile Wash area would be designated as an ACEC/Outstanding Natural Area to protect high-value scenic values, riparian ecosystems, and special status fish species. • An integrated activity level plan would be developed to provide additional site-specific management prescriptions.	Unspecified in the current management plans.	Same as Alternative C. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
			• The area would be closed to oil and gas leasing. • Visual Resources would be managed as class II, III, and IV. • OHV use would be limited to designated routes.		
LEARS CANYON					
• Lears Canyon consists of approximately 1,375 acres and would continue to be designated as an ACEC. • A comprehensive integrated activity plan would be developed/implemented that would address protection of relict vegetation. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Zero acres would be open to leasing subject to moderate constraints such as TLs and CSU. o 1,375 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • OHV use would be closed or limited to designated routes. • Visual Resources would be managed as Class II.	• Same as the Proposed RMP.	Same as the Proposed RMP.	• Same as the Proposed RMP.	• Same as the Proposed RMP.	• Same as the Proposed RMP. • For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.
LOWER GREEN RIVER CORRIDOR AND LOWER GREEN RIVER EXPANSION					
• The **Lower Green River Corridor** (approximately 8,470 acres) is carried forward in management common to all as an ACEC. • For oil and gas leasing within the Lower Green River Corridor: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form.	• The **Lower Green River Corridor and Expansion**, comprising 10,170 acres (line of sight from the center line of the river up to one-half mile along both sides of the Lower Green River), between the trust land boundary at Ouray National Wildlife Refuge and the Carbon County line would be designated as ACEC to protect high-value	Same as the Proposed RMP.	Same as Alternative A.	• The **Lower Green River Corridor** along the west bank line of sight up to one-half mile would continue to be managed as an ACEC (8,470 acres), between the trust land boundary at Ouray National Wildlife Refuge and the Carbon County line. • Riparian values would be enhanced and protected.	Same as Alternative A. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
o Approximately 71 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 8,079 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • Existing management objectives of NSO would continue to be applied to within line of sight or up to one-half mile from the centerline of the river, whichever is less. • OHV use would be limited to designated routes. Visual Resources would be managed as Class II. ——— • The **Lower Green River Expansion** (approximately 1,700 acres) would not be designated as an ACEC. • Existing management objectives of NSO would continue to be applied to within line of sight or up to one-half mile from the centerline of the river, whichever is less. • OHV use would be limited to designated routes. • Visual Resources would be managed as Class II.	scenic resources and riparian ecosystems. • The area would be managed as NSO for oil and gas leasing. • Visual Resources would be managed as Class II. • OHV would be limited to designated routes.			• For oil and gas leasing within the Lower Green River Corridor: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 71 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 8,079 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • Visual resources would be managed as Class II. • OHV use would be limited to designated routes or closed, and surface-disturbing activities would not be allowed.	
MAIN CANYON					
Main Canyon would not be designated as an ACEC.	Same as the Proposed RMP.	Same as the Proposed RMP.	• 100,915 acres in Main Canyon would be designated as an ACEC. • Special management attention would include permitting surface-disturbing activities found to be complimentary or compatible to the goals and objectives of the ACEC. • For oil and gas leasing: o Approximately 5,198 acres would be open to leasing subject to the terms and	Unspecified in the current management plans.	Same as the Alternative C. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
			conditions of the standard lease form. o Approximately 38,255 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 240 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 57,152 acres would be administratively unavailable for leasing. • Visual Resources would be managed as Class I or II. • OHV use would be closed or limited to designated routes.		
MIDDLE GREEN RIVER					
The Middle Green River would not be designated as an ACEC.	Same as the Proposed RMP.	Same as the Proposed RMP.	• 6,768 acres (line of sight from the centerline of the river up to one-half mile along both sides of the Middle Green River) between Dinosaur National Monument and the boundary of the Ouray National Wildlife Refuge would be designated as an ACEC to protect riparian ecosystems. • Special management attention would include permitting surface-disturbing activities found complimentary to the goals and objectives of the ACEC. • For oil and gas leasing: o Approximately 4,858 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 128 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Zero acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable	Unspecified in the current management plans.	Same as Alternative C.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
			for leasing. • VRM would be managed as Class II, III or IV. • OHV use would be limited to designated routes.		
NINE MILE CANYON					
• Nine Mile Canyon consists of approximately 44,168 acres with a boundary along the upper rim and would continue to be designated as an ACEC. • The area would be managed to enhance cultural and special status plant species while enhancing scenic vistas, recreation, and wildlife resource values. • A comprehensive integrated activity plan would be developed and implemented. • For oil and gas leasing: o Approximately 26,736 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 209 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 17,198 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • OHV use would be limited to designated routes. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	• 48,000 acres in Nine Mile Canyon would be designated as an ACEC and a comprehensive integrated activity plan would be developed/implemented. • For oil and gas leasing: o Approximately 27,109 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 342 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 20,487 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM would be managed as Class II, III, or IV. • OHV use would be limited to designated routes.	Same as Alternative D.	• 81,168 acres in Nine Mile Canyon would be designated as an ACEC and a comprehensive integrated activity plan would be developed/implemented. • For oil and gas leasing: o Approximately 49,182 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 19,032 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 1,374 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 10,059 acres would be administratively unavailable for leasing. • VRM would be managed as Class II, III, or IV. • OHV use would be limited to designated routes.	• Nine Mile Canyon with a boundary along the upper rim would continue to be designated as an ACEC (44,181 acres) to enhance cultural and special status plant species while enhancing scenic vistas, recreation, and wildlife resource values. • For oil and gas leasing: o Approximately 15,274 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 21,022 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 7,848 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM would be managed as Class II, III, or IV. • OHV use would be open, closed or limited to designated routes.	Same as Alternative C. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.
PARIETTE WETLANDS					
• Pariette Wetlands consists of approximately 10,437 acres and would continue to be designated as an ACEC. • A comprehensive integrated activity	Same as Proposed RMP.	Same as Proposed RMP	Same as Proposed RMP	• Pariette Wetlands consists of approximately 10,437 acres and would continue to be designated as an ACEC. • A comprehensive integrated activity	• Same as the Proposed RMP. • For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
plan would be developed/implemented that would address protection of special status bird and plant species and habitat, wetlands ecosystem, waterfowl production, and soil. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Zero acres would be open to leasing subject to moderate constraints such as TLs and CSU. o About 10,437 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • OHV use would be limited to designated routes. • Visual Resources would be managed as Class III.				plan would be developed/implemented that would address protection of special status bird and plant species and habitat, wetlands ecosystem, waterfowl production, and soil. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Zero acres would be open to leasing subject to moderate constraints such as TLs and CSU. o About 3,700 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • OHV use would be limited to designated routes. • Visual Resources would be managed as Class III.	in Alternative E in Table 2.1.10 would apply.
RED CREEK WATERSHED					
• 24,475 acres in the Red Creek Watershed would continue to be managed as an ACEC. • A comprehensive integrated activity plan would be developed / implemented. • Manage the watershed to continue the reduction of sedimentation into Red Creek, and the downstream Green River, by stabilizing channels and stream banks to lessen erosion, and by maintaining or increasing vegetation cover throughout the watershed and enhance wildlife habitat values. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 24,111 acres	Same as the Proposed RMP.	Same as the Proposed RMP.	• Same as the Proposed RMP.	• 24,475 acres in the Red Creek Watershed would continue to be managed as an ACEC. • A comprehensive integrated activity plan would be developed / implemented. • Manage the watershed to continue the reduction of sedimentation into Red Creek, and the downstream Green River, by stabilizing channels and stream banks to lessen erosion, and by maintaining or increasing vegetation cover throughout the watershed and enhance wildlife habitat values. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 21,935 acres	Same as the Proposed RMP. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 364 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • OHV use would be limited to designated routes.				would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 2,540 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • OHV use is limited to designated routes.	
RED MOUNTAIN — DRY FORK COMPLEX					
• 24,285 acres in Red Mountain-Dry Fork Complex would continue to be managed as an ACEC. • A comprehensive integrated activity plan would be developed / implemented. • Special management attention would include maintenance and development of OHV or non-OHV routes, minimal facilities development necessary for human health and safety, and protection of watershed values, relict vegetation communities, and crucial deer and elk winter habitat. • For oil and gas leasing: o Approximately 495 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 21,994 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 1,988 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM would be managed as Class II,	• 24,285 acres in Red Mountain-Dry Fork Complex would continue to be managed as an ACEC. • A comprehensive integrated activity plan would be developed / implemented. • Special management attention would include maintenance and development of OHV or non-OHV routes, minimal facilities development necessary for human health and safety, and protection of watershed values, relict vegetation communities, and crucial deer and elk winter habitat. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Zero acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 24,285 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM would be managed as Class II, III, or IV. • OHV use would be limited to	Same as Alternative A.	Same as Alternative A.	• 24,285 acres in Red Mountain-Dry Fork Complex would continue to be designated as an ACEC to protect cultural sites, paleontology, and relict vegetation, and enhance supporting wildlife habitat, municipal watersheds, riparian, and scenic resource values. • For oil and gas leasing: o Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 19,955 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 4,027 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • VRM would be managed as Class II, III, or IV. • OHV use would be open or limited to designated routes.	Same as Alternative A.

Table 2.1.18 Proposed RMP and Alternatives – Special Designations: ACECs

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — ACECS — MAP FIGURES 29–32					
III, or IV. • OHV use would be limited to designated routes.	designated routes.				
WHITE RIVER					
The White River corridor would not be designated as an ACEC.	• 17,810 acres along the White River corridor would be designated as an ACEC to protect unique geologic formations with spectacular vistas and high-value river riparian ecosystems. • For oil and gas leasing: o Approximately 1,438 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 7,371 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 8,993 acres would be open to leasing subject to major constraints such as NSO stipulations. o Zero acres would be administratively unavailable for leasing. • The western portion of the area would be managed as VRM I. The eastern portion would be managed as VRM II. • The western portion of the area would be closed to OHV use. The eastern portion would limit OHV use to designated routes. • NSO would be within line of sight from the centerline, up to one-half mile either side of the river.	Same as the Proposed RMP.	• 47,130 acres along the White River corridor would be designated as an ACEC to protect unique geologic formations with spectacular vistas and high-value river riparian ecosystems. • The area would be managed as VRM I, II, III, or IV and closed or limited to designated routes for OHV use. • NSO would be within line of sight from the centerline, up to one-half mile either side of the river. • For oil and gas leasing: o Approximately 27,087 acres would be open to leasing subject to the terms and conditions of the standard lease form. o Approximately 6,683 acres would be open to leasing subject to moderate constraints such as TLs and CSU. o Approximately 6,380 acres would be open to leasing subject to major constraints such as NSO stipulations. o Approximately 6,893 acres would be administratively unavailable for leasing.	Unspecified in the current management plans.	Same as Alternative C. For the non-WSA lands with wilderness characteristics that intersect with this ACEC, management prescriptions identified in Alternative E in Table 2.1.10 would apply.

Table 2.1.19 Proposed RMP and Alternatives – Special Designations: Wild and Scenic Rivers (WSRs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILD AND SCENIC RIVERS (WSR)					
GOALS AND OBJECTIVES Determine eligibility and suitability for designation into the National Wild and Scenic River System.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Continue to manage previously recommended segments of the Upper Green and Lower Green Rivers to protect their outstandingly remarkable values and the tentative scenic classification until such time that a designation decision is made. • New river segments found suitable and recommended for designation would be managed in accordance with the Wild and Scenic River Act to prevent impairment of outstandingly remarkable values within line of sight up to one-quarter mile from high water mark on each side of the river not to exceed 320 acres per mile (see Appendix C for classifications). • The BLM would work with the State of Utah, local and tribal governments, and other federal agencies, in a statewide study, to reach consensus regarding recommendations to Congress for the inclusion of rivers in the National Wild and Scenic Rivers System. Besides applying consistent criteria across agency jurisdictions, the joint study would avoid subdividing of river segments in logical watershed units in the state. The study would evaluate, in detail, the possible benefits and effects of designation on the local and state economies, agricultural and industrial operations and interests, outdoor recreation, natural resources (including the outstandingly remarkable values for which the river was deemed suitable), water rights, water quality, water resource planning, and access to and across river corridors within, and upstream and downstream from the proposed segments(s). Actual designation of river segments would only occur through congressional action or as a result of Secretarial decision at the request of the Governor in accordance with provisions of the Wild and Scenic Rivers Act (the Act). The BLM will work with the state, local, and tribal governments, and the agencies involved to coordinate its decision making on wild and scenic river issues and to achieve consistency wherever possible. The BLM recognizes that water resources on most river and stream segments within the State of Utah are already fully allocated. Before stream segments that have been recommended as suitable under this Proposed RMP are recommended to Congress for designation, the BLM will continue to work with affected local, state, federal, and tribal partners to identify in-stream flows necessary to meet critical resource needs, including values related to the subject segments(s). Such quantifications would be included in any recommendation for designation. The BLM would then seek to jointly promote innovative strategies, community-based planning, and voluntary agreements with water users, under state law, to address those needs. Should designations occur on any river segment as a result of Secretarial or congressional action, existing rights, privileges, and contracts would be protected. Under Section 12 of the Act, termination of such rights, privileges, and contracts may happen only with the consent of the affected non-federal party. A determination by the BLM of eligibility and suitability for the inclusion of rivers on public lands to the Wild and Scenic Rivers System does not create new water rights for the BLM. Federal reserved water rights for new components of the Wild and Scenic Rivers System are established at the discretion of Congress. If water is reserved by Congress when a river component is added to the Wild and Scenic Rivers System, it would come from water that is not appropriated at the time of designation, in the amount necessary to protect features that led to the river's inclusion into the system. The BLM's intent would be to leave existing water rights undisturbed and to recognize the lawful rights of private, municipal, and state entities to manage water resources under state law to meet the needs of the community. Federal law, including Section 13 of the Act and the McCarren Amendment (43 U.S.C. 666), recognizes state jurisdiction over water allocation in designated streams. Thus, it is the BLM's position that existing water rights, including flows apportioned to the State of Utah interstate agreements and compacts, including the Upper Colorado River Compact, and developments of such rights would not be affected by designation or the creation of the possible federal reserved water right. The BLM would seek to work with upstream and downstream water users and applicable agencies to ensure that water flows are maintained at a level sufficient to sustain the values for which affected river segments were designated.					
UPPER GREEN RIVER					
The segment from Little Hole to the Utah state line would continue to be managed as previously recommended as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Closed and NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class II	The segment from Little Hole to the Utah state line would continue to be managed as previously recommended as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Closed and NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class II	The segment from Little Hole to the Utah state line would continue to be managed as previously recommended as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – NSO • Mineral Materials – Closed • OHV –Limited to designated routes. • VRM – Class II and III	The segment from Little Hole to the Utah state line would continue to be managed as previously recommended as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Closed and NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class II	The segment from Little Hole to the Utah state line would continue to be managed as previously recommended as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class II and III	The segment from Little Hole to the Utah state line would continue to be managed as previously recommended as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Closed and NSO • Mineral Materials – Closed • OHV – Closed • VRM – Class I and II NOTE: The more restrictive management (closed to oil and gas leasing, VRM I, and closed to OHVs) is where the non-WSA lands with wilderness characteristics intersect with this resource.
LOWER GREEN RIVER					
The segment from the public land boundary south of Ouray to the Carbon County line would continue to be managed as previously recommended as	The segment from the public land boundary south of Ouray to the Carbon County line would continue to be managed as previously recommended	The segment from the public land boundary south of Ouray to the Carbon County line would continue to be managed as previously recommended	The segment from the public land boundary south of Ouray to the Carbon County line would continue to be managed as previously recommended	The segment from the public land boundary south of Ouray to the Carbon County line would continue to be managed as previously recommended	The segment from the public land boundary south of Ouray to the Carbon County line would continue to be managed as previously recommended

Table 2.1.19 Proposed RMP and Alternatives – Special Designations: Wild and Scenic Rivers (WSRs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILD AND SCENIC RIVERS (WSR)					
a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – NSO • Mineral Materials – Closed • OHV – Limited to designated routes. • VRM – Class I and II	as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – NSO • Mineral Materials – Closed • OHV – Limited to designated routes. • VRM – Class II	as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Moderate Constraints • Mineral Materials – Closed • OHV – Limited to designated routes. • VRM – Class II and III	as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Closed and NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class II	as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class II and III	as a suitable scenic segment to protect its outstandingly remarkable values. Management would include: • Oil and Gas Leasing – Closed and NSO • Mineral Materials – Closed • OHV – Closed and limited to designated routes. • VRM – Class I and II NOTE: The more restrictive management (closed to oil and gas leasing, VRM I, and closed to OHVs) is where the non-WSA lands with wilderness characteristics intersect with this resource.
ARGYLE CREEK					
The segment of Argyle Creek between its headwaters and the Carbon County line would not be identified as suitable for designation into the National Wild and Scenic River.	Same as the Proposed RMP.	Same as the Proposed RMP.	The segment of Argyle Creek between its headwaters and the Carbon County line (22 miles) would be identified as suitable for designation into the National Wild and Scenic River system with a tentative classification of “Recreational”.	Considered but not found suitable for designation in the Diamond Mountain RMP.	Same as Alternative C.
BITTER CREEK					
The segment of Bitter Creek between the Utah state line and where it enters private property would not be identified as suitable for designation into the National Wild and Scenic River system.	Same as the Proposed RMP.	Same as the Proposed RMP.	The segment of Bitter Creek between the Utah state line and where it enters private property (22 miles) would be identified as suitable for designation into the National Wild and Scenic River system with a tentative classification of “Scenic”.	Under this alternative, suitability findings would not be made and eligibility would continue with the BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river.	Same as Alternative C with the following: Non-WSA lands with wilderness characteristics within Wild and Scenic River segments would be managed with the following prescriptions: • VRM Class I • Closed to OHV use • Closed to oil and gas leasing • Closed to solid mineral leasing • Closed to disposal of mineral materials • Proposed for withdrawal from mineral entry • Retained in federal ownership • Exclusion area for rights-of-way • Closed to permitted commercial and personal-use wood cutting and seed collection • Closed to road construction • Permit maintenance of existing facilities • When compatible with the goals and objectives for management of non-WSA lands with wilderness

Table 2.1.19 Proposed RMP and Alternatives – Special Designations: Wild and Scenic Rivers (WSRs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILD AND SCENIC RIVERS (WSR)					
					characteristics: o Permit vegetation and fuel treatments using prescribed fire o Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities o Permit excavation of cultural resources sites. o Permit excavation of paleontological resources No actions would be allowed that would degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics.
EVACUATION CREEK					
The segment of Evacuation Creek between the Utah state line and the White River would not be identified as suitable for designation into the National Wild and Scenic River system.	Same as the Proposed RMP.	Same as the Proposed RMP.	The segment of Evacuation Creek between the Utah state line and the White River (21 miles) would be identified as suitable for designation into the National Wild and Scenic River system with a tentative classification of “Scenic”.	Under this alternative, suitability findings would not be made and eligibility would continue with the BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river.	Same as Alternative C.
GREEN RIVER — MIDDLE					
The segment of the Middle Green River, between SR-45 and the boundary of the Ouray National Waterfowl Refuge would not be identified as suitable for designation into the National Wild and Scenic River system.	Same as the Proposed RMP.	Same as the Proposed RMP.	The segment of the Middle Green River, from Dinosaur National Monument to the boundary of the Ouray National Waterfowl Refuge (36 miles), would be identified as suitable for designation into the National Wild and Scenic River system with a tentative classification of “Recreational”.	Considered but not found suitable in the Diamond Mountain RMP.	Same as Alternative C.
NINE MILE CREEK					
The segment of Nine Mile Creek within Duchesne County between the Green River and the Duchesne County Line (13 miles) would not be identified as suitable for designation into the National Wild and Scenic River system.	Same as the Proposed RMP.	Same as the Proposed RMP.	The segment of Nine Mile Creek within Duchesne County between the Green River and the Duchesne County Line (13 miles) would be identified as suitable for designation into the National Wild and Scenic River system with a tentative classification of “scenic”.	Considered but not found suitable in the Diamond Mountain RMP.	Same as Alternative C with the following: Non-WSA lands with wilderness characteristics within Wild and Scenic River segments would be managed with the following prescriptions: • VRM Class I • Closed to OHV use • Closed to oil and gas leasing • Closed to solid mineral leasing • Closed to disposal of mineral materials • Proposed for withdrawal from mineral entry

Table 2.1.19 Proposed RMP and Alternatives – Special Designations: Wild and Scenic Rivers (WSRs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILD AND SCENIC RIVERS (WSR)					
					• Retained in federal ownership • Exclusion area for rights-of-way • Closed to permitted commercial and personal-use wood cutting and seed collection • Closed to road construction • Permit maintenance of existing facilities • When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: o Permit vegetation and fuel treatments using prescribed fire o Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities o Permit excavation of cultural resources sites. o Permit excavation of paleontological resources No actions would be allowed that would degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics.
The segment of Nine Mile Creek within Duchesne County between the Carbon county line and its confluence with Gate Canyon would not be identified as suitable for designation into the National Wild and Scenic River system.	Same as the Proposed RMP.	Same as the Proposed RMP.	The segment of Nine Mile Creek within Duchesne County, between the Carbon county line (6 miles) and its confluence with Gate Canyon, would be identified as suitable for designation into the National Wild and Scenic River system with a tentative classification of “Recreational”.	Considered but not found suitable in the Diamond Mountain RMP.	Same as Alternative C.
WHITE RIVER					
The White River Segments A, B, and C would not be identified as suitable for designation into the National Wild and Scenic River System.	• That portion of the White River, between the Colorado state line and the trust land boundary (44 miles) have the following tentative classifications: o Segment A (between the state line and its confluence with Asphalt Wash): "Scenic." o Segment B (between Asphalt Wash to where the river leaves Section 18 T10S R23E SLBM): "Wild." o Segment C (from where the	Same as the Proposed RMP.	• That portion of the White River, between the Colorado state line and the trust land boundary (44 miles) would be identified as suitable for designation into the National Wild and Scenic River System with a tentative classification of: o Segment A (between the state line and its confluence with Asphalt Wash): "Scenic." o Segment B (between Asphalt Wash to where the river leaves Section 18 T10S	Under this alternative, suitability findings would not be made and eligibility would continue with the BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river.	Same as Alternative C with the following: The BLM would continue to manage the section of the White River containing an existing dam permit as eligible, but not recommend as suitable at this time. During the permit review process, it will be determined whether or not to renew the permit and/or recommend this segment of the White River for suitability at that time. Non-WSA lands with wilderness characteristics within Wild and Scenic

Table 2.1.19 Proposed RMP and Alternatives – Special Designations: Wild and Scenic Rivers (WSRs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILD AND SCENIC RIVERS (WSR)					
	river leaves Section 18 T10S R23E SLBM, and the Indian trust land boundary) would not be identified as suitable for designation into the National Wild and Scenic River System.		R23E SLBM): "Wild." o Segment C (from where the river leaves Section 18 T10S R23E SLBM, and the Indian trust land boundary): "Scenic."		River segments would be managed with the following prescriptions.: • VRM Class I • Closed to OHV use • Closed to oil and gas leasing • Closed to solid mineral leasing • Closed to disposal of mineral materials • Proposed for withdrawal from mineral entry • Retained in federal ownership • Exclusion area for rights-of-way • Closed to permitted commercial and personal-use wood cutting and seed collection • Closed to road construction • Permit maintenance of existing facilities • When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: o Permit vegetation and fuel treatments using prescribed fire o Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities o Permit excavation of cultural resources sites. o Permit excavation of paleontological resources No actions would be allowed that would degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics.

Table 2.1.2 Proposed RMP and Alternatives – Abandoned Mine Lands

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
ABANDONED MINE LANDS					
GOALS AND OBJECTIVES • In conformance with the BLM's long-term strategies and National Policies regarding Abandoned Mine Lands (AML), this RMP recognizes the need to work with our partners toward identifying and addressing physical safety and environmental hazards at all AML sites on public lands. In order to accomplish this long-term goal, the following criteria would be established to assist in determining priorities for site and area mitigation and reclamation. • The criteria that would be used to establish physical safety hazard program priorities are: o AML physical safety program's highest priority would be the cleaning up of those AML sites where (a) a death or injury has occurred, (b) the site is situated on or in immediate proximity to developed recreation sites and areas with high visitor use, and (c) upon formal risk assessment, a high or extremely high risk level is indicated. o AML would be factored into future recreation management area designations, land-use planning assessments, and all applicable use authorizations. o The site is presently listed or is eligible for listing in the Abandoned Mine Land Inventory System (AMLIS). o AML hazards should be, to the extent practicable, mitigated or remediated on the ground during site development. • The criteria used to establish water-quality-based AML program priorities are: o The state has identified the watershed as a priority based on (a) one or more water laws or regulations; (b) threat to public health or safety; and (c) threat to the environment. o The project reflects a collaborative effort with other land managing agencies. o The project would be funded by contributions from collaborating agencies. • These priorities would be maintained and updated as needed in the state AML strategy. • The BLM Utah State Office would continue to consult and collaboratively work together with the State of Utah Division of Oil, Gas and Mining (UDOGM) concerning the Abandoned Mine Land program.					

Table 2.1.20 Proposed RMP and Alternatives – Special Designations: Wilderness Study Areas (WSAs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILDERNESS STUDY AREAS (WSA)					
GOALS AND OBJECTIVES • Preserve the wilderness character of Wilderness Study Areas (WSAs) until Congress designates them or releases them. • Manage the existing WSAs listed below (53,058 acres) as directed in the Interim Management Policy (IMP) for Lands under Wilderness Review (H-8550-1) in a manner that does not impair their suitability for designation as wilderness. Allow temporary uses that create no new surface disturbance nor involve permanent placement of structures. Temporary, non-disturbing activities, as well as activities governed by valid existing rights, may generally continue in WSAs. o Book Cliffs Mountain Browse Natural Area (400 acres) o Bull Canyon (600 acres) o Daniels Canyon (2,496 acres) o Diamond Breaks (3,900 acres) o West Cold Springs (3,200 acres) o Winter Ridge (42,462 acres)					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES (INCLUDING THE NO ACTION ALTERNATIVE)ALTERNATIVE) • WSAs are right-of-way exclusion areas. • WSAs are closed to oil and gas leasing. • Fire activities and projects in WSAs will follow the IMP.					
• All WSAs designated as VRM Class I (53,058 acres) • Closed to OHV travel.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	• All WSAs managed to a VRM Class I objective (53,058). • OHV would be managed as follows: o Book Cliffs Mountain Browse Natural Area - Closed o Bull Canyon - Limited o Daniels Canyon - Limited o Diamond Breaks - Closed o West Cold Springs – Limited and Closed o Winter Ridge - Open and Limited • Where routes would remain available for motorized use within, such use could continue on a conditional basis. Use of the existing routes in the WSAs (“ways” when located within WSAs — see Glossary) could continue as long as the use of these routes does not impair wilderness suitability, as provided by the IMP (BLM 1995). If Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance are found through monitoring efforts to impair the area’s suitability for wilderness designation, the BLM would take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is	Same as the Proposed RMP.

Table 2.1.20 Proposed RMP and Alternatives – Special Designations: Wilderness Study Areas (WSAs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILDERNESS STUDY AREAS (WSA)					
				based on user compliance and non-impairment of wilderness values.	
SPECIAL DESIGNATIONS — WILDERNESS STUDY AREAS-IF RELEASED BY CONGRESS					
If any WSA is released by Congress from wilderness consideration and management during the life of the RMP, those lands would be managed with the following prescriptions in this plan until a LUP amendment is necessary.					
BOOK CLIFFS MOUNTAIN BROWSE (400 ACRES)					
Should any WSA, in whole or in part, be released from wilderness consideration, such released lands would be managed in accordance with the goals, objectives, and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives, and prescriptions, until it completes a land use plan amendment. (Because any released lands would continue to be managed consistent with the prescriptions identified in this plan, unless and until the plan is amended, no separate analysis is required to address impacts to the released lands.)	Manage lands in the ISA according to the following prescription: • Fire management category C • Oil and gas category timing and CSU • As part of the Book Cliffs SRMA and Bitter Creek ACEC • OHVs limited to designated routes • VRM Class II • Livestock grazing allowed	Manage lands in the ISA according to the following prescription: • Fire management category C • Oil and gas category: timing and CSU • As part of the Book Cliffs SRMA • OHVs limited to designated routes • VRM Class IV • Livestock grazing allowed	Manage lands in the ISA according to the following prescription: Same as Alternative A.	Manage lands in the ISA according to the following prescription: • Fire management category C • Oil and gas category no leasing • OHVs limited to designated routes • VRM Class I • Livestock grazing allowed	If the existing ISA is released from wilderness consideration and management by Congress during the life of the RMP, the released WSA would be managed to protect wilderness characteristics. These lands will be managed in accordance with the following prescriptions: VRM Class I • Closed to OHV use • Closed to oil and gas leasing • Closed to solid mineral leasing • Closed to disposal of mineral materials • Proposed for withdrawal from mineral entry • Retained in federal ownership • Exclusion area for rights-of-way • Closed to permitted commercial and personal-use wood cutting and seed collection • Closed to road construction • Permit maintenance of existing facilities • When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: o Permit vegetation and fuel treatments using prescribed fire o Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities o Permit excavation of cultural resources sites. o Permit excavation of paleontological resources No actions would be allowed that would

Table 2.1.20 Proposed RMP and Alternatives – Special Designations: Wilderness Study Areas (WSAs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILDERNESS STUDY AREAS (WSA)					
					degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics.
BULL CANYON (600 ACRES)					
Should any WSA, in whole or in part, be released from wilderness consideration, such released lands would be managed in accordance with the goals, objectives, and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives, and prescriptions, until it completes a land use plan amendment. (Because any released lands would continue to be managed consistent with the prescriptions identified in this plan, unless and until the plan is amended, no separate analysis is required to address impacts to the released lands.)	Manage lands in the WSA according to the following prescription: Same as the Proposed RMP.	Manage lands in the WSA according to the following prescription: • Fire management category D • Oil and gas category: timing and CSU • OHVs limited to designated routes • VRM Class IV • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category D • Oil and gas category: timing and CSU • OHVs limited to designated routes • VRM Class II • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: no leasing • OHV limited to designated routes • VRM Class I • Closed to woodcutting • Livestock grazing allowed	Same as Alternative E under Book Cliffs Mountain Browse ISA.
DANIELS CANYON (2,496 ACRES)					
Should any WSA, in whole or in part, be released from wilderness consideration, such released lands would be managed in accordance with the goals, objectives, and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives, and prescriptions, until it completes a land use plan amendment. (Because any released lands would continue to be managed consistent with the prescriptions identified in this plan, unless and until the plan is amended, no separate analysis is required to address impacts to the released lands.)	Manage lands in the WSA according to the following prescription: Same as the Proposed RMP.	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: timing and CSU • OHVs limited to designated routes • VRM Class IV • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: timing and CSU • Closed to OHV use • VRM Class II • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: no leasing • OHVs limited to designated routes • VRM Class I • Livestock grazing allowed	Same as Alternative E under Book Cliffs Mountain Browse ISA.

Table 2.1.20 Proposed RMP and Alternatives – Special Designations: Wilderness Study Areas (WSAs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILDERNESS STUDY AREAS (WSA)					
DIAMOND BREAKS (3,900 ACRES)					
Should any WSA, in whole or in part, be released from wilderness consideration, such released lands would be managed in accordance with the goals, objectives, and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives, and prescriptions, until it completes a land use plan amendment. (Because any released lands would continue to be managed consistent with the prescriptions identified in this plan, unless and until the plan is amended, no separate analysis is required to address impacts to the released lands.)	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: timing and CSU • As part of the Brown's Park SRMA and ACEC • OHVs limited to designated routes • VRM Class II • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: timing and CSU • As part of the Brown's Park ACEC • OHVs limited to designated routes • VRM Class IV • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: timing and CSU • As part of the Brown's Park SRMA and ACEC • OHVs limited to designated routes • VRM Class III • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category C • Oil and gas category: no leasing • OHVs limited to designated routes • VRM Class I • Closed to woodcutting • Livestock grazing allowed	Same as Alternative E under Book Cliffs Mountain Browse ISA.
WEST COLD SPRING (3,200 ACRES)					
Should any WSA, in whole or in part, be released from wilderness consideration, such released lands would be managed in accordance with the goals, objectives, and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives, and prescriptions, until it completes a land use plan amendment. (Because any released lands would continue to be managed consistent with the prescriptions identified in this plan, unless and until the plan is amended, no separate analysis is required to address impacts to the released lands.)	Manage lands in the WSA according to the following prescription: • Fire management category B • Oil and Gas lease category: timing and CSU • As part of the Brown's Park SRMA and ACEC • OHVs limited to designated routes • VRM Class II • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: • Fire management category B • Oil and Gas lease category: timing and CSU • As part of the Brown's Park ACEC • OHVs limited to designated routes • VRM Class IV • Available for woodcutting • Livestock grazing allowed	Manage lands in the WSA according to the following prescription: Same as Alternative A.	Manage lands in the WSA according to the following prescription: • Fire management category B • Oil and Gas lease category: no leasing • Closed to OHV use • VRM Class I • Closed to woodcutting • Livestock grazing allowed	Same as Alternative E under Book Cliffs Mountain Browse ISA.
WINTER RIDGE (42,462 ACRES)					
Should any WSA, in whole or in part, be released from wilderness consideration, such released lands would be managed in accordance with the goals, objectives,	Manage lands in the WSA according to the following prescription: • Fire management category C	Manage lands in the WSA according to the following prescription: • Fire management category C	Manage lands in the WSA according to the following prescription: • Fire management category C	Manage lands in the WSA according to the following prescription: • Fire management category C	Where wilderness characteristics have been lost, due to the exercise of valid existing rights in the Winter Ridge WSA, the following prescriptions would be

Table 2.1.20 Proposed RMP and Alternatives – Special Designations: Wilderness Study Areas (WSAs)

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS — WILDERNESS STUDY AREAS (WSA)					
and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives, and prescriptions, until it completes a land use plan amendment. (Because any released lands would continue to be managed consistent with the prescriptions identified in this plan, unless and until the plan is amended, no separate analysis is required to address impacts to the released lands.)	• Oil and gas category: timing and CSU • As part of the Book Cliffs SRMA • OHVs limited to designated routes • VRM Class III • Available for woodcutting • Livestock grazing allowed	• Oil and gas category: timing and CSU • OHVs limited to designated routes • VRM Class IV • Available for woodcutting • Livestock grazing allowed	• Oil and gas category: timing and CSU • As part of the Book Cliffs SRMA and Main Canyon ACEC • OHVs limited to designated routes • VRM Class II • Available for woodcutting • Livestock grazing allowed	• Oil and gas category: no leasing • OHVs limited to designated routes • VRM Class I • Closed to woodcutting • Livestock grazing allowed	applied, if the WSA were released from wilderness consideration by Congress during the life of the RMP: • Manage fire as Management Category C • Open to oil and gas leasing, subject to timing and CSU • Manage as part of the Book Cliffs SRMA • Manage as part of the Main Canyon ACEC • Limit OHVs to designated routes • Manage landscapes by VRM Class II objectives • Available for wood cutting • Manage for livestock grazing

Table 2.1.21 Proposed RMP and Alternatives – Special Status Species

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
Special Status Species — Plants					
GOALS AND OBJECTIVES • Conserve and protect special status species and enhance their habitats. • Implement recovery measures for special status species, including listed species and the ecosystems on which they depend. • Mitigate or reduce long-term habitat fragmentation through avoidance and site-specific reclamation to return areas to productive levels. • Manage all listed T&E plant species and the habitats upon which they depend in such a manner as to conserve and recover these species to the point where protection under the ESA is no longer necessary. • Manage non-listed sensitive species and the habitats upon which they depend in such a manner as to preclude the need to list them as either threatened or endangered under the Endangered Species Act. The guidance for this management is put forth in the BLM 6840 Manual. • Implement the specific goals and objectives of recovery plans, conservation agreements and strategies, and approved activity level plans. The BLM would continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data. • Implement the direction contained in the Northwest National Fire Plan Project Design and Consultation Process and the Counterpart Regulations, including Alternative Consultation Agreements. • Implement the management necessary to increase populations of special status species, including federally listed animal species, and restore them to their historic ranges by enhancing, protecting, and restoring known and potential habitat.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • The BLM would continue to implement the specific goals and objectives of all recovery plans, conservation plans and strategies, and activity level plans. • The BLM would continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data. Recovery plans have been finalized for Uinta Basin hookless cactus, shrubby reed–mustard, and clay reed-mustard. A draft plan is being developed by the USFWS for Ute ladies' tresses. A Conservation Plan has been prepared for *Astragalus equisolensis*, *Penstemon goodrichii*, *Penstemon grahamii,* and *Penstemon scarious* var. *albifluvis*. • Where special status plant species, including listed T&E plant species, occur on public lands in the VPA, the BLM would collaborate with affected local, state, and federal agencies and researchers in the implementation of approved recovery plans and conservation strategies to protect, stabilize, and recover such species and their habitats. In addition to on-the-ground actions, strategies would be developed to provide public education on species at-risk, significance of the species to the human and biological communities, and reasons for protective measures that would be applied to the lands involved. Continue or develop monitoring studies in order to determine population dynamics and trends. • Complete inventories and map current occupied and potential habitats for all listed and non-listed special status plant species. • Develop relevant species-specific plans utilizing USFWS guidelines where applicable. This may include habitat management plans, conservation agreements, or other suitable plans.					
Special Status Species — Wildlife					
GOALS AND OBJECTIVES • Conserve and recover all state special status species, including federally listed species and the ecosystems on which they depend. • Mitigate or reduce long-term habitat fragmentation through avoidance and site-specific reclamation to return areas to productive levels. • Manage all listed T&E animal species and the habitats upon which they depend in such manner as to conserve and recover these species to the point where protection under the ESA is no longer necessary. • Manage non-listed sensitive species and the habitats upon which they depend in such a way as to preclude the need to list them as either threatened or endangered under the Endangered Species Act. The guidance for this management is put forth in the BLM 6840 Manual. • Implement the direction contained in the Northwest National Fire Plan Project Design and Consultation Process and the Counterpart Regulations, including Alternative Consultation Agreements. • The BLM would continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data. Recovery plans have been finalized for six species (black-footed ferret, Mexican spotted owl, bonytail, Colorado pikeminnow, humpback chub, and razorback sucker). Two recovery plans were finalized for the peregrine falcon species and the bald eagle, which has been delisted. • Implement the management necessary to increase populations of special status species, including federally listed animal species, and restore them to their historic ranges by enhancing, protecting, and restoring known and potential habitat. • In cooperation with UDWR and USFWS, continue to implement the goals of the Black-footed Ferret Recovery Plan by augmenting existing population in the Snake John Wash area.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Collaborate with the appropriate local, state, and federal agencies to promote public education on species, their importance to the human and biological community, and reasons for protective measures that would be applied to the lands involved. • Continue inventories and map current occupied and potential habitats for all special status animal species. • In collaboration with the USFWS, DWR, and other partners, develop and implement habitat management plans or conservation strategies for sensitive species. • As additional data are collected over the life of the RMP, land managers would continually re-evaluate population and habitat status. Management emphasis would be to accumulate ecological information and distributional data to enhance the BLM's ability to protect, conserve, recover, and manage these species in the future. • The BLM would continue to implement the specific goals and objectives of all Recovery Plans, Conservation Plans and Strategies, and activity level plans. Recovery Plan revisions or new Recovery Plans would also be implemented. • The BLM will work with UDWR and other partners to implement conservation actions identified in the State Wildlife Action Plan (Comprehensive Wildlife Conservation Strategy) (UDWR, 2005), which identified priority wildlife species and habitats, assessed threats to their survival, and identified long-term conservation action needs (per WO IM 2006-114). • Conservation Measures developed during the consultation on existing LUPs (June 2007) would be implemented as part of committed mitigation on new oil and gas leases. Appendix L contains lease notices developed from the conversation measures. • Enhance habitat and remove or control of non-native fish that threaten various life stages of the special status species fish. **BLACK-FOOTED FERRET:** The BLM would manage the black-footed ferret consistent with the 1999 Black-footed Ferret Reintroduction Plan Amendment and those portions of the Cooperative Plan for the Reintroduction and Management of Black-footed Ferret in Coyote Basin, Uintah County, Utah that are consistent with the Black-footed ferret plan amendment.					

Table 2.1.21 Proposed RMP and Alternatives – Special Status Species

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
WHITE-TAILED PRAIRIE DOG: In conjunction with the USFWS and UDWR, participate in the development of a conservation plan for the white-tailed prairie dog. **BONYTAIL, COLORADO PIKEMINNOW, HUMPBACK CHUB, AND RAZORBACK SUCKER:** Implement recovery plans actions for bonytail, Colorado pikeminnow, humpback chub, and razorback sucker. **COLORADO RIVER CUTTHROAT TROUT:** Implement Conservation Agreement and Strategy for Colorado River cutthroat trout in the states of Colorado, Utah, and Wyoming (signed April 2001), or more recent revisions of this agreement of which the BLM is a signatory. The following measures from the agreement would be implemented: • Monitor vegetation with low level infra-red photography • Continue macro-invertebrate sampling • Fencing • Stream bank stabilization • Stream flow modifications • Pursue in flow agreements **BLUEHEAD SUCKER, FLANNELMOUTH SUCKER, AND ROUNDTAIL CHUB:** Implement range-wide conservation agreement for bluehead sucker (*Catastomus discobolus*), flannelmouth sucker (*Catastomus latipinnis*), and roundtail chub (*Gila robusta*). **YELLOW-BILLED CUCKOO:** • Restore and conserve riparian areas and develop specific riparian vegetation objectives that would benefit bird species dependent on riparian areas • Fence riparian areas to reduce or eliminate grazing pressure on young trees, especially willow and cottonwood. • Apply rotation grazing or consider eliminating hot-season grazing in riparian areas to allow young trees to become established. • Control or eliminate non-native plant species in riparian habitats.					
COLORADO RIVER CUTTHROAT TROUT					
Per the Conservation Agreement/Conservation and Sportfishing Management Strategy for the Colorado River cutthroat trout, habitat would be provided, maintained and/or enhanced in Beaver, Bitter, Crouse, Davenport, Jackson, Sears, Sweetwater Creeks, Tolivers, and Upper Willow (Brown's Park), including tributaries for the reintroduction of Colorado River cutthroat trout.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Suitable habitat would be provided and maintained to reintroduce Colorado River cutthroat trout in Upper Willow (Brown's Park), Beaver, Sears, Crouse, Tolivers, Davenport, Jackson, and Argyle Creeks as found applicable.	Same as the Proposed RMP.
Special Status Species — Raptors					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES **BALD EAGLE:** Protect and restore cottonwood bottoms for Bald Eagle winter habitat along the Green and White rivers, at Pelican Lake, and at the Cliff Creek Bald Eagle roost site, as well as any new roost sites discovered in the future. **BURROWING OWL AND SHORT-EARED OWL:** In cooperation with UDWR, maintain nesting habitat and maintain/enhance prey-base habitat. **FERRUGINOUS HAWK:** In cooperation with UDWR, maintain and enhance white-tailed prairie dog and other foraging habitat to provide primary food sources for the Ferruginous Hawk. **MEXICAN SPOTTED OWL:** • Establish Protected Activity Centers (PACs) at all known Mexican Spotted Owl nest sites. • Maintain habitat to support small mammal populations as a prey base for Mexican Spotted Owls in occupied and suitable owl habitats. • Retain large down logs, large trees, and snags as prey habitats in occupied and suitable Mexican Spotted Owl habitats. **PEREGRINE FALCON:**					

Table 2.1.21 Proposed RMP and Alternatives – Special Status Species

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
Protect and enhance riparian habitat in Pariette Draw, as well as along the Green River, White River, Bitter Creek, and other drainages.					
BUFFERS					
Raptor management would be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.	• Raptors would be managed under the auspices of Best Management Practices (BMPs) (see Appendix A), which would include implementation of spatial and seasonal buffers comparable to the USFWS's Guidelines for Raptor Protection From Human and Land Use Disturbances, with modifications allowed as long as protection of nests is ensured. • Seasonal and spatial buffers (including USFWS's) are listed in Appendix H.	• Raptors would be managed at a level less restrictive than the USFWS guidelines. Protections for nests of threatened and endangered raptor species and Ferruginous Hawks would include implementation of spatial buffers comparable to the USFWS guidelines with modifications allowed as long as protection of nests is insured. • Seasonal buffers would generally be less restrictive. • Other raptor species would be provided protection at a level less than recommended in the USFWS guidelines. • Seasonal and spatial buffers for raptor nests are listed in Appendix H.	USFWS's spatial and seasonal buffers would be implemented for raptors as recommended in Table 2 of the Utah Field Office Guidelines for Raptor Protection From Human and Land Use Disturbances.	• **Book Cliffs:** Unspecified • **Diamond Mountain:** Spatial and seasonal buffers listed in the Diamond Mountain RMP would continue to be applied to twenty special status or sensitive raptor species. (See Appendix H.)	Same as Alternative C.
NEST PROTECTION FOR RAPTORS					
On unoccupied nests for all activities, including new oil and gas leases: • Raptor management would be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.	<u>On unoccupied nests for all activities, including new oil and gas leases:</u> • Nests would be protected for a period of seven years yet allow for permanent (long-term) facilities and structures to be constructed outside of the breeding season as long as they would not cause the nest site to become unsuitable for future nesting. • Non-permanent (short-term) activities would be allowed within the spatial buffer of nests during the nesting season as long as those activities are shown to be non-impacting to nesting raptors. • Existing Oil and Gas leases: Bald Eagle, Golden Eagle, Peregrine Falcon, Ferruginous Hawk, and Burrowing Owl nests would be protected for two years by not allowing permanent surface-disturbing activities during the breeding season. • Permanent surface-disturbing activities would be allowed outside of the seasonal buffer within the seasonal buffer within the spatial	<u>On unoccupied nests for all activities, including new and existing oil and gas leases:</u> • For T&E species and Ferruginous Hawks, nests would be protected for a period of three years yet allow for facilities and structures to be constructed outside of the temporary spatial and seasonal buffers. • However, new or additional surface occupancy would not be allowed within one-quarter mile of nests. • For all other raptor nests, a temporary buffer zone would be provided within one-quarter mile between February 15th and August 1st.	<u>On unoccupied nests for all activities, including new oil and gas leases:</u> • For long-term land-use activities, nests should be protected for seven years and such activities should not occur proximally to unoccupied nests unless it is determined that mitigation is appropriate. • Short-term land use and human activities could progress near a nest or nest territory after sufficient time has elapsed in a specific breeding season to determine a nest is unoccupied and prior to the beginning of the next year's breeding season. • Existing Oil and Gas leases: Same as Alternative D.	<u>On unoccupied nests for all activities, including new oil and gas leases:</u> • Golden Eagle Nests — active within two years • No construction or surface-disturbing activities would be allowed which would adversely affect current use or limit or preclude potential future use of the nest, unless a permit to take is obtained from the USFWS. • Known Peregrine Falcon, Ferruginous Hawk and Bald Eagle Nests • No construction or surface-disturbing activities would be allowed year-round. • The above restrictions for Golden Eagle, Peregrine Falcon, Ferruginous Hawk, and Bald Eagle nests would not apply to maintenance and operation of existing facilities. • Existing Oil and Gas leases: Bald Eagle, Golden Eagle, Peregrine Falcon, Ferruginous Hawk and Burrowing Owl nests would be	<u>On unoccupied nests for all activities, including new oil and gas leases:</u> • For long-term land-use activities, nests should be protected for seven years and such activities should not occur proximally to unoccupied nests unless it is determined that litigation is appropriate. • Short-term land use and human activities could progress near a nest or nest territory after sufficient time has elapsed in a specific breeding season to determine a nest is unoccupied and prior to the beginning of the next year's breeding season. • On existing oil and gas leases the following management applies: • Bald Eagle, Golden Eagle, Peregrine Falcon, Ferruginous Hawk and Burrowing Owl nests would be protected for two years, during which time permanent disturbances would not occur within the spatial buffer; non-permanent activities would be allowed within the spatial buffer, but outside the

Table 2.1.21 Proposed RMP and Alternatives – Special Status Species

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
	buffer as long as the activity would not cause the nest site to become unsuitable for future nesting. • Nonpermanent (short-term) activities would be allowed within the spatial buffer of nests during the nesting season as long as those activities are shown to be non-impacting to nesting raptors.			protected for two years, during which time permanent disturbances would not occur within the spatial buffer; non-permanent activities would be allowed within the spatial buffer, but outside the seasonal buffer.	seasonal buffer.
On occupied nests under all leases: • Raptor management would be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.	On occupied nests under all leases: • Long-term land-use activities that would have an adverse impact would not be allowed within the spatial buffer of occupied nests. • Short-term land-use activities would be allowed outside the breeding/nesting period within the spatial buffer of nests.	On occupied nests under all leases: • For T&E raptor species and Ferruginous Hawk nests, new or additional surface occupancy would not be authorized within one-half mile of nests between February 15 through August 1. • Additionally there would be NSO within one-quarter mile of occupied nests. • For all other raptor species, new or additional surface occupancy would not be authorized within ¼ mile of nests between February 15th and August 1st.	On occupied nests under all leases: • Activities would not occur within the spatial/seasonal buffer of any nest. • Short-term land use and human use activities would only proceed within the spatial buffer of an occupied nest outside the seasonal buffer after coordination with appropriate agency biologists. • Long-term land-use activities and human use activities would not occur within the species-specific spatial buffer of nests.	On occupied nests under all leases: • **Book Cliffs:** Unspecified. • **Diamond Mountain:** Surface-disturbing activities would not be allowed within the specified distances of an active Golden Eagle, Bald Eagle, Peregrine Falcon, or Ferruginous Hawk nest year-round. • Surface-disturbing activities within the specified distances of an active nest site would not be allowed within the specified active reproductive periods for the following raptor species: Burrowing Owl, Osprey, Swainson's Hawk, Northern Goshawk, Short-eared Owl, Prairie Falcon, Merlin, American Kestrel, Turkey Vulture, Cooper's Hawk, Sharp-shinned Hawk, Northern Harrier, Red-tailed Hawk, Great Horned Owl, Long-eared Owl, and Mexican Spotted Owl.	On occupied nests under all leases: • Activities would not occur within the spatial/seasonal buffer of any nest. • Short-term land use and human use activities would only proceed within the spatial buffer of an occupied nest outside the seasonal buffer after coordination with appropriate agency biologists. • Long-term land-use activities and human use activities would not occur within the species-specified spatial buffer of nests.
GREATER SAGE-GROUSE					
• No surface-disturbing activities within ¼-mile of active Sage-grouse leks would be allowed year-round. • No surface-disturbing activities within two miles of active Sage-grouse leks would be allowed from March 1 through June 15. • No permanent facilities or structures would be allowed within two miles when possible.	• The Strategic Management Plan for Sage-grouse, State of Utah June 11, 2002, would be adopted and implemented as the baseline threshold. • Human disturbances would be avoided within 0.6 mile of a lek during the breeding season (March 1 to May 31) from one hour before sunrise to three hours after sunrise, and construction of routes, fences, poles, and utility lines would be avoided within 1,300 feet of a lek. • Exception(s): Livestock, wildlife, and wild horse use would be managed to achieve and maintain sagebrush and	• Significant human disturbances would be avoided within 0.6 mile of a lek during the breeding season (March 1 through May 31) from one hour before sunrise to three hours after sunrise. • Construction of routes, fences, poles, and utility lines would be avoided within 1,300 feet of a lek. • Any developments within the 1,300 feet would be designed to minimize, to the extent possible, bird structure collision and to prevent raptor perching. • Any development within two miles of a lek would be designed to	Same as the Proposed RMP.	• **Book Cliffs**: for minerals only, surface disturbance, exploration, drilling, and other development activity would be allowed only during the period from June 15 through March 15, and no drilling or storage facilities would be allowed within 300 feet of the Sage-grouse leks. • **Diamond Mountain**: Surface-disturbing activities would not be allowed within Sage-grouse nesting areas (a two-mile radius of Sage-grouse strutting grounds within the sagebrush vegetation type) from March 1 through June	Same as the Proposed RMP.

Table 2.1.21 Proposed RMP and Alternatives – Special Status Species

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
	riparian/meadow habitats in good ecological condition per the BLM May 1997 Rangeland Health and Guidelines for Grazing Management.	minimize, to the extent possible, raptor perching.		30 (identified as 88,500 acres in management priority area III). • Surface-disturbing activities would not be allowed within 1,000 feet of Sage-grouse strutting grounds.	
Within 0.5 mile of known active leks, the best available technology would be used to reduce noise, such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems.	Same as the Proposed RMP.	Special measures to reduce noise would not be required.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as the Proposed RMP.

Table 2.1.22 Proposed RMP and Alternatives – Roads and Trails

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
TRAVEL — ROADS AND TRAILS — MAP FIGURES 33–38					
GOALS AND OBJECTIVES • Establish working partnerships with local and state agencies, user groups, commercial providers, and other interested parties that would facilitate effective OHV program development, including the planning for and implementation of successful trail systems and use areas. • Provide areas for OHV and motorized use, while protecting other resource values. • The Proposed RMP and all alternatives would comply with the BLM's National OHV Policy.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • In collaboration with interested parties, the BLM would make future route adjustments based on access needs, recreational opportunities, and natural resource constraints. These adjustments would occur only in areas with open and/or limited route designations and would be analyzed at the activity planning level. • The BLM, in preparing its RMP designations and its implementation-level travel management plans, is following policy and regulation authority found at: 43 C.F.R. Part 8340; 43 C.F.R. Subpart 8364; and 43 C.F.R. Subpart 9268. • Where the authorized officer determines that OHVs are causing or would cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public would be notified. • The BLM could impose limitations on types of vehicles allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated routes. • Where routes would remain available for motorized use within WSAs, such use could continue on a conditional basis. Use of the existing routes in the WSAs ("ways" when located within WSAs — see Glossary) could continue as long as the use of these routes does not impair wilderness suitability, as provided by the IMP (BLM 1995). If Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance are found through monitoring efforts to impair the area's suitability for wilderness designation, the BLM would take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is based on user compliance and non-impairment of wilderness values. • As per the State of Utah v. Andrus, October 1, 1979 (Cotter Decision), the BLM would grant the State of Utah reasonable access to state lands for economic purposes, on a case-by-case basis.					
SCENIC BACKWAYS AND BYWAYS • Continue to manage Nine Mile Canyon as a National Backcountry Byway. • Crouse Canyon would be managed as a State of Utah Scenic Byway. • The Flaming Gorge–Uintas Scenic Byway and the Dinosaur Diamond Prehistoric Highway would be managed as National Scenic Byways.					
**The Chipeta Canyon road would be open up to the Chipeta cabin.*	Same as the Proposed RMP.	Same as the Proposed RMP.	The Chipeta Canyon road would be closed at the mouth of Chipeta Canyon.	Unspecified in the current management plan	Same as Alternative C.
Newly permitted routes would be obliterated and/or returned to their original condition when they no longer serve their permitted purpose or public interest.	Same as the Proposed RMP.	Newly permitted routes would not be obliterated if the route serves a public interest.	Newly permitted routes would be obliterated when they no longer serve their permitted purpose.	Unspecified in the current management plan	Same as Alternative C.
• Routes causing resource damage would be repaired by maintenance, upgrade, or realignment. • BLM routes would be closed if none of the above is economically feasible.	Same as the Proposed RMP.	Routes causing resource damage would be maintained, upgraded, and/or realigned.	Routes causing resource damage would be maintained, upgraded, realigned, and/or closed.	Unspecified in the current management plan	Same as Alternative C.
OHV travel would be limited to designated routes or closed except for managed open areas. • Acres that would be open to OHV travel: 6,202 • Acres that would be limited to OHV travel: 1,643,475 • Acres that would be closed to OHV travel: 75,845 This includes: all WSAs and ISA; the White River area (SRMA, river corridor); Lears Canyon ACEC, the Nine Mile Acquired Area; and the upper portion of the Lower Flaming Gorge non-WSA lands with wilderness	Same as the Proposed RMP.	OHV travel would be limited to designated routes or closed except for managed open areas. • Acres that would be open to OHV travel: 5,434 • Acres that would be limited to OHV travel: 1,659,901 • Acres that would be closed to OHV travel: 60,187 • Miles of routes that would be designated to OHV travel: 4,861	OHV travel would be limited to designated routes or closed except for managed open areas. • Acres that would be open to OHV travel: 5,434 • Acres that would be limited to OHV travel: 1,353,529 • Acres that would be closed to OHV travel: 366,559 • Miles of routes that would be designated to OHV travel: 4,707	OHV travel would be open, limited to designated routes, or closed. • Acres that would be open to OHV travel: 787,859 • Acres that would be limited to OHV travel: 887,275 • Acres that would be closed to OHV travel: 50,388 • Miles of routes not designated.	OHV travel would be limited to designated routes or closed except for managed open areas: • Acres that would be open to OHV travel: 5,434 • Acres that would be limited to OHV travel: 1,326,024 • Acres that would be closed to OHV travel: 392,818 • Miles of routes that would be designated to OHV travel: 4,654

Table 2.1.22 Proposed RMP and Alternatives – Roads and Trails

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
TRAVEL — ROADS AND TRAILS — MAP FIGURES 33–38					
characteristics. • **Miles of routes that would be designated to OHV travel: 4,860* _____ **This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*					

Table 2.1.23 Proposed RMP and Alternatives – Vegetation Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E

VEGETATION RESOURCES

GOALS AND OBJECTIVES

- Ensure that management of native and naturalized plant species enhances, restores, and does not reduce the biological and genetic diversity of natural ecosystems.
- Maintain and/or enhance soil and watershed conditions and forage production.
- Achieve a desired ecological stage or desired plant community structure.
- Appropriately control and manage noxious weeds, poisonous and invasive plants, and insects.
- Protect special status plant species and their habitats.

MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

- Allow mechanical, fire, biological, or chemical control of noxious weeds and insect infestations within the resource planning area with restrictions to protect desired ground cover and water quality. Use the type of manipulation appropriate to and consistent with other land use objectives.
- Continue implementation of noxious weed and invasive species control actions as per national guidance and local weed management plans in cooperation with state, federal, affected counties, adjoining private landowners and other partners or interests directly affected.
- Utilize principles of integrated pest management for control and management of noxious weeds and invasive species. This includes prevention, control through mechanical, cultural, biological, and chemical methods.
- Manage the vegetation to attain the ecological stage that would benefit wildlife in crucial habitat and livestock grazing. Manage vegetation in remaining areas that results in high vegetation species diversity.
- Allow mechanical, fire, biological, cultural, or chemical methods for vegetation manipulation, using the type of manipulation appropriate to and consistent with other land use objectives, and incorporating standard operating procedures and BMPs, as spplicable, to protect other resources.
- Continue implementation of noxious weed and invasive species control actions as per national guidance and local weed management plans in cooperation with state, federal, affected counties, adjoining private landowners and other partners or interests directly affected.
- Manage the vegetation to attain the ecological stage that would benefit wildlife in crucial habitat and livestock grazing. Manage vegetation in remaining areas that results in high vegetation species diversity.
- Use of pesticides and herbicides shall comply with the applicable federal and state law. Prior to the use of pesticides, project proponents shall obtain from the Authorized Officer written approval of Pesticide Use Proposal, which is a plan showing the type and quantity of material to be used; pest(s) to be controlled; method of application; location of storage and disposal of containers; and any other information deemed necessary by the Authorized Officer. Emergency use of pesticides shall be approved in writing by the Authorized Officer prior to use. In addition, within 24 hours of any pesticide application, a Pesticide Application Record must be completed. A similar procedure is required for the release of biological control agents.
- Manage the vegetation to attain the ecological stage that would:
  - Ensure sustainability
  - Meet authorized use allocations (livestock, wildlife).
  - Ensure species diversity
- Manage the following vegetative types to achieve the desired mix of seral stages, as outlined below

Existing Seral Stages by Vegetation Type					Desired Seral Stages by Vegetation Type				
	% Late	% Mid	% Early	# of Acres		% Late	% Mid	% Early	# of Acres
Aspen	90	5	5	2,927	Aspen	45	30	25	2,927
Black Sagebrush	70	20	10	241,416	Black Sagebrush	80	15	5	241,416
Desert Shrub	65	10	25	351,766	Desert Shrub	80	15	5	351,766
Douglas Fir	80	15	5	137,997	Douglas Fir	60	20	20	137,997
Four Wing Salt Bush	75	15	10	145,012	Four Wing Salt Bush	55	30	15	145,012
Gardner's Salt Bush	80	10	5	58,704	Gardner's Salt Bush	90	5	5	58,704
Greasewood	90	5	5	61,213	Greasewood	55	30	15	61,213
Mountain Browse	85	10	5	109,987	Mountain Browse	55	30	15	109,987
Mountain Sagebrush	70	20	10	78,000	Mountain Sagebrush	55	30	15	78,000
Pinyon-Juniper	80	10	10	614,518	Pinyon-Juniper	60	25	15	614,518
Riparian	75	15	10	8,974	Riparian	90	5	5	8,974
Wyoming Sagebrush	75	20	5	377,817	Wyoming Sagebrush	55	30	15	377,817

Source: Steve Strong, VFO, 2002

- In order to help control noxious weeds power washing would be required for permitted uses.
- Users of BLM-administered land would be required to use certified weed-free feed such as hay, straw, mulch, hay cubes, pellets, and grain.
- Restore or rehabilitate up to 200,000 acres of sagebrush-steppe habitat over the life of the plan. Such vegetation treatments would consider the Western Association of Fish and Wildlife Agencies (WAFWA) Guidelines for Management of Sage-grouse

Table 2.1.23 Proposed RMP and Alternatives – Vegetation Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VEGETATION RESOURCES					
Populations and Habitats and State and Local Conservation Plans.					

Table 2.1.24 Proposed RMP and Alternatives – Visual Resource Management

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VISUAL RESOURCE MANAGEMENT — MAP FIGURES 39–44					
GOALS AND OBJECTIVES • Manage the public lands in such a way as to preserve those scenic vistas, which are deemed to be most important: o In their impact on the quality of life for residents and communities in the areas. o In their contribution to the quality of recreational visitor experiences. o In supporting the regional tourism industry and segments of the local economy dependent on public land resources. • Seek to complement the rural, agricultural, historic, and urban landscapes on adjoining private, state, and tribal lands by maintaining the integrity of background vistas on the public lands.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES Maintain or improve the scenic quality of the landscape and design and mitigate visual intrusions consistent with the objectives established for the specific visual resource management classes outlined in the BLM Handbook H-8410-1.					
Approximately 57,776 acres would be managed as VRM Class I. All WSAs and ISA **Note:** Acreage differences between the alternatives are the result of management prescriptions within the alternatives.	63,136 acres would be managed as VRM Class I. **Note:** The VRM acreage numbers under Alternative A have been changed to reflect BLM-administered lands only. In the Draft RMP/EIS, lands controlled by other surface management entities were included in the numbers for Alternative A. This change does not impact the analysis of the document.	53,058 acres would be managed as VRM Class I.	145,781 acres would be managed as VRM Class I.	53,086 acres would be managed as VRM Class I.	334,516 acres would be managed as VRM Class I.
Approximately 231,911 acres would be managed as VRM Class II. **Note:** Acreage differences between the alternatives are the result of management prescriptions within the alternatives.	294,773 acres would be managed as VRM Class II. **Note:** The VRM acreage numbers under Alternative A have been changed to reflect BLM-administered lands only. In the Draft RMP/EIS, lands controlled by other surface management entities were included in the numbers for Alternative A. This change does not impact the analysis of the document.	114,030 acres would be managed as VRM Class II.	362,660 acres would be managed as VRM Class II.	113,686 acres would be managed as VRM Class II.	259,694 acres would be managed as VRM Class II.
Approximately 786,612 acres would be managed as VRM Class III. **Note:** Acreage differences between the alternatives are the result of management prescriptions within the alternatives.	716,186 acres would be managed as VRM Class III. **Note:** The VRM acreage numbers under Alternative A have been changed to reflect BLM-administered lands only. In the Draft RMP/EIS, lands controlled by other surface management entities were included in the numbers for Alternative A. This change does not impact the analysis of the document.	199,179 acres would be managed as VRM Class III.	580,846 acres would be managed as VRM Class III.	199,192 acres would be managed as VRM Class III.	535,586 acres would be managed as VRM Class III.
Approximately 643,641 acres would be managed as VRM Class IV. **Note:** Acreage differences between the alternatives are the result of management prescriptions within the alternatives.	645,845 acres would be managed as VRM Class IV. **Note:** The VRM acreage numbers under Alternative A have been changed to reflect BLM-administered lands only. In the Draft RMP/EIS, lands controlled by other surface management entities were included in the numbers for Alternative A. This change does not impact the	1,353,967 acres would be managed as VRM Class IV.	630,653 acres would be managed as VRM Class IV.	1,353,976 acres would be managed as VRM Class IV.	590,140 acres would be managed as VRM Class IV.

Table 2.1.24 Proposed RMP and Alternatives – Visual Resource Management

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VISUAL RESOURCE MANAGEMENT — MAP FIGURES 39–44					
	analysis of the document.				

Table 2.1.25 Proposed RMP and Alternatives – Wild Horses

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILD HORSES — MAP FIGURE 45					
GOALS AND OBJECTIVES Provide for interim management of wild horses as the goals and objectives of the Proposed RMP for gathering and removal is completed.					
BONANZA					
This Herd Area will not be managed for wild horses. Any horses present are in trespass.	This Herd Area will not be managed for wild horses.	Same as Alternative A	The Book Cliffs Resource Management Plan Amendment involving the Bonanza Wild Horse Herd Area would be implemented.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.
This Herd Area will not be managed for wild horses. Any horses present are in trespass.	This Herd Area will not be managed for wild horses.	Same as Alternative A.	A herd of 40 horses, allowing for a maximum of 85, would be re-established that would have the following physical and conformation characteristics: • Color — bay, buckskin, palomino, red and blue roan, brown, dunn, sorrel, black, and grulla. • Markings — Spanish mustang indicators, such as dorsal and zebra stripes. • Size — 13 to 15 hands high and weighing 800 to 1,000 pounds. • Breed-mixed, including Appaloosa and Spanish mustang.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.

The Bonanza HA delineation will continue.	Do not maintain Herd Management Area (HMA).	Same as Alternative A.	• The HMA would be maintained with horses.
			• In an area/s identified where wild horses would be maintained and managed, protect them from unauthorized capture, branding, harassment, or death.
			• Provide for the appropriate number by:
			  o Reducing reproductive rates to levels which would accommodate a minimum four-year gather schedule to allow for maintenance of the AML;
			  o Maintaining the desired sex structure for herds;
			  o Establishing a more “normal distribution” through selective removal; and
			  o Managing horse populations to reflect allocated or available forage.
			• Maintain herd characteristics and genetic diversity.
			• Periodically introduce new animals to maintain genetic viability.
				There would be no horses managed for in the Bonanza HA.	Same as Alternative C.

Table 2.1.25 Proposed RMP and Alternatives – Wild Horses

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILD HORSES — MAP FIGURE 45					
			• Maintain healthy wild horse populations and continue appropriate testing protocols through close coordination with the State of Utah Veterinarian. • Limit management of wild horses to the projected occurrence area of the Herd Management Area (HMA). • Manage habitat to: o Sustain established wild horse populations. o Achieve and maintain a desired plant community that would provide palatable, nutritious forage for wild horses while sustaining rangeland health and a thriving natural ecological balance.		
This Herd Area will not be managed for wild horses. Any horses present are in trespass.	This Herd Area will not be managed for wild horses.	Same as Alternative A.	• Establish an AML of 85 wild horses with a minimum herd of 40. • Adjustments in the interim AML would be in accordance with criteria outlined under the Forage section.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.
Gap fences would not be constructed.	Same as the Proposed RMP.	Same as the Proposed RMP.	• Three miles of gap fences would be constructed where cliffs on the north rim of the White River would not provide natural barriers. • Cattle guards would be placed on routes where needed to ensure integrity of the fences.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.
Additional water developments would not be provided for wild horses.	Same as the Proposed RMP.	Same as the Proposed RMP.	25 additional water developments consisting of a combination of reservoirs, shallow wells, and guzzlers would be provided.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.
Up to 15 reservoirs outside of, but in close proximity to, the Herd Area (HA) boundary would not be fenced.	Same as the Proposed RMP.	Same as the Proposed RMP.	The need to fence up to 15 reservoirs in proximity to the Herd Area (HA) boundary would be determined under the Herd Area Management Plans.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.
There would be no horses managed for in this HA. Any horses present are in trespass.	There would be no horses managed for in this HA.	Same as Alternative A.	A gathering plan would be prepared and approximately 45 horses would be removed every four years; gathered horses would be available for adoption under the BLM's Adopt-A-Horse program.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.
There would be no horses managed for in this HA. Any horses present are in trespass.	There would be no horses managed for in this HA.	Same as alternative A	A Wild Horse Herd Area Management Plan would be prepared within three years after the Record of Decision (ROD) is signed.	There would be no horses managed for in the Bonanza HA.	Same as Alternative C.

Table 2.1.25 Proposed RMP and Alternatives – Wild Horses

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILD HORSES — MAP FIGURE 45					
HILL CREEK					
• All wild horses would be removed, the area would be declared unpopulated, and the HMA designation would be removed. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	Same as Alternative D.	• All wild horses would be removed, the area would be declared unpopulated, and the HMA designation would be removed. • The area would only be managed as a HA with no specific management plan for wild horses.	No horse grazing permits would be issued on public lands within the HMA or immediate areas to grazing permittees, including the Northern Ute Tribe.	• Would be managed as a wild horse HMA. • In an area/s identified where wild horses would be maintained and managed, protect them from unauthorized capture, branding, harassment, or death. • Provide for the appropriate number by: o Reducing reproductive rates to levels which would accommodate a minimum four-year gather schedule to allow for maintenance of the AML; o Maintaining the desired sex structure for herds; o Establishing a more "normal distribution" through selective removal; and o Managing horse populations to reflect allocated or available forage. • Maintain herd characteristics and genetic diversity. • Periodically introduce new animals to maintain genetic viability. • Maintain healthy wild horse populations and continue appropriate testing protocols through close coordination with the State of Utah Veterinarian. • Limit management of wild horses to the projected occurrence area of the Herd Management Area (HMA). • Manage habitat to: o Sustain established wild horse populations. o Achieve and maintain a desired plant community that would provide palatable, nutritious forage for wild horses while sustaining rangeland health and a thriving natural ecological balance.	Same as Alternative C.
• There would be no horses managed for in this HA.	• An AML of 70 to 145 horses would be established with a minimum herd	There would be no horses managed for in this HA.	Same as Alternative A.	An AML of 195 horses would be continued; minimum herd size would be	Same as Alternative A.

Table 2.1.25 Proposed RMP and Alternatives – Wild Horses

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILD HORSES — MAP FIGURE 45					
• Any horses present are in trespass.	of 70. • A management objective would be to manage for a 100 animal wild horse herd.			unspecified.	
No horse grazing permits would be issued on public lands within the former HMA or immediate areas to grazing permittees, including the Northern Ute Tribe.	Same as the Proposed RMP.	• A horse-grazing permit or permits would be offered on the public lands within the Hill Creek HA (Figure 45) to the Northern Ute Tribe. • The permit or permits could collectively total up to a 1,200 AUM allocation for up to 100 tribal horses.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as the Proposed RMP.
A Nation-to-Nation agreement with the Northern Ute Tribe and a Memorandum of Understanding (MOU) with adjacent private property owners would be entered into for the gathering of and phasing out of wild and feral horses on federal lands.	A Nation-to-Nation agreement with the Northern Ute Tribe and a Memorandum of Understanding (MOU) with adjacent private property owners would be entered into for range improvements, (i.e., fences) for key areas of management concern and for wild horse and tribal horse management.	A Nation-to-Nation agreement with the Northern Ute Tribe and a MOU with adjacent private property owners would be entered into for range improvements (i.e., fences) for key areas of management concern and for tribal horse management.	Same as Alternative A.	Unspecified in the current management plan	Same as Alternative A.
A gathering plan would be prepared for the removal of wild horses and made available for adoption under the BLM's Adopt-A-Horse program.	A gathering plan would be prepared every four years and approximately 75 horses would be removed and made available for adoption under the BLM's Adopt-A-Horse program.	There would be no horses managed for in this HA.	Same as Alternative A.	Unspecified in the current management plans.	Same as Alternative A.
• All wild horses would be removed, the area would be declared unpopulated, and the HMA designation would be removed. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	The boundaries of the Herd Management Area would be extended to include the north end of Wild Horse Bench (approximately 30,347 acres) and Big Pack Mountain (approximately 22,865 acres).	There would be no horses managed for in this HA.	Same as Alternative A.	Herd Management Area boundaries would be continued as identified in 1971.	Same as Alternative A.
• All wild horses would be removed, the area would be declared unpopulated, and the HMA designation would be removed. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	A Wild Horse Herd Management Area Plan would be prepared after the ROD is signed.	There would be no horses managed for in this HA.	Same as Alternative A.	Unspecified in the current management plans.	Same as Alternative A.
WINTER RIDGE					
• All wild horses would be removed, the area would be declared unpopulated. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	• An AML of 50 to 100 horses would be established. • The herd would not be reduced below 50. • Adjustments in the AML would be accordance with criteria outlined under the forage section.	There would be no horses managed for in this HA.	Same as Alternative A.	An AML would not be established.	Same as Alternative A.
• All wild horses would be removed, the area would be declared	• A gathering plan would be prepared and an estimated 50 horses would	There would be no horses managed for in this HA.	Same as Alternative A.	• A gathering plan would be prepared and the herd would be removed.	Same as Alternative A.

Table 2.1.25 Proposed RMP and Alternatives – Wild Horses

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILD HORSES — MAP FIGURE 45					
unpopulated. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	be removed approximately every four years. • Gathered horses would be available for adoption under the BLM's Adopt-A-Horse program.			• Gathered horses would be available for adoption under the BLM's Adopt-A-Horse program.	
• All wild horses would be removed, the area would be declared unpopulated. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	The HA would be designated as a HMA.	There would be no horses managed for in this HA.	Same as Alternative A.	The HA would not be designated as a HMA.	Same as Alternative A.
• All wild horses would be removed, the area would be declared unpopulated. • The area would only be managed as a HA with no specific management plan for wild horses. • Any horses present are in trespass.	A Wild Horse Herd Management Area Monitoring Plan would be prepared after the ROD is signed.	There would be no horses managed for in this HA.	Same as Alternative A.	A Wild Horse Herd Management Area Monitoring Plan would not be prepared.	Same as Alternative A.

Table 2.1.26 Proposed RMP and Alternatives – Wildlife and Fisheries Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					
GOALS AND OBJECTIVES • Provide, maintain, enhance, and protect habitats for a diversity of fish and wildlife species within the VPA. • Maintain, restore, enhance, and protect crucial habitats for all fish and wildlife species and restore degraded habitats. Manage for unfragmented blocks of continuous habitat that would provide the life cycle requirements of a variety of wildlife species. • Identify species and habitats most in need of conservation. • Coordinate with UDWR and other partners to accomplish the population and habitat goals and objectives of current, revised, and/or future big game Herd Management Plans that are consistent with and meet the goals and objectives of this LUP.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • The BLM would consider habitat banking (i.e., off-site mitigation) as a method to compensate for habitat loss due to surface-disturbing activities. • Coordinate with Animal and Plant Health Inspection Service (APHIS) to prepare an annual operating plan for predator control within the VPA. • Enlist APHIS' continued support to provide predator control within the black-footed ferret reintroduction area and provide carnivore samples for on-going disease monitoring. • The VFO would assist in implementing the strategic plan for Utah's Initiative on Blue Ribbon Fisheries by managing aquatic and riparian habitats along the Green River, from the Ashley National Forest border to the Colorado/Utah border, for a quality cold-water sport fishery and Pelican Lake for a quality warm water sport fishery. In addition, any aquatic and riparian habitats along other waters identified as Blue Ribbon Fisheries would be managed for quality sport fisheries. The VFO would implement this initiative to the extent consistent and appropriate with the Vernal RMP and other land use authorizations. • Reduce habitat fragmentation by requiring oil and gas field development plans and encouraging such activities as well clustering, multiple drilling from a single pad, utilization of existing routes and pipelines, and other measures to minimize surface impacts. • In accordance with Executive Order 13186, incorporate conservation measures for the protection of migratory birds, as outlined in the Utah Partners-In-Flight Avian Conservation Strategy and other scientific information, into all surface-disturbing activities. • Manage habitat to prevent the need for additional listing of species under the Endangered Species Act and to contribute to the recovery of those species already listed. • The BLM will approach compensatory mitigation on an "as appropriate" basis where it can be performed on-site, and on a voluntary basis where it is performed off-site, or, in accordance with current guidance. • Minor adjustments to crucial wildlife habitat boundaries periodically made by the Utah Division of Wildlife Resources (UDWR) would be accommodated through plan maintenance.					
HABITAT IMPROVEMENTS • Wildlife habitat improvement projects would require consultation with UDWR on job design, construction techniques, and project feasibility. Revise the Pariette Wetlands portion of the Myton Habitat Management plans. • Work with permittees to provide water to wildlife on all BLM water developments, including troughs, after livestock are removed from an allotment or pasture. Wildlife escape devices would be installed on all new and existing water troughs in the VPA. • Existing Habitat Management Plans (e.g., Brown's Park, Myton, and Diamond Mountain-Ashley Creek) would continue to be implemented and revised, and new ones would be developed as necessary. • Develop antelope and upland game guzzlers on a case-by-case basis considering the effects to migratory birds, wildlife, and livestock. • Encourage coordination with oil and gas companies to inform the BLM and USFWS of plans for workovers in order to protect species from disturbances during critical time periods.					
HABITAT PROTECTION • Do not allow activities that would result in adverse impacts to antelope from May 1 through June 30 on currently identified 7,800 acres of antelope fawning ground in Antelope Flat. This restriction does not apply if antelope are not present or if impacts would be mitigated through other management actions. This restriction also does not apply to maintenance and operations of existing facilities. • Modify existing fences on public lands where wildlife are adversely affected. Work with other surface management agencies or surface owners toward modifying wildlife-restricting fences that border public lands to improve natural movement of wildlife. • All applications to pave roads would be evaluated in the site-specific NEPA analysis to determine the need for fencing. Applicants receiving a ROW grant would be required to fence the road if it is determined necessary to protect human and livestock health and safety. • In order to protect crucial elk calving and deer fawning habitat, exploration, drilling, and other development activity would not be allowed from May 15 through June 30. Maintenance of producing wells would be allowed.					
RAPTORS • Cooperate with utility companies, UDWR, and USFWS to prevent electrocution of raptors. • Spatial and temporal buffers applied to disturbances in the vicinity of nesting raptors should be tailored to the individual raptor species involved and based on factors such as line of sight distance between nest and disturbance, type and duration of disturbance, nest structure security, sensitivity of the species to disturbance, observed responses to related disturbances, and the amount of other disturbances already occurring in the vicinity. • Pursue a partnership between industries, local governments, USFWS, UDWR, the BLM, USFS, NRCS, and others as appropriate to establish a raptor management fund to be utilized for raptor population monitoring and habitat enhancement.					
MOUNTAIN LION AND BLACK BEAR • In consultation with UDWR, promote appropriate habitat enhancement to contribute to maintaining a healthy predator population within the existing suitable habitat, while considering human safety, economic concerns, and other wildlife species. • Placement of bear bait on public land would require a permit.					
MULE DEER, ROCKY MOUNTAIN ELK, AND PRONGHORN • Improve or increase forage through vegetation treatments that would setback the seral stage of crucial use areas, and, if necessary, re-seed areas with a variety of native and adapted non-native plant species. • It is preferred that surface-disturbing actions within crucial deer winter range would be located in pinyon juniper rather than browse where both vegetation types occur. • Acquire and protect crucial wildlife habitat through sale or exchange. • Establish new and maintain all existing guzzlers and other water sources to improve habitat and distribution in the VPA.					
NEOTROPICAL MIGRATORY BIRDS • Provide habitat for cavity-nesting non-game wildlife species and other species that utilize standing snags during a portion of their life cycles. • In cooperation with permittees, manage grazing to allow regeneration of riparian tree species and to protect natural water sources. • Prevent the spread of non-native plants, especially cheatgrass, salt cedar, and Russian olive.					

Table 2.1.26 Proposed RMP and Alternatives – Wildlife and Fisheries Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					
• Strive for a dense understory with a reduction in salt cedar and improvement of cottonwood regeneration. **REINTRODUCTIONS** • Reintroduction of native fish and wildlife species into appropriate habitats would be accomplished through coordination with UDWR, counties, and interested publics through appropriate public participation processes. Reintroductions would involve, but may not be limited to, native species such as Rocky Mountain big horn sheep, moose, bison, and Colorado River cutthroat trout, and wild turkey. • Implement the guidelines outlined in the Rocky Mountain Bighorn Sheep Reintroduction Cooperative Agreement between the BLM, Diamond Mountain Resource Area, Vernal District and UDWR Northeastern Region (1993), and the Vernal District Rocky Mountain Big Horn Sheep Guidance Plan (1987). • Allotments near current or potential Rocky Mountain bighorn sheep habitat, where future transplants are likely to occur, should be considered for conversion from domestic sheep grazing to cattle grazing, as cattle are the preferred livestock within 10 miles of bighorn sheep habitat areas. Conversion would only be done in cooperation with affected parties. • Potential reintroduction of gray wolves would be made in consultation with the UDWR, USFWS, Ute Tribe, counties, and private landowners through the Resource Advisory Council process for public involvement. The BLM will follow the State of Utah's management plan for wolves (Utah Division of Wildlife Resources Publication #: 05-17-- Prepared by the Utah Division of Wildlife Resources and The Utah Wolf Working Group). .					
No surface-disturbing activities would be allowed from April 15 through May 31 within McCook and Monument Ridge mule deer migration corridors (Figure 46).	Same as the Proposed RMP.	Same as the Proposed RMP.	No surface-disturbing activities would be allowed from April 15 to May 31 and September 1 to October 15 within McCook and Monument Ridge mule deer migration corridors (Figure 46).	For minerals only, no surface-disturbing activities would be allowed within the Monument Ridge mule deer migration corridor from May 11-May 31 and within the McCook Ridge mule deer migration corridor from October 2-May 31.	Same as Alternative C.
Habitat and forage would be provided for the emigration and/or reintroduction of Rocky Mountain bighorn sheep in the following areas: • Ashley Gorge • Beaver Creek/Willow Creek Area • Big Brush Creek • Brown's Park/Green River Corridor that includes Red Creek Canyon • Crouse Canyon • Diamond Mountain ridgetops • Goslin Mountain • Island Park /Dry Fork area • Little Brush Creek • Nine Mile Canyon • Richard's Mountain • Sears Creek Canyon • Teepee Mountain • Toliver's Creek • White River • Upper Book Cliffs (Willow Creek drainage upstream from Wood Canyon and the Bitter Creek drainage upstream from the Sweetwater confluence) Forage required for Rocky Mountain Bighorn sheep would be included in the AUMs allocated for wildlife.	Same as the Proposed RMP.	Same as the Proposed RMP except the BLM would only support Rocky Mountain bighorn sheep if natural emigration occurs.	Same as the Proposed RMP.	• **Book Cliffs:** Suitable habitat exists for bighorn sheep. • **Diamond Mountain:** Bighorn sheep would be re-established in Brown's Park. • Forage and cover would be provided to annually support an average population of about 300-400 animals on public lands in the HMP area.	Same as the Proposed RMP.
The BLM would continue to work cooperatively with UDWR and other entities to revise and implement the Book Cliffs Bison Management Plan.	• Habitat and forage would be provided for the emigration and/or reintroduction of bison in the Southern Book Cliffs. • Forage required for bison would be	The BLM would not support bison in the Southern Book Cliffs.	Same as Alternative A.	Unspecified in the current management plans.	Same as Alternative A.

Table 2.1.26 Proposed RMP and Alternatives – Wildlife and Fisheries Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					
	included in the AUMs allocated for wildlife.				
• Habitat and forage would be provided for the emigration and/or reintroduction of moose populations. • Forage required for moose would be included in the AUMs allocated for wildlife.	Same as the Proposed RMP.	The BLM would not support moose in the Upper Book Cliffs.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as Alternative A.
The BLM will approach compensatory mitigation on an "as appropriate" basis where it can be performed on-site, and on a voluntary basis where it is performed off-site, or in accordance with current guidance.	Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed at or enhanced at a ratio of 1.5:1.	Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed at or enhanced at a ratio of 1:1.	Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed or enhanced at a ratio of 3:1.	Unspecified in the current management plans.	Same as Alternative C.
• Activities that would result in adverse impacts to deer and elk within crucial winter range would not be allowed from December 1 through April 30. • This restriction would not apply if deer and/or elk are not present, or if it is determined through analysis and coordination with UDWR that impacts could be mitigated • Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance.	• Activities that would result in adverse impacts to deer and elk within crucial winter range would not be allowed from November 15 through April 30. • This restriction would not apply if it is determined through analysis and coordination with UDWR that impacts could be mitigated. • Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance.	• Disturbance activities would not be allowed from December 15 through March 15 that would displace deer and elk from more than 10% of their total winter habitat at any given time. • Waivers would be granted if deer and elk are not present, topography or other attributes screen the activity sufficiently so that the proposed activity would not displace the subject species, or disturbance resulting from the proposed activity could be mitigated.	Same as the Alternative A.	• **Book Cliffs:** o In order to protect crucial winter elk habitat, surface-disturbing activities would not be allowed from November 1 through March 31. o No surface-disturbing activities would be allowed on McCook Ridge October 2 through May 31 to protect the crucial winter deer and elk habitat. • Diamond Mountain: o Activities that would result in adverse impacts to deer and elk within crucial winter range would not be allowed from December 1 to April 30. o This restriction would not apply if deer and/or elk are not present, or impacts could be mitigated through other management actions.	Same as Alternative A.
• Within crucial deer winter range, no more than 10% of such habitat would be subject to surface disturbance and remain un-reclaimed at any given time.	New Surface disturbance of up to 560 acres per township would be allowed, prorated based on the percentage of the crucial deer winter range within the township.	Same as the Proposed RMP.	Total surface disturbance (new and existing) of 560 acres per township would be allowed, prorated based on percentage of the crucial deer winter range within the township.	Unspecified in the current management plans.	Same as Alternative C.
Raptor management would be guided by the use of Best Management Practices for Raptors and Their Associated Habitats in Utah (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as Alternative C.

Table 2.1.26 Proposed RMP and Alternatives – Wildlife and Fisheries Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					

Table 2.1.27 Proposed RMP and Alternatives – Woodlands and Forest Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WOODLANDS AND FOREST RESOURCES —MAP FIGURES 48 AND 49					
GOALS AND OBJECTIVES • Follow national BLM Forest Health and Forest Management Standards and Guidelines to assess conditions and guide management actions for the forest and woodland resource. • Allow public utilization of forest and woodland species before/after vegetative treatments that would be conducted to achieve desired future conditions. Allow the utilization of forest and woodland species as a tool for vegetative treatments. • Manage forests and woodlands for long-term healthy habitat for animal and plant species, forest and woodland health, and riparian restoration and enhancement. Provide for timber production where feasible and compatible with forest health and other resource management objectives. • Restore productivity and biodiversity in forest, woodland, and riparian areas. Allow for the harvest of pinyon/juniper for fuel wood, biomass, posts, pinyon nuts, Christmas and ornamental live trees, and special forest products. Manage pinyon/juniper to control encroachment and to improve wildlife habitat, woodland health, and watershed conditions. • Manage oak by sustaining and enhancing some of the trees in the older age classes in areas that are suitable for maintaining and increasing acorn yields. Manage aspen to maintain diversity of age classes and to allow for species reestablishment. • Encourage utilization of woodland products, including biomass, from lands that would be converted to other resource uses and salvage of woodland products where compatible with other resource management objectives. • Pursue partnerships to provide social and economic benefits to local residents, businesses, and future generations. Encourage stewardship contracting in some areas to achieve various resource management objectives. • Identify, maintain, and restore forest and woodland old-growth stands to a pre-fire suppression condition. The VFO would adopt the USFS old-growth definitions and identification standards as per the USFS document "Characteristics of Old-Growth Forests in the Intermountain Region (April 1993)." In instances where the area of application in the previous document does not apply to specific species (for example, *Pinus edulis*), use the document, "Recommended Old-Growth Definitions and Descriptions, UDSA Forest Service Southwestern Region, (Sept.1992)."					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Develop a forest and woodland management plan incorporating the goals and objectives listed below: o Allow for reforestation of forest and woodland sites after disturbances, where needed for stabilization, rehabilitation, restoration, and succession of ecosystems; restoration of native species; and seed sources lost in a stand replacement fire or other stand replacing events. o Areas determined to need re-seeding would be treated with a variety of plant species that are desirable for wildlife habitat, livestock, and watershed management, while maintaining vegetation species diversity. The use of site adapted native plant species is encouraged. o Forests and woodlands would be managed using timber harvest and/or woodcutting in conjunction with pre-commercial thinning, prescribed fire, chaining and other techniques to achieve site-specific objectives of restoring and maintaining forest health, biodiversity, and wildlife habitat; insect and disease control; as a tool for hazard fuel reduction and WUI projects; riparian restoration and; and other resource management goals. o Forest and woodland treatments and harvests would continue to be designed in accordance with silvicultural prescriptions. Irregular boundaries of treatment and harvest areas would be required to reduce the detrimental impacts to the scenic values. o Pinyon / juniper and oak management would be implemented to maintain commodity production, enhance resource values, and reduce pinyon/juniper dominance. Priority areas for pinyon/juniper treatments would be aspen stands, productive grasslands, forested areas, and shrublands where loss of vegetative diversity is likely. The treatments would be conducted to provide a mosaic pattern to meet wildlife habitat requirements. o Oak stands on suitable sites would be managed to maintain and increase the size, vigor and productivity of individual trees to increase acorn yields. Methods may include cutting, pruning, and burning. o Aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of aspen where deemed appropriate. Stands would be managed for maintenance or enhancement using a variety of methods, including harvest cutting or burning. o Allow for the harvesting, cutting, and pruning, of forest and woodland species that are a hazard to public safety, private property, structures, and cultural resources. o Allow for the collection of common native seed and non-barrel cacti, except in periods of low vegetative or seed production. • Allow for the maintenance and enhancement of relict stands, picnic areas, and other stands of special significance by methods such as chemical, mechanical, and prescribed fire. • Allow for the management of cottonwood and other species to restore, enhance, and maintain riparian vegetation.					
• Forests and woodlands would be managed to maintain and restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, disease and other disturbances would not exceed levels normally expected in healthy forests and woodlands. • Relict stands would be maintained for biological and genetic diversity. • Forests and woodlands would be managed under the principles of multiple use and sustained yield without permanent impairment of the productivity of the land and the quality of the environment; use of	Same as the Proposed RMP.	• Public utilization of forest and woodland species before and after vegetative treatments would be allowed to achieve desired future conditions. • The utilization of forest and woodland species as a tool for vegetative treatments would be allowed. • Public harvesting of forest and woodland species would be allowed to achieve the greatest output of forest and woodland products. This would be achieved by harvesting stands that have reached culmination of mean annual	• Forests and woodlands would be managed to maintain and restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, disease and other disturbances do not exceed levels normally expected in healthy forests and woodlands. • Forests and woodlands would be managed under the principles of multiple use and sustained yield without permanent impairment of the productivity of the land and the quality of the environment; use of forest, woodlands and certain	Unspecified in the current management plans.	• Forests and woodlands would be managed to maintain and restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, disease and other disturbances do not exceed levels normally expected in healthy forests and woodlands. • Relict stands would be maintained for biological and genetic diversity. • Forests and woodlands would be managed under the principles of multiple use and sustained yield without permanent impairment of the productivity of the land and the quality of the environment; use of

Table 2.1.27 Proposed RMP and Alternatives – Woodlands and Forest Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WOODLANDS AND FOREST RESOURCES —MAP FIGURES 48 AND 49					
forest, woodland, and certain vegetation products in areas specified for this use, and other areas would be allowed to meet RMP goals. • The National Healthy Forest Initiative would be implemented. • The National Fire Plan would be implemented by conducting treatments to reduce fuel loadings, fire severity, and restoring historical disturbance regimes. • Materials from such treatments, including those from hazard fuel reduction projects and wildland urban interface projects would be utilized.		increment (growth begins to decrease). • Stands would thereafter be grown and thinned to approximately 80-90% of "normal (maximum) basal area" until the culmination of mean annual increment, at which time the stand(s) would be cut again.	vegetation products in areas specified for this use, and other areas to meet RMP goals would be allowed. • Public utilization of forest and woodland species would be allowed as one tool for vegetative treatments to achieve desired future conditions. • Relict stands would be maintained for biological and genetic diversity. • The National Healthy Forest Initiative would be implemented. • The National Fire Plan would be implemented by conducting treatments to reduce fuel loadings, fire severity, and restoring historical disturbance regimes.		forest, woodlands and certain vegetation products in areas specified for this use, and other areas to meet RMP goals would be allowed. • Public utilization of forest and woodland species would be allowed as one tool for vegetative treatments to achieve desired future conditions. • The National Healthy Forest Initiative would be implemented. • The National Fire Plan would be implemented by conducting treatments to reduce fuel loadings, fire severity, and restoring historical disturbance regimes. • The salvage of forest and woodland species would not be allowed in non-WSA lands with wilderness characteristics (277,595 acres). • On portions of ACECs outside of non-WSA lands with wilderness characteristics, the salvage of forest and woodland species would be allowed when a threat to forest and woodlands or other resources exists.
A proactive program of woodland management would be initiated for the salvage of forest and woodland products that are dead and/or dying due to fire, disease, insect-kill, or other disturbance with the management intent of promoting healthy forest and woodlands.	Same as the Proposed RMP.	Same as the Proposed RMP.	• The salvage of forest and woodland species would be allowed only when a threat to forest and woodlands or other resources within proposed ACECs (242,760 acres) exists. • Salvage of forest and woodland for other resources on up to 343,110 acres outside of proposed ACECs would be allowed.	Unspecified in the current management plans.	Salvage of forest and woodland products for other resources on up to 242,602 acres outside of proposed ACECs would be allowed.
• Up to 546,152 acres of forest and woodland would have treatments or be harvested. • No vegetation removal would occur in WSAs. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	• Up to 552,152 acres of forest and woodland would have treatments or be harvested. • Approximately 13,606 acres within WSAs would not have vegetation removal.	• Up to 554,108 acres of forest and woodland would have treatments or be harvested. • Approximately 13,606 acres within WSAs would not have vegetation removal.	Same as Alternative A.	• Up to 88,200 acres of forest and 200,100 acres of woodlands would have treatments or be harvested. • Approximately 13,606 acres within WSAs would not have vegetation removal.	• Up to 421,133 acres of forest and woodland would have treatments or be harvested. • Approximately 330,573 acres within WSAs and non-WSA lands wilderness characteristics would not have vegetation removal.
Special management actions for the old-growth pinyon area in Bitter Creek would include: • Establishing a research/monitoring program • Restricting wood-cutting around old-	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as Alternative C.

Table 2.1.27 Proposed RMP and Alternatives – Woodlands and Forest Resources

PROPOSED RMP	Alternative A (Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WOODLANDS AND FOREST RESOURCES —MAP FIGURES 48 AND 49					
growth pinyon • NSO for old-growth pinyon (160 acres).					

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Table 2.1.3 Proposed RMP and Alternatives – Air Quality

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
AIR QUALITY					
INTRODUCTION The VPA is located in an area designated as attainment or unclassifiable for all pollutants (40 CFR 81.345; 2002).					
GOALS AND OBJECTIVES Ensure that authorizations granted to use public lands and the BLM's own management programs comply with and support applicable local, state, and federal laws, regulations, and implementation plans pertaining to air quality.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Prescribed burns would be consistent with the Utah Department of Environmental Quality (UDEQ) permitting process and timed to minimize smoke impacts. • The BLM is required to be in compliance with all local, state, federal and tribal air quality regulations and will do so with Utah regulations, including Utah Administrative Code (UAC) Regulations as determined applicable by the State of Utah. • Section R307-205-3 and 205-4 are relevant sections of UAC dealing with fugitive dust and offering some dust abatement mechanisms. • UAC R446-1, the best air quality control technology, provided by the Utah Division of Air Quality (UDAQ), would be applied as needed to meet air quality standards. • Comply with the appropriate UAC Regulations R307-205-5 through R307-205-7, which prohibit the use, maintenance, or construction of roadways without taking appropriate dust abatement measures. Compliance would be obtained through special stipulations as a requirement on new projects and through the use of dust abatement control techniques in problem areas. • Comply with the current Smoke Management Memorandum of Agreement (MOU) between the BLM, USFS, and UDAQ. The MOU (in accordance with UAC regulation R446-1-2.4.4), requires reporting size, date of burn, fuel type, and estimated air emissions from each prescribed burn. • The BLM will continue to work cooperatively with state, federal, and tribal entities in developing air quality assessment protocols to address cumulative impacts and regional air quality issues. • The BLM will continue to work cooperatively with the Utah Airshed Group to manage emissions from wildland and prescribed fire activities. • National Ambient Air Quality Standards are enforced by the Utah Department of Environmental Quality, Division of Air Quality (UDEQ-DAQ), with EPA oversight. Special requirements to reduce potential air quality impacts will be considered on a case-by-case basis in processing land use authorizations. • The BLM will utilize BMPs and site specific mitigation measures, when appropriate, based on site specific conditions, to reduce emissions and enhance air quality. Examples of these types of measures can be found in the Four Corners Air Quality Task Force Report of Mitigation Options, November 1, 2007. • Project specific analyses will consider use of quantitative air quality analysis methods (i.e. modeling), when appropriate as determined by the BLM, in consultation with state, federal, and tribal entities.					

Table 2.1.4 Proposed RMP and Alternatives – Cultural Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
CULTURAL RESOURCES					
INTRODUCTION The VPA encompasses a large and diverse assemblage of prehistoric archaeological sites, historical archaeological sites and localities, and sites with traditional cultural values.					
GOALS AND OBJECTIVES • Preserve and protect a representative array of significant cultural resources, including but not limited to traditional cultural properties, traditional use areas, rock art, and ceremonial sites, and ensure that they are available for appropriate uses by present and future generations. • Preserve and protect cultural resources in accordance with existing laws, regulations, and Executive Orders (EO), in consultation with designated contacts from Native American tribes and the State Historic Preservation Office (SHPO) to ensure that they are available for appropriate uses by present and future generations. • Preserve and conserve cultural resources by conducting activities in a way that protect values and provide for the following benefits: education, research, public use, conservation for future use, and interpretation.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Protect burial sites, associated burial goods, and sacred items in accordance with the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act. • Evaluate cultural resources according to National Register criteria (36 CFR Part 60.4) and assign cultural resources to appropriate use categories as the basis for management decisions. • Encourage public/volunteer involvement in the management of cultural resources by establishing site stewardship and other programs. • Specific plans would be developed for culturally sensitive areas unless included in other integrated activity plans. Such plans would include protective measures, Native American Consultation, and regulatory compliance. These plans would also include but not be limited to developing a site monitoring system; identifying sites in need of stabilization, restoration, and protective measures (e.g., fences, surveillance equipment); developing research designs for selected sites/areas; designating sites/areas for interpretive development; identifying areas for cultural inventory where federal undertakings are expected to occur; and developing specific mitigation measures. The plan would designate sites, districts, landmarks, and landscapes that would be nominated for inclusion on the National Register of Historic Places. • Limit land-disturbing activities within selected Native American traditional cultural and religious sites for continued use by tribes. Traditional cultural sites would be selected in consultation with interested Native American tribes and communities. • Consult with Native American tribes for the protection of areas and items of traditional life-ways and religious significance that includes but is not limited to burials, rock art, traditional use areas, religiously active areas, and sacred sites. • Pursue appropriate National Register designation, including but not limited to currently eligible sites under current policy and guidance. • Conduct an inventory according to professional standards commensurate with the land-use activity, environmental conditions, and the potential for cultural resources. • Pro-actively reduce hazardous fuels or mitigate the potential hazard around archaeological and cultural sites that are susceptible to destruction by fire from prescribed fire activities. • Conduct consultation process to identify both the resource management concerns and the strategies for addressing them through an interactive dialogue with appropriate Native American communities. • Reduce or eliminate imminent threats from natural or human-caused deterioration or conflict with other resource uses. • Identify priority geographic areas for new field inventory based upon a probability for unrecorded significant resources. • Ensure that all authorizations for land and resource use would comply with Section 106 of the National Historic Preservation Act, consistent with and subject to the objectives established in the RMP for the proactive use of cultural properties in the public interest. • The BLM, in coordination with the appropriate county, would continue to identify, evaluate, and nominate historic routes for inclusion into the National Register of Historic Places. • When new sites are discovered, interim protection may be applied, if warranted. • Provide for legitimate field research by qualified scientists and institutions. • Allow for reconstruction, stabilization, maintenance, and interpretation of selected sites for public enjoyment and education. • Continue to implement, maintain, and revise as necessary the Nine Mile Canyon Recreation/Cultural Management Plan that includes developing interpretive facilities at appropriate archeological and cultural sites at Nine Mile Canyon in cooperation with the Price Field Office, the Nine Mile coalition team, and the counties. Promote collaborative partnerships to assist in meeting management goals and objectives for cultural resources. • Should National Register–eligible cultural resources be found during an inventory, impacts to them would be mitigated, generally through avoidance. Should it be determined the cultural resources cannot be avoided; consultation with the State Historic Preservation Officer (SHPO) would be initiated. A program on mitigation would be developed via consultation between VFO, the SHPO, and the Advisory Council on Historic Preservation. • VFO would continue to allocate cultural sites, including ethnographic properties, to one of six management categories: experimental, discharged, public, scientific, traditional, and conservation. • Implement regular patrols as feasible to monitor and protect known cultural sites. • Establish and implement protective measures for sites, structures, objects, and traditional use areas that are important to Native American tribes with historical and cultural connections to the land, in order to maintain the view shed, intrinsic values, and the auditory, visual, and aesthetic settings of the resources. Protection measures for undisturbed cultural resources and their natural setting would be developed in compliance with regulatory mandates and Native American consultation. • Nominate eligible sites, districts, landscapes, and traditional cultural properties for inclusion in the National Register of Historic Places. Manage National Register listed and eligible sites for their local, regional, and national significance.					
JOHN JARVIE HISTORIC SITE Revise the 1989 plan for John Jarvie Historic Site to provide for: • Maintaining the integrity of the National Historic District through reconstruction, stabilization and restoration of important cultural features, and the elimination or separation of other features that are not culturally significant. • Providing adequate protection and management of site. • Managing the site for public education and enjoyment by developing educational and interpretive programs and keeping the site open for public viewing during normal visitor use periods.					
On- and off-site interpretive facilities would be developed at appropriate archeological, historical, and cultural sites in a manner that would not	Same as the Proposed RMP.	On- and off-site interpretive materials would be developed at appropriate archeological, historical, and cultural sites only when considered mitigation for	On- and off-site interpretive facilities would be developed for all appropriate archeological, historical, and cultural resources only if it would not adversely	• Interpretative facilities would be developed at the Old Rock Saloon and Nine Mile Canyon archaeological sites.	On- and off-site interpretive facilities would be developed for all appropriate archeological, historical, and cultural resources only if they would not

Table 2.1.4 Proposed RMP and Alternatives – Cultural Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
CULTURAL RESOURCES					
adversely impact the site.		authorized or permitted activities.	impact the site.	• A facility would be developed in Nine Mile Canyon to interpret and manage use once the Nine Mile Canyon National Register District is established. • A self-guided tour would be developed for important historic structures and locations in Brown's Park area.	adversely impact the site or conflict with other resource objectives.
To protect cultural sites that include lithic scatters, burials, tool manufacturing sites, structures, and rock shelters in the Uinta Foothills area: • The area would be open for oil and gas leasing, subject to timing and controlled surface-use stipulations or No Surface Occupancy (NSO). • OHV travel would be limited to designated routes.	Same as the Proposed RMP.	Same as the Proposed RMP.	To protect high-density cultural site areas that include burial sites, petroglyphs, task sites, pictographs, and villages in the Uinta Foothills area would be closed to: • Oil and gas leasing. • OHV travel.	The Uinta Foothills would be open to: • Oil and gas leasing. • OHV travel.	Same as Alternative C.
To protect cultural sites that include lithic scatters, burials, tool manufacturing sites, structures, and rock shelters in the Little/Devils Hole areas: • The area would be open for oil and gas leasing, subject to CSU stipulations. • OHV travel would be limited to designated routes.	To protect cultural sites that include lithic scatters, burials, tool manufacturing sites, structures, and rock shelters in the Little/Devils Hole areas, OHV travel would be limited to designated routes.	Same as Alternative A.	To protect high-density cultural sites that include lithic scatters, burials, tool manufacturing sites, structures, and rock shelters in the Little/Devils Hole areas that would be closed to: • Oil and gas leasing. • OHV travel.	The Little/Devils Hole areas would be open to: • Oil and gas leasing. • OHV travel.	Same as Alternative C.
To protect high-density cultural sites that include pictographs, petroglyphs, burials, and storage crypts and to preserve the unique representation of the Archaic period in the Upper Willow Creek area of the Book Cliffs: • The area would be open for oil and gas leasing, subject to timing and CSU stipulations. • OHV travel would be limited to designated routes.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	The Upper Willow Creek area would be open to: • Oil and gas leasing. • OHV travel.	Same as Alternative C.
To protect traditional sacred properties in the Four Mile Wash area (Section 18, T10S, R19E): • The area would be open for oil and gas leasing, subject to timing and CSU or No Surface Occupancy (NSO) stipulations. • OHV travel would be limited to designated routes.	Same as the Proposed RMP.	To protect traditional sacred properties in the Four Mile Wash area (Section 18, T10S, R19E): • The area would be open for oil and gas leasing, subject to standard stipulations. • OHV travel would be limited to designated routes.	To protect traditional sacred properties in the Four Mile Wash area (Section 18, T10S, R19E) would be closed to: • Oil and gas leasing. • OHV travel.	The Four Mile Wash area would be open to: • Oil and gas leasing. • OHV travel.	Same as Alternative C.
Excavation of cultural sites in non-WSA lands that are managed for wilderness	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Excavation of cultural sites in non-WSA lands with wilderness characteristics

Table 2.1.4 Proposed RMP and Alternatives – Cultural Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
CULTURAL RESOURCES					
characteristics would be permitted when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics.					would be permitted when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics.

Table 2.1.5 Proposed RMP and Alternatives – Fire Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
FIRE MANAGEMENT — MAP FIGURES 3 & 4					
INTRODUCTION A National Environmental Policy Act (NEPA)-compliant Fire Management Plan (FMP) was completed for the VPA in 1998. The FMP reflects the goals and objectives for vegetation management and fire's role in maintaining healthy ecosystems and is incorporated into this EIS. The FMP was updated in 2005 and will be signed once the Vernal RMP ROD has been signed for the VFO.					
GOALS AND OBJECTIVES • Firefighter safety and public safety would be the first priority in every fire management activity. Property values and critical resource values would be the next priority. • The primary goal and objective of fire management is to help restore natural systems to their proper functioning condition by restoring fire to its legitimate role in the ecosystem, including managing wildland fire for other resource benefits.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • All alternatives would attempt to restore natural fire regimes in fire dependent/adapted ecosystems primarily through the use of prescribed fire and managed wildland fire. Where social and/or resource constraints preclude or limit the use of fire, mechanical and/or chemical treatments would be used. • The Fire Management Plan has been updated and amended to meet the direction and objectives of the RMP. The FMP has been revised to comply with the Interagency Template for Fire Management Plans and identifies Fire Management Units (FMUs) that describe the mix of management activities that can be used to meet the desired future conditions and land use objectives.					
EMERGENCY STABILIZATION AND RESTORATION • Following any wildland fire event, the VFO manager would select an Interdisciplinary Emergency Stabilization and Restoration (ESR) team that would evaluate any burned areas to determine if ESR treatments are needed. ESR treatments would follow the procedures outlined in the BLM Manual Handbook H-1742-1 (including supplemental guidance dated 11/27/2002). If the interdisciplinary team determined that ESR treatments were necessary, the team would develop an ESR plan with site-specific measures designed to minimize resource losses, both on-and off-site, following the wildfire. Consideration would be given to sensitive resource values in preparation of the ESR plan, including WSAs, special emphasis areas, critical soils, cultural resources, and special status species habitat. ESR treatments may include, but would not be limited to seeding, seedbed preparation practices, fencing, chemical applications, water retention structures, and control of livestock, and wildlife grazing. Site-specific ESR plans would be tiered to the existing Normal Fire Year Rehabilitation Plan for the VPA. • Criteria for developing ESR actions would consist of: o Areas where the risk of imminent soil loss is high. o Areas that contain T&E Species or state sensitive species habitat. o Areas that contain municipal watersheds; and areas where there is a high potential for invasive species establishment.					
HAZARDOUS FUELS • Hazardous fuel reduction activities would be implemented primarily through the use of prescribed fire and managed wildland fire. In some cases, chemical and/or mechanical treatments would be used in conjunction with fire. Where social and/or resource constraints preclude the use of fire, mechanical and/or chemical treatments would be used. • Criteria for developing hazardous fuel reduction priorities would consist of the following: o Areas of Fire Regime Condition Class 2 and 3. o Areas where the potential risk of losing keystone ecosystem species is present. o Areas where threats to private/public property exist. • All fire-management planning activities would comply with the National Fire Plan, including the streamlined Section 7 Consultation procedures. • Fire Regime and Condition Classes for the VPA have been designated and mapped (Map Figures 3 and 4 respectively). The FMP would be updated and amended to meet the direction of the Vernal RMP and adjusted to meet the Department of the Interior's Federal Wildland Fire Management Policy. • In partnership with the State of Utah, the Utah Indian Tribe, and the counties, the BLM would develop WUI Projects. • The VPA is divided into fire management categories. Fire suppression activities and the Appropriate Management Response (AMR) would be implemented through the guidance developed under the ABCD polygons as outlined in Handbook-1601. Criteria used in development of the categories were determined through an Interdisciplinary Team of resource specialists. Criteria for each category is described below: o **Category A** — Areas where unplanned fire is not desired at all. This category includes the salt desert shrub vegetation type where the risk of cheatgrass invasion is high following fire events. Also included are the major river corridors where fire results in the loss of Fremont cottonwood, a keystone species in present decline. Other constraints to fire management activities include cultural resource sites, high recreational use, and highly developed oil and gas fields. o **Category B** — Areas where unplanned fire is not desired because of current conditions. Prescribed fire use is allowed to obtain resource management objectives; mechanical/chemical treatments would be utilized where social and/or resource constraints preclude the use of prescribed fire. This category includes the five identified WUI areas for the VFO, including adjacent urban interfaces, cultural resources, crucial deer winter range, and crucial Sage-grouse habitat. Within this habitat, Wyoming sagebrush is identified as a keystone species, which has been in a continual state of decline due to widespread drought and invasive species encroachment. o **Category C** — Areas where wildland fire is desired. Prescribed fire is allowed and may be extensive to obtain resource management objectives; mechanical/chemical treatments would be utilized where social and/or resource constraints preclude the use of prescribed fire. This category contains the pinyon-juniper vegetation type, along with aspen/Douglas fir, mountain browse, and non-crucial areas of sagebrush. Other constraints to fire management activities include a limited amount of oil and gas development, non-crucial Sage-grouse habitat, a limited amount of T&E species habitat, and a limited amount of cultural resources. o **Category D** — Areas where wildland fire is desired, and there are few or no constraints for its use. This category contains non-crucial Sage-grouse habitat, a limited amount of T&E species habitat, non-WSA lands with wilderness characteristics, and a limited amount of cultural resources.					

Table 2.1.5 Proposed RMP and Alternatives – Fire Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
FIRE MANAGEMENT — MAP FIGURES 3 & 4					

Hazardous Fuel Targets				Wildland Fire Use Targets		Allowable Wildland Fire Acres Burned per Decade	
Category	**Prescribed Fire (acres)**	**Mechanical (acres)**	**Chemical (acres)**	**Category**	**Acres**	**Category**	**Acres**
Category A	1,000	5,000	5,000	Category C	75,000	Category A	2,100
Category B	19,570	10,000	10,000	Category D	30,000	Category B	21,000
Category C	82,738	20,000	20,000			Category C	151,500
Category D	53,117	0	0			Category D	30,000

WILDLAND URBAN INTERFACE (WUI)

- For Wildland Urban Interface (WUI) areas, the objective would be to reduce hazardous fuels adjacent to these at-risk areas through mechanical, prescribed fire, or chemical treatments, or a combination thereof. In partnership with the State of Utah, the Ute Indian Tribe, and the counties, the BLM would develop WUI Projects.
- WUI areas within the VFO area have been identified in NFPORS. These are communities/developed areas that are located within the vicinity of federal lands and are at risk from potential wildland fire events. The intent is to reduce the hazardous fuels adjacent to these at-risk areas through mechanical, prescribed, or chemical fire or a combination of these treatments. The priority areas identified for WUI projects are Browns Park, Deadman Bench, Deep Creek, Diamond Mountain, and Dry Fork.

Prescribed burning would be allowed for approximately 156,425 acres per decade.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	• Prescribed burns would be employed on up to 27,950 acres in the Book Cliffs RMP area. • For the Diamond Mountain RMP, 22,950 acres of pinyon-juniper woodlands and sagebrush communities would be manipulated (methods would include prescribed burning).	Same as the Proposed RMP.
• The use of prescribed fire in non-WSA lands that are managed for wilderness characteristics would be permitted for forest, woodland, and vegetation treatments, and for reduction of fuels, when compatible with the goals and objectives for management of the areas. • Fire lines and other surface disturbances would be rehabilitated following completion of the burning operation.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	• The use of prescribed fire in non-WSA lands with wilderness characteristics would be permitted for forest, woodland, and vegetation treatments, and for reduction of fuels, when compatible with the goals and objectives for management of the areas. • Fire lines and other surface disturbances would be rehabilitated following completion of the burning operation.
• Wildfire suppression operations would be permitted in non-WSA lands that are managed for wilderness characteristics. • Fire lines and other surface disturbances would be rehabilitated following completion of suppression operations.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	• Wildfire suppression operations would be permitted in non-WSA lands with wilderness characteristics. • Fire lines and other surface disturbances would be rehabilitated following completion of suppression operations.

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
FORAGE — ALL LOCALITIES — MAP FIGURE 5					
GOALS AND OBJECTIVES Maintain or improve the total forage resource using techniques that are compatible with the use and development of other resources and that would maintain, meet, or make substantial progress towards meeting Utah BLM Rangeland Health Standards.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • Monitoring would be used to determine the amount of forage available for livestock, wildlife, and wild horses. Results of monitoring would be used to adapt management strategies to prevent deterioration of rangelands, to achieve desired resource conditions, and to meet other resource objectives. • Any adjustment in forage assignments to either livestock or wildlife would be based on analysis of monitoring data, including long-term vegetation trend, actual use, climate, and utilization. Additionally forage would not be allocated in areas where forage production is less than 25 pounds per acre, which equates to 32 acres per AUM. Areas that are seldom or never grazed by livestock due to physical factors such as slopes greater than 50% and areas that are in excess of four miles from water would not be included in the livestock forage allocation. An exception for areas in excess of four miles of water if water is hauled or the area would be grazed when snow is on the ground. Adjustments would involve permittees and would be implemented through documented mutual agreement or decision. • Increases or reductions associated with joint monitoring of base allocations would be evaluated against the established grazing permits and UDWR herd unit objectives to determine needed adjustments to animal numbers, adjustments in seasons of use, etc. Unless specified elsewhere in the plan, changes in forage allocation would be as follows: o When all other management options have been exhausted and it is determined that rangeland standards are not being met, reductions would be made to the species of grazing animal shown to be causing the problem. o If additional forage is determined to be available, it would be proportionally allocated to grazing animals according to their dietary need or would be allocated to watershed, riparian, or other resource values, unless specified elsewhere in the plan. o Increases in available forage resulting from conservation practices, improved range condition, or development of improvements by the livestock permittee, DWR, or other organizations, would be credited to that entity unless specified elsewhere in the plan. • Should a permittee apply for reinstatement of suspended use, it would only be considered if: o Adjustment of suspended use would follow policy, regulation, and guidelines. o The allotment/s is/are being grazed at full permitted use in order to adequately assess the carrying capacity of the range resource; o Adequate monitoring data is in place to assess AUMs; and o A signed agreement is in place that outlines at least a subsequent five-year monitoring protocol. • AUMs would be adjusted downward for livestock, wildlife, or wild horses (or any combination thereof) when monitoring shows that rangeland objectives are not being met and that the long-term forage availability is not adequate to support the permitted uses. • If it is determined through monitoring that livestock grazing is beneficial to other resource values, it would be allowed on 16 miles of river corridor along the Upper Green River in Brown's Park following an adequate evaluation and assessment. If such use is allowed, it would be of short duration and would not detract from recreation and/or riparian values along the river. • Grazing preference is retired on the following allotments: Red Creek Flat, Taylor Flat, Watson, Rye Grass, Marshall Draw, South Warren Draw, and Sears Canyon. Applications for livestock grazing would only be approved on a non-renewable, short duration basis following an adequate evaluation and assessment to determine if it would enhance wildlife values. • When the Vernal RMP becomes effective, the active AUMs permitted to The Nature Conservancy (TNC) (4,232) and Rocky Mountain Elk Foundation (RMEF) (4,026) would be allocated to wildlife. Ranchers (grazing permittees) other than TNC and RMEF also have permits in the allotments where these AUMS are relinquished; they would continue to graze cattle in accordance with their permitted use. **Note**: Further review of TNC and RMEF grazing permits indicate that TNC's AUMs were actually 7 less (4,239 to 4,232) and RMEF was 1 more (4,025 to 4,026) than the figures stated in the Vernal Draft RMP/EIS. This revision will not impact the management decision.					
Unless otherwise specified by a management plan, up to 50% utilization of forage on uplands would be allowed.	Same as the Proposed RMP.	Unless otherwise specified by a management plan, up to 60% utilization of forage on uplands would be allowed.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as the Proposed RMP.
AUMs would be allocated as follows: • 138,402 AUMs for livestock • 104,865 AUMs for wildlife • 2,340 AUMs for wild horses **Note:** The Book Cliffs RMP/EIS ROD did not allocate any AUMs for wild horses in the Bonanza area. The 1,020 AUMs for wild horses in the Bonanza area should not have been carried forward in Alternative D in the Vernal Draft RMP/EIS. The Proposed RMP does not include these AUMs.	AUMs would be allocated as follows: • 137,838 AUMs for livestock • 104,871 AUMs for wildlife • 2,940 AUMs for wild horses	AUMs would be allocated as follows: • 139,163 AUMs for livestock • 104,871 AUMs for wildlife • 0 AUMs for wild horses	AUMs would be allocated as follows: • 77,294 AUMs for livestock • 106,196 AUMs for wildlife • 3,960 AUMs for wild horses	AUMs would be allocated as follows: • 146,161 AUMs for livestock • 96,607 AUMS for wildlife • 2,340 AUMs for wild horses	Same as Alternative C.
FORAGE–BONANZA LOCALITY					
If forage allocation reductions are necessary to make significant progress towards or sustain rangeland health, the following criteria would be followed to make the needed reductions:					

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
o Demonstrated Conflicts Between Wildlife And Livestock					
• Sheep and/or cattle and pronghorn would be reduced proportionately. • Pronghorn use would not be reduced below 502 AUMs.	Same as the Proposed RMP.	• Pronghorn use would be reduced, but not below 502 AUMs. • Appropriate reductions in big game would be made prior to making needed reductions in livestock numbers.	• Livestock use would be reduced. • Pronghorn use would not be reduced. • Deer or other big game use would not be reduced.	Unspecified in the current management plans.	Same as Alternative C.
If additional forage is available and rangeland health is being sustained, or if significant progress is being made towards sustaining rangeland health, increased use would be considered based on the following criteria:					
o Additional Forage Meets the Dietary Needs of Livestock and Wildlife					
• Forage increases would be divided proportionately between livestock and big game. • Wildlife AUMs that are made available would go to pronghorn and deer.	Same as the Proposed RMP.	• Up to 502 AUMs of forage would be provided for pronghorn and sheep and/or cattle use would be increased in accordance with available forage. • If the additional AUMs are not needed for livestock or pronghorn, any remaining AUMs would be allocated to deer.	• Wildlife use would be increased in accordance with available forage. • Livestock use would not be increased above permitted use.	• Optimum wildlife levels would be provided for where conflicts with livestock do not exist. • Specific to deer, habitat would be managed to support significantly increased levels; and specific to pronghorn, habitat would be managed to support increased levels. • Target livestock AUM figures are not final stocking levels. • All livestock use adjustments would be implemented through documented mutual agreement or by decision. • When livestock use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. • Any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations.	Same as Alternative C.
FORAGE — BONANZA WILD HORSE HERD AREA LOCALITY					
This Herd Area will not be managed for wild horses.	Same as the Proposed RMP.	Same as the Proposed RMP.	Allocate 1,020 AUMs for wild horses.	Not applicable. Same as Proposed RMP. **Note:** The proposed Bonanza Wild Horse Herd Plan Amendment was rescinded and never implemented.	Same as Alternative C.
If forage allocation reductions are necessary to make significant progress towards or sustain rangeland health, the following criteria would be followed to make the needed reductions:					
o Demonstrated Conflicts between Wildlife and livestock					
Would proportionately reduce sheep and pronghorn use; however, pronghorn use would not be reduced below 239 AUMs.	Same as the Proposed RMP.	Wildlife use would be reduced; however, pronghorn use would not be reduced below 239 AUMs nor deer use below 147 AUMs.	• Livestock use would be reduced. • Wildlife use would not be reduced.	• Pronghorn use would not be reduced below 289 AUMs. • Sheep use would be reduced.	Same as Alternative C.
o Demonstrated Conflicts with Wild Horses and Livestock					
This Herd Area will not be managed for	Same as the Proposed RMP.	Same as the Proposed RMP.	• Livestock use would be reduced.	Same as the Proposed RMP.	Same as Alternative C.

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
wild horses.			• Wild horse use would be reduced, but not below 480 AUMs.		
o Demonstrated Conflicts with Wild Horses and Wildlife					
This Herd Area will not be managed for wild horses.	Same as the Proposed RMP.	Same as the Proposed RMP.	Wild horse and wildlife use would be proportionately reduced.	Same as the Proposed RMP.	Same as Alternative C.
If additional forage is available and rangeland health is being sustained, or if significant progress is being made towards sustaining rangeland health, increased use would be considered based on the following criteria:					
o Additional Forage Meets the Dietary Needs of Livestock and Wildlife					
Sheep and wildlife use would be increased proportionately in accordance with available forage.	Same as the Proposed RMP.	Sheep and cattle use would be increased in accordance with available forage.	• Pronghorn and deer use would be increased in accordance with available forage. • Livestock would not be increased above permitted use.	• Pronghorn use would be increased until there are conflicts with sheep. • Sheep use would increase in accordance with available forage.	Same as Alternative C.
o Additional Forage Meets the Dietary Needs of Horses, Sheep, or Pronghorn					
• This Herd Area will not be managed for wild horses. • Sheep and wildlife use would be increased proportionately in accordance with available forage.	Same as the Proposed RMP.	• This Herd Area will not be managed for wild horses. • Sheep and cattle use would be increased in accordance with available forage.	• Would not increase AML. • Would increase pronghorn use until there are conflicts with sheep. • Would increase sheep use in accordance with available forage.	• Would increase pronghorn use until there are conflicts with sheep. • Would increase sheep use in accordance with available forage.	Same as Alternative C.
o Additional Forage Meets the Dietary Needs of Horses and Sheep					
• This Herd Area will not be managed for wild horses. • Sheep would be increased proportionately in accordance with available forage.	Same as the Proposed RMP.	Same as the Proposed RMP.	Would increase horse use in accordance with available forage.	Unspecified in the current management plans.	Same as Alternative C.
FORAGE — BOOK CLIFFS LOCALITY					
CRIPPLE COWBOY					
1,325 unallocated AUMs acquired by acquisition of private lands (Cripple Cowboy) would be reserved for watershed. Although wildlife and livestock would not be excluded from utilizing these lands, no additional AUMs would be allocated.	Same as the Proposed RMP.	1,325 unallocated AUMs acquired by acquisition of private lands (Cripple Cowboy) would be allocated to livestock.	1,325 unallocated AUMs acquired by acquisition of private lands (Cripple Cowboy) would be allocated to wildlife.	Unspecified in the current management plans.	Same as Alternative C.
WINTER RIDGE HERD AREA/HILL CREEK HERD MANAGEMENT AREA					
• No long-term management prescriptions for wild horses. No wild horses due to disease (e.g. EIA), trespass of private horses, and manageability of the horses. • Initially wild horses would be authorized in the Winter Ridge HA/Hill Creek HMA and 2,340 AUMs would be allocated until the horses are removed. • The 2,340 AUMs no longer needed for wild horses would be allocated through a future planning process.	• 1,200 AUMs would be allocated for wild horses in the Winter Ridge Herd Area. • 1,740 AUMs would be allocated for wild horses in the Hill Creek HMA.	Forage for wild horses would not be allocated in Winter Ridge Herd Area or Hill Creek HMA.	Same as Alternative A.	2,340 AUMs would be allocated for wild horses in the Hill Creek Herd Management Area.	Same as Alternative A.

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
If monitoring shows that reductions are necessary in all areas except the Wild Horse Herd Areas because of:					
o Demonstrated Conflicts between Wildlife and Livestock					
Reductions in grazing use would be divided proportionately between livestock and big game.	Same as the Proposed RMP.	Big game use would be reduced.	Livestock use would be reduced.	Unspecified in the current management plans.	Same as Alternative C.
If monitoring shows that reductions are necessary in the Wild Horse Herd Areas because of:					
o Demonstrated Conflicts between Big Game, Livestock, and Wild Horses					
• No wild horses would be permitted in the Winter Ridge HA and Hill Creek HMA due to disease (e.g., EIA) and trespass of private horses. • Any reductions in grazing due to demonstrated conflicts between livestock and big game would be divided proportionately.	Reductions in grazing use would be divided proportionately between livestock, big game, and wild horses.	• This Herd Area will not be managed for wild horses. • Big game use would be reduced.	Livestock use would be reduced.	Unspecified in the current management plans.	Same as Alternative C.
o Demonstrated Conflicts between Big Game and Livestock					
• No wild horses would be permitted in the Winter Ridge HA and Hill Creek HMA due to disease (e.g., EIA) and trespass of private horses. • Any reductions in grazing due to demonstrated conflicts between livestock and big game would be divided proportionately.	Reductions in grazing use would be divided proportionately between livestock and big game.	Big game use would be reduced.	Livestock use would be reduced.	Unspecified in the current management plans.	Same as Alternative C.
o Demonstrated Conflicts between Livestock and Wild Horses					
This Herd Area and Herd Management Area will not be managed for wild horses.	Reductions in grazing use would be divided proportionately between livestock and wild horses.	Same as the Proposed RMP.	Livestock use would be reduced.	Unspecified in the current management plans.	Same as Alternative C.
o Demonstrated Conflicts between Big Game and Wild Horses					
This Herd Area and Herd Management Area will not be managed for wild horses.	Reductions in grazing use would be divided proportionately between wild horses and big game.	Same as the Proposed RMP.	Same as Alternative A.	Unspecified in the current management plans.	Same as Alternative A.
Additional forage would be allocated in areas except wild horse herd areas as follows:					
o Cattle Allotments					
• 60% to reinstate suspended cattle AUMs and 40% for wildlife. • After restoring all suspended AUMs, allocate additional AUMs proportionately between livestock and wildlife.	• 60% to restore suspended cattle AUMs and 40% for wildlife. • After restoring all suspended AUMs, allocate any additional forage to livestock.	• 60% to reinstate suspended cattle AUMs and 40% for wildlife. • After restoring all suspended AUMs, allocate any additional forage to livestock.	• 60% to reinstate suspended cattle AUMs and 40% for wildlife. • After reinstating all suspended AUMs, allocate additional forage to wildlife.	• Optimum wildlife levels where conflicts with livestock do not exist; specific to deer, habitat would be managed to support significantly increased levels. • Target livestock AUM figures are not final stocking levels. • All livestock use adjustments would be implemented through documented mutual agreement or by decision. • When livestock use adjustments would be implemented by decision, it would be based on operator	Same as Alternative C.

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
				consultation and monitoring of resource conditions. • Any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations.	
o Sheep Allotments					
Forage increases would be divided proportionately between livestock and big game.	Same as the Proposed RMP.	Any additional forage would be allocated to sheep.	• Forage increases would be allocated to big game. • If additional forage were not needed by big game, it would be given to livestock. • Big game numbers would be allowed to increase only to the point livestock permitted use would not be reduced.	• Optimum wildlife levels would be provided for where conflicts with livestock do not exist; specific to deer, habitat would be managed to support significantly increased levels and increased levels of pronghorn on East Bench. • Target livestock AUM figures are not final stocking levels. • All livestock-use adjustments would be implemented through documented mutual agreement or by decision. • When livestock-use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. • Any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations.	Same as Alternative C.
Additional forage would be allocated in the Winter Ridge HA and Hill Creek HMA as follows:					
• This Herd Area and Herd Management Area will not be managed for wild horses. • Forage increases would be divided proportionately between livestock and big game. • If big game does not need additional forage, it would be given to livestock.	• Forage increases would be divided proportionately between livestock, big game, and wild horses. • If wild horses or big game do not need additional forage, it would be given to livestock.	• This Herd Area and Herd Management Area will not be managed for wild horses. • Additional forage would be allocated to livestock.	• Forage increases would be divided proportionately between big game and wild horses. • If wild horses or big game do not need additional forage, it would be given to livestock. • Big game and wild horse numbers would be allowed to increase only to the point livestock permitted use would not be reduced.	• Target livestock AUM figures are not final stocking levels. Rather, all livestock-use adjustments would be implemented through documented mutual agreement or by decision. When livestock-use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. • Additionally, any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations. • Optimum wildlife levels would be	Same as Alternative C.

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
				provided for where conflicts with livestock do not exist; specific to deer, habitat would be managed to support significantly increased levels.	
FORAGE — BLUE MOUNTAIN LOCALITY					
• If monitoring indicates forage assignments cannot be met, livestock permitted use and wildlife use would be reduced proportionately. • The first year livestock reductions would be made with an initial 10% adjustment. • Five-year agreements would be developed and signed outlining the process for phased reductions to the desired level.	Same as the Proposed RMP.	• If monitoring indicates forage assignments cannot be met, wildlife use would be reduced to a level at which no livestock/wildlife forage conflict exists. • Any additional necessary reductions would be made to livestock. • Five-year agreements would be developed and signed outlining the process for phased reductions to the desired level.	• If monitoring indicates forage assignments cannot be met, livestock permitted use would be reduced. • Adjustments would be attained by decision or agreement. • The first year reductions would be made with an initial 10% adjustment. • Five-year agreements would be developed and signed outlining the process for phased reductions to the desired level.	• Target livestock AUM figures are not final stocking levels. • All livestock use adjustments would be implemented through documented mutual agreement or by decision. • When livestock use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. • Any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations. • Decreases in livestock forage would be implemented over a five-year period.	Same as Alternative C.
Additional forage would be allocated in the Blue Mountain area as follows:					
Additional AUMs realized through management changes and/or livestock-oriented vegetation treatments would be divided proportionately between livestock and big game.	Same as the Proposed RMP.	Additional AUMs realized through management changes and/or livestock-oriented vegetation treatments would be assigned to livestock.	Additional AUMs realized through management and/or created from wildlife-oriented vegetation treatment would be provided to wildlife.	• Habitat for deer would be managed to support current levels. • Target livestock AUM figures are not final stocking levels. • All livestock-use adjustments would be implemented through documented mutual agreement or by decision. • When livestock-use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. • Any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations.	Same as Alternative C.
FORAGE — DIAMOND MOUNTAIN LOCALITY					
• If monitoring indicates that forage assignments cannot be met, then livestock and wildlife use would be reduced proportionately. • The first year livestock reductions	Same as the Proposed RMP.	• If monitoring indicates that forage assignments cannot be met, then wildlife use would be reduced to a level at which no livestock/wildlife forage conflict exists.	• If monitoring indicates that forage assignments cannot be met, then livestock permitted use would be reduced. • Adjustments would be attained by	If monitoring indicates that forage assignments cannot be met, then reductions would be made using the following criteria: • Temporary, nonrenewable livestock	Same as Alternative C.

Table 2.1.6 Proposed RMP and Alternatives - Forage

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
would be made with an initial 10% adjustment. • Five-year agreements would be developed and signed outlining the process for phased reductions to the desired level.		• Any additional necessary reductions would be made to livestock.	decision or agreement. • The first year, reductions would be made with an initial 10% adjustment. • Five-year agreements would be developed and signed at the same time outlining the process for phased reductions to the desired level.	AUMs above permitted use would be reduced first. • On wildlife crucial habitat, livestock permitted use would be reduced if there is a conflict between use by livestock and wildlife and if wildlife numbers are within the herd unit or population objective levels. • If there is no conflict and the reduction is necessary because of overuse by either livestock or wildlife, that animal's numbers would be reduced. • On non-crucial wildlife habitat, livestock permitted use and wildlife numbers would be reduced equally. • The first year, there would be an initial 10% adjustment in permitted use. • Five-year agreements would be developed and signed at the same time outlining the process for phased reductions to the desired level. • Temporary adjustments in use due to effects of drought would be made to livestock and/or wildlife as needed based on monitoring.	
Additional forage would be allocated in the Diamond Mountain area as follows:					
Additional AUMs would be provided as follows: • In the northern half of the area (Diamond Mountain and Brown's Park), additional AUMs would be provided to livestock until wildlife demands require them. • In the southern half of the area (Ashley Valley and Myton Bench), forage increases would be divided proportionately between livestock and big game on non-crucial wildlife areas.	Same as the Proposed RMP.	Additional AUMs realized through management changes and/or vegetation treatments would be assigned to livestock.	Additional AUMs realized through management changes and/or vegetation treatment would be provided to wildlife or retained for watershed.	• Additional AUMs (over permitted use) would be provided to livestock on a temporary, nonrenewable basis until identified for crucial wildlife needs. • Additional AUMs outside crucial wildlife areas could be assigned to livestock.	Same as Alternative C.

Table 2.1.7 Proposed RMP and Alternatives – Lands and Realty Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LANDS AND REALTY MANAGEMENT — MAP FIGURE 6					
INTRODUCTION Federal public land laws and implementing regulations enable the BLM to engage in and complete realty actions involving acquisition, use, disposal, and adjustment of land resources and maintenance of historic records for these transactions.					
GOALS AND OBJECTIVES • Accommodate community growth and development when it is determined that it is in compliance with other goals and objectives of the plan. • Improve management opportunities for resource protection, resource development, or administration of public lands. • Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with policy and guidance. • Manage public lands to support goals and objectives of other resources programs, respond to public requests for land use authorizations, and acquire administrative and public access where necessary. • Dispose of lands that are effectively unmanageable due to size, location, etc. • Acquire lands that would enhance management objectives of this RMP. • Give land exchanges with the State of Utah priority consideration to resolve inholdings issues. • As per the State of Utah v. Andrus, October 1, 1979 (Cotter Decision), the BLM would grant the State of Utah reasonable access to state lands for economic purposes, on a case-by-case basis.					

MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES
• Consider new major communication sites on an as-needed basis.
• Acquisitions, exchanges, easements, or disposals would be considered, using LTA criteria on a case-by-case basis, between willing buyers and sellers.
• The BLM would retain lands within its administrative jurisdiction, except where necessary to accomplish one or more of the following objectives:
  o Improve management of natural resources through consolidation of federal, state and private lands.
  o Secure key property necessary to protect special status species, including threatened and endangered species, promote biological diversity, increase recreational opportunities, and preserve archaeological, paleontological and historical resources.
• Implement specific acquisitions authorized by Acts of Congress by acquiring minimal non-federal lands or interest in lands.
• When opportunities occur, acquire isolated tracts of non-federal land from willing sellers within special management areas to consolidate ownership and eliminate non-federal in-holdings.
• The following criteria would be used when evaluating proposed land use authorizations:
  o Land use authorizations would not be approved in any designated exclusion areas.
  o Land use authorizations in avoidance areas may be authorized provided they are considered consistent with the current management objectives; those that are not would either be rejected or would necessitate a plan amendment prior to approval.
  o Habitat for listed T&E species would be retained in federal ownership. Exceptions may be considered in exchanges with the State of Utah and others with consultation and concurrence with the USFWS.					

DISPOSALS • Public lands within the VFO would be considered for disposal through methods such as sale, exchange, state indemnity selection Airport and Airway Improvement Act, Color-of-Title Act, State Selections under the Enabling Act, Recreation and Public Purpose Act patent, other lesser-used authorities, or as directed by special legislation. • All disposal actions would be coordinated with adjoining landowners, local governments, and current land users. Approximately 32,067 acres of public lands for disposal are identified in Map Figure 6.					
EASEMENTS Acquire public access to approximately 70,700 public acres for recreational purposes identified as follows: • **High Priority**: Ashley Creek drainages, White River, Jackson Draw, Warren Draw, Allen Draw, Red Mountain, Wild Mountain-South Pot Creek, Spring Creek, Nine Mile, Red Mountain East and West, and Moon Shine area. • **Moderate Priority**: Horseshoe Bend, Argyle Ridge, Jensen Canyon, Little Sulfur Canyon, Ashley Creek Recreation Site, Hoy Mountain, Dead Horse Draw, and Blue Mountain. • **Low Priority**: Sears Canyon, Marshall Draw, West Little Mountain, and East Nine Mile Canyon.					

EXCHANGES/ACQUISITIONS
• Public lands would be considered for disposal by exchange provided the exchange would result in more efficient federal management of the public lands. Land exchanges would be based on fair market value determined for the federal and non-federal lands as defined in Uniform Appraisal Standards for Federal Acquisitions and by current BLM policy.
• Non-federal lands would be considered for acquisition through exchange of suitable public land, on a case-by-case basis, where acquisition of the non-federal lands would contain resource values equal to or greater than the public lands being exchanged.
• Exchanges with the State of Utah would be given a priority consideration. There are a significant number of state land sections administered by the School and Institutional Trust Lands Administration (SITLA) scattered throughout the RMP area. Many of these state lands are in-holdings located within designated resource management areas identified in this RMP. SITLA has indicated their desire to exchange SITLA lands within these BLM management areas for BLM-administered lands elsewhere in the RMP area. The BLM recognizes the opportunity for mutually beneficial land tenure adjustments and would apply the RMP Land Tenure Adjustment Criteria.
• Non-federal lands to be acquired through both Bureau- and public-initiated exchanges must be in the public interest and have at least one of the following characteristics:
  o Acquisition would facilitate access to public lands and resources and/or contribute to a more efficient and manageable land ownership pattern.
  o Acquisition would facilitate implementation of the RMP management actions.
  o Acquisition of the non-federal lands would maintain or enhance public uses and values, with priority given to acquiring riparian/wetlands; lands with high recreation use and/or wildlife values; sensitive plant or animal habitat; and lands with significant cultural sites and/or paleontological localities or within other special designations.
  o Acquisitions that would meet other conditions pursuant to FLPMA Section 206 or 43 CFR 2200.					

Table 2.1.7 Proposed RMP and Alternatives – Lands and Realty Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LANDS AND REALTY MANAGEMENT — MAP FIGURE 6					
• Acquired lands would be managed in accordance with management objectives identified for adjacent lands unless resource considerations require a plan amendment.					
FENCING REQUIREMENTS FOR PAVED HIGHWAYS All applications to pave routes would be evaluated in site-specific NEPA analysis to determine the need for fencing.					
LAND TENURE ADJUSTMENTS (LTAS) • Land ownership changes would be considered on lands not specifically identified in the RMP (Map Figure 6) for disposal or acquisition if the changes are in accordance with resource management objectives and other RMP decisions, determined to be in the public interest, and would accomplish one or more of the following criteria: o The changes are determined to be in the public interest. The public would benefit from land resources coming into public ownership, while at the same time accommodating the needs of local and state governments, including the needs for public purposes, community growth and the economy. o The changes result in a gain of important manageable resources on public lands such as crucial wildlife habitat, significant cultural sites, mineral resources, water sources, listed species by habitat, or areas key to productive ecosystems. o The changes ensure public access to lands in areas where access is needed and cannot otherwise be obtained. o The changes would promote more effective management and meet essential resource objectives through land ownership consolidation. o The changes result in acquisition of lands that serve regional or national priorities identified in applicable policy directives or legislation. • If one or more of the above criteria are not met, proposed land ownership changes outside of designated transfer areas would not be approved or would require a plan amendment unless it was determined to be in the best interests of the affected landowners and the public. • Non-federal lands located within sensitive areas would be acquired through donation, purchase, or land exchange. Land acquisitions would be negotiated from willing landowners. • Acquire fee title or interest in non-federal lands with priority placed on lands with critical resource values (e.g., water rights, scenic easements, Greater Sage-grouse leks). • No lands acquired through land tenure adjustments would be classified or opened for agricultural entry or leasing in the RMP planning area.					
OTHER METHODS OF ACQUISITION In addition to acquiring non-federal lands through land exchanges, VFO would acquire lands by direct purchase utilizing programs such as the Land and Water Conservation Fund (LWCF), when funding is available, donation, or legal settlement. Such land would be vested in the U.S. in perpetuity unless otherwise directed by Bureau or Congressional policy.					
RECREATION AND PUBLIC PURPOSE ACT (R&PP) • Lands conveyed to state or local governments or non-profit organizations under the Recreation and Public Purpose Act (R&PP) Act may include those identified in LTAs. In addition, requests for lands other than those identified would be considered for disposal provided the proposed use would provide a greater public benefit than that which the current management provides, and that the action is otherwise consistent with this RMP. Examples may include, but are not limited to local government or non-profit recreational and public purpose facilities such as public shooting ranges, landfills, motor-cross, and racetracks, etc. • All Recreation & Public Purposes (R&PP) lease areas would be administratively unavailable for leasing or open to leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations.					
RIGHTS-OF-WAY (ROWS)/EASEMENTS • All future ROW applications involving projects that are less than the major project thresholds described above would be evaluated on a case-by-case basis. Future ROWs would be consolidated in corridors where reasonable and economically feasible. • Future ROWs that cross the Lower or Upper Green River would be placed in the Four Mile Bottom Area or at the Head of Little Swallow Canyon. • Generally, future ROWs would be located adjacent to existing routes and within existing R/W granted routes, when facilities are compatible, as much as possible. • Easements would be acquired from willing landowners to gain access to public lands. • Lands are also available for major water development ROWs on a case-by-case basis with special restrictions depending on the scope of the project and resource concerns identified during the processing of any project proposal in compliance with NEPA. Major ROW projects such as hydroelectric dam and wind farm ROWs may be permitted on a case-by-case basis if the project is consistent with the goals and objectives or other land management prescriptions. If it is not incompliance with the land management prescriptions, then it would require a plan amendment. • Authorization of any right-of-way for wind or solar energy would incorporate BMPs as applicable and provisions contained in the Final Wind Energy Programmatic Environmental Impact Statement (PEIS) (June 24, 2005) and the joint PEIS.					
SALES • Any lands to be disposed of by sale that are not identified in this RMP would require a plan amendment. Land sales would reserve all minerals as required by FLPMA except where sale of the mineral interests would not be consistent with the requirements of Section 209 FLPMA. • If the public lands have no known mineral values, the mineral estate would be disposed of pursuant to the authority of Section 209(b) of FLPMA. • In instances where the surface estate is already in private ownership and the mineral estate is reserved to the U.S., the surface owner may purchase the reserved mineral estate, provided that the criteria under 43 CFR 2720 are met. • Lands identified for consideration for disposal would be used for a variety of other authorized activities, based on the need for future community growth and development.					
TRANSPORTATION/UTILITY CORRIDORS • This RMP is consistent with existing right-of-way (ROW) corridors, including the Western Utility Group (WUG) updates to the Western Regional Corridor Study (Map Figure 6), and would designate additional corridors subject to physical barriers, and sensitive resource values. Sensitive resource values would include, but are not limited to, threatened and endangered species habitat, cultural and paleontological resources, sensitive soils, riparian areas, areas possessing high scenic quality, and ACECs. • These approved corridors are the preferred location for future major linear ROWs which meet the following criteria: o Pipelines with a diameter greater than 20 inches.					

Table 2.1.7 Proposed RMP and Alternatives – Lands and Realty Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LANDS AND REALTY MANAGEMENT — MAP FIGURE 6					
o Transmission lines (not distribution) with a voltage capacity of 69 kV or greater. o Paved routes or routes consisting of more than two lanes. o Significant canals, ditches, or conduits requiring a permanent width greater than 50 feet. • Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment. • The Vernal LUP would be consistent with decisions identified in the West-wide Energy Corridor (WWEC) PEIS ROD.					
TRESPASS RESOLUTION • Intentional trespass resolution would be limited to removal and / or restoration as appropriate. Unintentional trespass resolution may include: o Authorization under ROW grant, commercial/agricultural lease, or permit. o Disposal of the affected land through sale or exchange. o Removal, depending on the nature of the trespass. • In all such trespass cases, administrative costs incurred by the BLM for investigating and resolving trespasses will be collected. All trespass incidents resolved by issuance of ROW grants, leases, or permits would be subject to payment by the holder/lessee/permittee of rent based on market value. Trespass cases resolved by land sales would be based on fair market value, and land exchanges would be completed on an equal value basis.					
WITHDRAWALS • Review existing withdrawals and classifications on BLM-administered lands on a case-by-case basis to determine their need and consistency with the intent of the withdrawals in accordance with section 204(l) of FLPMA, and recommend continuing, modifying, or terminating as applicable (Figure 6). • Any lands becoming unencumbered by withdrawals or classifications would be managed according to the decisions made in this RMP. If the RMP has not identified management prescriptions for these lands, they would be managed in a manner consistent with adjacent or comparable public lands within the VPA. If the unencumbered lands fall within two or more management scenarios where future-planning criteria may not be clear, a plan amendment may be required.					
LAND ACCESS					
Public access to the White River would be pursued at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road.	Same as the Proposed RMP.	Public access to the White River would not be pursued at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as the Proposed RMP.
An easement for the old Uintah Railroad bed from the Utah / Colorado line to Watson in Evacuation Creek would not be pursued.	Same as the Proposed RMP.	Same as the Proposed RMP.	An easement for the old Uintah Railroad bed would be pursued from the Utah / Colorado line to Watson in Evacuation Creek.	Unspecified in the current management plans.	Same as Alternative C.
Acquisition of Indian trust lands in Bitter Creek and Willow Creek would be pursued.	Same as the Proposed RMP.	Administrative access only across the Indian trust lands in Bitter Creek would be pursued.	Same as the Proposed RMP.	Unspecified in the current management plans.	Same as the Proposed RMP.
Acquisition of Indian trust lands near the confluence of South and Sweetwater Canyon would be pursued.	Same as the Proposed RMP.	Administrative access only across Indian trust lands near the confluence of South and in Sweetwater Canyon would be pursued.	Same as Alternative A.	Unspecified in the current management plans.	Same as the Proposed RMP.
OTHER LAND AND REALTY ACTIONS					
Retain non-WSA lands with wilderness characteristics in federal ownership (106,178 acres).	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Retain non-WSA lands with wilderness characteristics in federal ownership (277,596 acres).
Non-WSA lands with wilderness characteristics would be managed as rights-of-way avoidance areas.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Non-WSA lands with wilderness characteristics would be managed as rights-of-way exclusion areas (277,596 acres).
WITHDRAWALS					
The following areas are recommended for locatable mineral withdrawal: • Book Cliffs Natural Area (401 acres)	Same as the Proposed RMP.	Same as the Proposed RMP.	The following areas are recommended for locatable mineral withdrawal:	Recommend protective withdrawals or other protective measures that will preclude mineral and agricultural entry	Same as Alternative C and all non-WSA lands with wilderness characteristics.

Table 2.1.7 Proposed RMP and Alternatives – Lands and Realty Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LANDS AND REALTY MANAGEMENT — MAP FIGURE 6					
• Green River Scenic Corridor in Brown's Park (8,208 acres) • Lears Canyon relict vegetation areas (1,375 acres) • White River non-WSA lands with wilderness characteristics (6,720 acres) • White River SRMA (1,110 acres) • Developed and potential recreation sites (5,000 acres)			• Book Cliffs Natural Area (401 acres) • Green River Scenic Corridor in Brown's Park (8,208 acres) • Lears Canyon relict vegetation areas (1,375 acres) • Lower Green River Area of Critical Environmental Concern (ACEC) (17,063 acres) • White River (9,218 acres)	on (in priority order): • The Green River Scenic Corridor in Brown's Park (19,400 acres) • The relict vegetation areas (3,600 acres) • The Lower Green River ACEC (7,900 acres) • Developed and potential recreation sites (5,000 acres).	

Table 2.1.8 Proposed RMP and Alternatives – Livestock and Grazing Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LIVESTOCK AND GRAZING MANAGEMENT — MAP FIGURES 7–11					
GOALS AND OBJECTIVES Achieve appropriate utilization of the range by livestock and wildlife through management prescriptions and administrative adjustments.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES					
CRITERIA FOR CHANGING CLASS OF LIVESTOCK Requests from permittees to convert class of livestock would be handled as follows: • On crucial deer winter ranges, cattle are preferred. • In areas where fencing would be required, conversion would be contingent upon signed fence agreement and fences would be in place prior to issuance of permit to graze. The applicant(s) requesting the conversion would be responsible to fund the fencing and cattle guards/gates and to construct and maintain fences. (Consistent with Vernal District Grazing Advisory Board and Vernal BLM joint Rangeland Improvement (RI) Policy dated 12/08/1992). • In areas where grazing would be along paved routes, evaluate and determine the need for fencing. Applicants would be required to fence the road if it is determined necessary to protect human and livestock health and safety. • Areas with riverine/lotic systems may require additional management actions such as, but not limited to, fencing of streams. • Prior to the authorization of any livestock conversions in WSAs, the impacts from any necessary rangeland improvements projects would be assessed. Conversions in WSAs would be made in compliance with H-8550-1 Interim Management Plan (IMP) Chapter 3 Guidelines for Specific Activities -D. The IMP is to direct activities within the WSAs until such time as Congress acts on the WSA designations.					
GRAZING IN RIVER CORRIDORS • As opportunities arise, such as voluntary relinquishment, consider changes to livestock use to assure management objectives are met. • Where livestock conflicts with other uses of the river, mitigate through management or other actions. • Identify criteria for acceptable levels of livestock grazing use along river bottoms. (See Riparian section.) • If grazing is causing resource degradation, to the extent that rangeland health standards are not being met and progress is not being made, monitoring data show that livestock grazing is the most significant factor, and all other options have been exhausted, close those riparian areas that do not satisfactorily respond to changes in management.					
RELINQUISHMENT OF PREFERENCE • Voluntary relinquishments of grazing permits and preference, in whole or in part, by a permittee in writing to the BLM will be handled on a case-by-case basis. The BLM will not recognize as valid, relinquishments which are conditional on specific BLM actions and the BLM will not be bound by them. Relinquished permits and the associated preference will remain available for application by qualified applicants after the BLM considers if such action would meet rangeland health standards and is compatible with achieving LUP goals and objectives. Prior to re-issuance of the relinquished permit, the terms and conditions may be modified to meet LUP goals and objectives and/or site-specific resource objectives. • However, upon relinquishment, the BLM may determine through a site-specific evaluation and associated NEPA analysis, that the public lands involved are better used for other purposes. Grazing may then be discontinued on the allotment through an amendment to the existing LUP or a new LUP effort. Any decision issued concerning discontinuance of livestock grazing is not permanent and may be reconsidered and changed through future LUP amendments and updates.					
SEASONS OF USE • Prior to approving changes in permitted seasons of use, the following would be mandatory: o Compliance with the standards for range management (see Standards for Rangeland Health and Guidelines for Grazing Management for BLM Lands in Utah, May 1997). o Preparation, signature, and implementation of a monitoring plan. o Signature of permittee accepting the grazing management practices determined necessary by the Authorized Officer to approve the change. o Agreement by permittee to management practices that provide for the physiological requirements of desired plants. • Requests from a permittee to change seasons of use would be a priority if all of the following criteria were met: o Changes enhance or meet resource objectives contained in the Vernal RMP. o Allotment(s) are scheduled for assessment the same year a request is made. o Funding for the assessment is voluntarily provided by sources other than the BLM. • Develop management plans and/or grazing agreements for livestock allotments to allow flexibility in grazing management, which may include consolidation of allotments, change in seasons of use, and reduction and/or consolidation of grazing allotments and pastures (Map Figures 7–11). Until all wild horses have been removed, livestock permittees with allotments within Herd Management Areas would be required to have a current health certificate, including documentation of annual vaccinations for infectious diseases for all horses, mules, or burros used in their grazing operation.					
Lands acquired by acquisition of properties in the Nine Mile Acquired Area would not be grazed to enhance riparian and watershed values.	Same as the Proposed RMP.	Livestock grazing would be allowed in the Nine Mile Acquired Area if such use is controlled, of short duration, and would not detract from recreation and/or riparian values along the river.	Same as the Proposed RMP.	Unspecified in the current management plans.	• Lands acquired by acquisition of properties in the Nine Mile area would not be grazed to enhance riparian and watershed values. • Changes in class of livestock would not be allowed in non–WSA lands with wilderness characteristics if fencing or other structural

Table 2.1.8 Proposed RMP and Alternatives – Livestock and Grazing Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LIVESTOCK AND GRAZING MANAGEMENT — MAP FIGURES 7–11					
					improvements are necessary or if the conversion would result in significant resource conflicts or impacts.
SEASONS OF USE					
PHENOLOGY Livestock grazing would be allowed under the discretion of the VFO in Area 1.	Same as the Proposed RMP.	**BILLED USE** Livestock grazing would be allowed under the discretion of the VFO in Area 1.	**ADJUDICATED** Livestock grazing could be allowed under the discretion of the VFO in Area 1.	**PERMITTED** Livestock grazing would be allowed under the discretion of the VFO in Area 1.	**ADJUDICATED** Same as Alternative C.
**Livestock grazing would be allowed from 6/1 through 10/31 in Area 2 or 5/1 with a deferment.* _____ **This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*	Same as the Proposed RMP.	Livestock grazing would be allowed from 5/19 through 10/7 in Area 2.	Livestock grazing would be allowed from 6/15 through 8/31 in Area 2.	Livestock grazing would be allowed from 5/19 through 10/7 in Area 2.	Same as Alternative C.
**Livestock grazing would be allowed from 5/1 through 12/31 in Area 3.* _____ **This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*	Same as the Proposed RMP.	Livestock grazing would be allowed from 5/31 through 11/1 in Area 3.	Livestock grazing would be allowed from 6/15 through 8/31 in Area 3.	Livestock grazing would be allowed from 6/3 through 10/6 in Area 3.	Same as Alternative C.
**Livestock grazing would be allowed from 5/1 through 6/1 in Area 4.* _____ **This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*	Same as the Proposed RMP.	Livestock grazing would be allowed from 4/25 through 5/26 and 11/1 through 12/31 in Area 4.	Livestock grazing would be allowed from 10/1 through 3/1 (fall/winter) in Area 4.	Livestock grazing would be allowed from 6/1 through 10/31 in Area 4.	Same as Alternative C.
**Livestock grazing would be allowed from 5/1 through 6/1 and 10/1 through 2/28 in Area 5.* _____ **This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*	Same as the Proposed RMP.	Livestock grazing would be allowed from 4/10 through 5/26 and 10/1 through 1/30 in Area 5.	Livestock grazing would be allowed from 10/1 through 3/1 (fall/winter) in Area 5.	Livestock grazing would be allowed from 4/3 through 6/15 and 10/31 through 1/30 in Area 5.	Same as Alternative C.
**Livestock grazing would be allowed from 10/1 through 4/1 or 5/1 with deferment in Area 6.* _____ **This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*	Same as the Proposed RMP.	Livestock grazing would be allowed from 10/26 through 5/8 in Area 6.	Livestock grazing would be allowed from 10/1 through 3/1 (fall/winter) in Area 6.	Livestock grazing would be allowed from 3/10 through 4/24 and 6/23 through 8/30 and 10/21 through 2/28 in Area 6.	Same as Alternative C.
**Livestock grazing would be allowed from 4/1 through 5/31 and/or 9/1 through 10/31 in Area 7.* _____	Same as the Proposed RMP.	Livestock grazing would be allowed from 5/20 through 12/1 in Area 7.	Livestock grazing would be allowed from 10/1 through 11/30 (fall) in Area 7.	Livestock grazing would be allowed from 5/26 through 10/20 in Area 7.	Same as Alternative C.

Table 2.1.8 Proposed RMP and Alternatives – Livestock and Grazing Management

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LIVESTOCK AND GRAZING MANAGEMENT — MAP FIGURES 7–11					
**This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.*					

Table 2.1.9 Proposed RMP and Alternatives – Minerals and Energy Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MINERALS AND ENERGY RESOURCES — MAP FIGURES 18–23					
GOALS AND OBJECTIVES • Continue to meet local and national non-renewable and renewable energy and other public mineral needs. Support a viable long-term mineral industry related to energy development while providing reasonable and necessary protections to other resources. • The following principles would be applied: o Encourage and facilitate the development by private industry of public land mineral resources in a manner that satisfies national and local needs and provides for economical and environmentally sound exploration, extraction and reclamation practices. o Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with policy and guidance. o Monitor salable and leasable mineral operations to ensure proper resource recovery and evaluation, production verification, diligence, and inspection and enforcement of contract sales, common use areas, community pits, free use permits, leases and prospecting permits. • The plan would recognize and be consistent with the National Energy Policy by: o Recognizing the need for diversity in obtaining energy supplies. o Conserving sensitive resource values. o Improving energy distribution opportunities.					
MANAGEMENT COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES • In accordance with an UDEQ-DAQ letter dated June 6, 2008, (see Appendix O requesting implementation of interim nitrogen oxide control measures for compressor engines) the BLM will require the following as a Lease Stipulation and a Condition of Approval for Applications for Permit to Drill: o All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower. o All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour. • Mineral and energy resource exploration and development surface-disturbing activities would be allowed in the VPA unless precluded by other program prescriptions. The stipulations identified for surface-disturbing activities in Appendix K would generally apply to these activities. **ALTERNATIVE ENERGY** • The plan would recognize the opportunity for alternative energy development such as wind, solar, and geothermal. BMPs would be developed from PEISs such as ones completed or initiated for wind and solar energy. • Individual proposals would be evaluated based on conformance with other program goals and objectives stated in the plan. **LIGHT AND SOUND** The BLM would seek to minimize light and sound pollution within the VPA using best available technology such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to direct noise away from noise sensitive areas (e.g., sensitive habitat, campgrounds, river corridors, and Dinosaur National Monument). Light pollution would be mitigated by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. If a determination is made that natural barriers or view sheds would meet these mitigation objectives, the above requirements may not apply. **LOCATABLE** Operations on lands open to mineral entry (as well as on claim locations that pre-date withdrawal) must be conducted in compliance with the 43 CFR 3809 and 3715 regulations. The three level of operations under these regulations include casual use, notice and, plan of operation. A plan would have to be filed for operations usually conducted under notice in: • Areas in the National Wild and Scenic Rivers System and areas designated for potential addition to the system. • Designated ACECs. • Areas designated as part of the National Wilderness Preservation System and administered by the BLM. • Areas designated as “closed” to OHV use as defined in 43 CFR 8340-5. • Any lands or waters known to contain federally proposed or listed threatened or endangered species or their proposed or designated crucial habitat. • National Monuments and National Conservation Areas administered by the BLM; see 43 CFR 3809.11(c). • A plan must be submitted for any bulk sampling of 1,000 tons or more of presumed ore for testing; see 43 CFR 3809.11(b)). **MINERAL MATERIALS** • All existing material sites would be evaluated to determine continual need and ensure that they are accommodating user needs. • Common use areas, community pits, free-use permits, competitive and non-competitive contract sales, and testing and sampling of mineral materials may be authorized by the BLM in “open” areas. **OIL AND GAS** • Approximately 53,111 acres within the Ouray National Wildlife Refuge would be closed to oil and gas leasing. • Mitigation of oil and gas impacts developed under the plan and applied to leases issued after the date of this RMP in the form of stipulations would adhere to the BLM’s standard format. Stipulations are necessary to protect the resource and would contain					

Table 2.1.9 Proposed RMP and Alternatives – Minerals and Energy Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MINERALS AND ENERGY RESOURCES — MAP FIGURES 18–23					
provisions/criteria to allow for waiver, exception, and modification if warranted. • The plan would provide for a variety of oil and gas operations and geophysical explorations. These activities would be allowed in the VPA unless precluded by other program prescriptions. The stipulations identified for surface-disturbing activities in Appendix K would generally apply to these activities. • Approximately 188,500 acres of split estate lands (federal minerals-Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Indian Reservation are included in the acreage figures found in the Oil and Gas section.					
COMBINED HYDROCARBON AREAS / SPECIAL TAR SAND AREAS					
Management decisions regarding combined hydrocarbon area/special tar sand areas are deferred to the PEIS that is being prepared.	Approximately 51,829 acres would be administratively available for combined hydrocarbon leasing subject to standard lease terms.	Approximately 61,424 acres would be administratively available for combined hydrocarbon leasing subject to standard lease terms.	Approximately 43,530 acres would be administratively available for combined hydrocarbon leasing subject to standard lease terms.	Approximately 116,208 acres in areas identified for combined hydrocarbon leasing would be available for future tar sand development subject to standard lease terms.	Approximately 43,295 acres in areas identified for combined hydrocarbon leasing would be available for future tar sand development subject to standard lease terms.
Management decisions regarding combined hydrocarbon area / special tar sand areas are deferred to the PEIS that is being prepared.	Approximately 200,836 acres would be administratively available for combined hydrocarbon leasing with CSU.	Approximately 198,238 acres would be administratively available for combined hydrocarbon leasing with CSU.	Approximately 195,566 acres would be administratively available for combined hydrocarbon leasing with CSU.	Approximately 101,279 acres would be administratively available for combined hydrocarbon leasing with CSU.	Approximately 191,563 acres would be administratively available for combined hydrocarbon leasing with CSU.
Management decisions regarding combined hydrocarbon area / special tar sand areas are deferred to the PEIS which is being prepared.	Approximately 10,803 acres would be administratively available for combined hydrocarbon leasing with NSO.	Approximately 3,806 acres would be administratively available for combined hydrocarbon leasing with NSO.	Approximately 3,696 acres would be administratively available for combined hydrocarbon leasing with NSO.	Approximately 11,589 acres would be administratively available for combined hydrocarbon leasing with NSO.	Approximately 3,696 acres would be administratively available for combined hydrocarbon leasing with NSO.
Management decisions regarding combined hydrocarbon area / special tar sand areas are deferred to the PEIS that is being prepared.	Approximately 35,044 acres would be closed to leasing.	Approximately 35,044 acres would be closed to leasing.	Approximately 55,720 acres would be closed to leasing.	Approximately 35,045 acres would be closed to leasing.	Approximately 59,966 acres would be closed to leasing.
Management decisions regarding combined hydrocarbon area / special tar sand areas are deferred to the PEIS that is being prepared.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Close non-WSA lands with wilderness characteristics to leasing.
GILSONITE AND PHOSPHATE (NON-ENERGY LEASABLES)					
172 miles or 36,846 acres would be available for prospecting, leasing, and development of Gilsonite (additional veins located through field study or prospecting not shown on Map Figure 18 would also be available if such are within "open" category lands).	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	• 168 miles or 36,009 acres would be open for prospecting, leasing, and development of Gilsonite (additional veins located through field study or prospecting not shown on Map Figure 22 would also be available if such are within "open" category lands). • Restrictions placed on the lease or subsequent conditions of approval would not apply to maintenance and production of existing facilities. • Restrictions from other resource decisions would be applied to new leases, or at the time of lease renewal, for existing leases. • Exploration and development of phosphate within crucial deer and elk winter range would be allowed year ‘round, but would require management actions designed to mitigate both short- and long-term	• 163 miles or 34,967 acres would be available for prospecting, leasing, and development of Gilsonite (additional veins located through field study or prospecting not shown on Figure 23 would also be available if such are within "open" category lands). • Close non-WSA lands with wilderness characteristics to leasing.

Table 2.1.9 Proposed RMP and Alternatives – Minerals and Energy Resources

PROPOSED RMP	Alternative A (Draft RMP/EIS Preferred Alternative)	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MINERALS AND ENERGY RESOURCES — MAP FIGURES 18–23					
				loss of habitat.	
76,208 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas.	87,724 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas.	Same as Alternative A.	63,571 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas.	• 84,600 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas	• 52,063 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas.
MINERAL MATERIALS					
389,788 acres would be available for mineral material disposal with standard and special stipulations. **Note:** Acreage figures for the Proposed RMP may reflect different sum totals, as calculations were determined using different technology.	415,395 acres would be available for mineral material disposal with standard and special stipulations.	432,953 acres would be available for mineral material disposal with standard and special stipulations.	388,699 acres would be available for mineral material disposal with standard and special stipulations.	387,700 acres would be available for mineral material disposal with standard and special stipulations.	344,682 acres would be available for mineral material disposal with standard and special stipulations.
Close non-WSA lands with wilderness characteristics to disposal of mineral materials (106,178 acres).	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Close non-WSA lands with wilderness characteristics to disposal of mineral materials (277,596 acres).
OIL AND GAS (INCLUDES COAL BED NATURAL GAS) ****Note:** Further consultation with the Ute Indian Tribe resulted in identification of stipulations for the Hill Creek Extension has occurred, which caused the increase in the Proposed RMP. The Hill Creek plan was identified in Chapter 2, but was not resolved into specific stipulation categories.					
**Approximately 860,651 acres would be open to leasing subject to the terms and conditions of the standard lease form.	Approximately 983,905 acres would open to leasing subject to the terms and conditions of the standard lease form.	Approximately 1,113,116 acres would be open to leasing subject to the terms and conditions of the standard lease form.	Approximately 858,619 acres would be open to leasing subject to the terms and conditions of the standard lease form.	Approximately 918,315 acres would be open to leasing subject to the terms and conditions of the standard lease form.	Approximately 818,891 acres would be open to leasing subject to the terms and conditions of the standard lease form.
**Approximately 779,730 acres would be open to leasing subject to moderate constraints, such as TLs and CSU.	Approximately 796,955 acres would be open to leasing subject to moderate constraints, such as TLs and CSU.	Approximately 706,281 acres would be open to leasing subject to moderate constraints, such as TLs and CSU.	Approximately 768,466 acres would be open to leasing subject to moderate constraints, such as TLs and CSU.	Approximately 617,715 acres would be open to leasing subject to moderate constraints, such as TLs and CSU.	Approximately 680,570 acres would be open to leasing subject to moderate constraints, such as TLs and CSU.
**Approximately 86,789 acres would be open to leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations.	Approximately 69,302 acres would be open to leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations.	Approximately 42,053 acres would be open to leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations.	Approximately 58,670 acres would be open to leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations.	Surface occupancy would be precluded on approximately 136,930 acres to protect wildlife, watershed, and recreation.	Approximately 47,629 acres would open to leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations.
**Approximately 186,917 acres would be administratively unavailable for leasing.	Approximately 63,839 acres would be administratively unavailable for leasing.	Approximately 52,550 acres would be administratively unavailable for leasing.	Approximately 228,246 acres would be administratively unavailable for leasing.	Approximately 52,540 acres would be administratively unavailable for leasing.	Approximately 367,037 acres would be administratively unavailable for leasing.
No geophysical exploration would be allowed in non-WSA lands with wilderness characteristics except that hand-carried geophone lines would be permitted.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the Draft EIS.	Unspecified in the current management plans.	Same as the Proposed RMP.

Table 2.2.1 Summary of Impacts – Air Quality

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
AIR QUALITY					
PM2.5, CO2, and ozone precursor (VOCs, NOx, CO) emissions would increase as a result of 156,425 acres/decade from prescribed fire treatments.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	PM2.5, CO2, and ozone precursor (VOCs, NOx, CO) emissions would increase as a result of 50,900 acres/decade of prescribed fire treatments.	Same as Proposed RMP.
Beneficial reduction of PM10 and other windborne particulate from erosion of exposed soils as a result of increasing vegetation and lowering soil disturbance.	Same as Proposed RMP.	Due to less restrictive management in many areas, PM10 and other windblown particulate from erosion of exposed soils would be higher than under the Proposed RMP.	Due to more restrictive management in many areas, PM10 and other windblown particulate from erosion of exposed soils would be lower than under the Proposed RMP.	Same as Alternative B.	Due to more restrictive management in many areas, PM10 and other windblown particulate from surface disturbance and erosion of exposed soils would be lower than under the Proposed RMP.
Mineral resource decisions: projected concentrations of CO, PM10, PM2.5, SO2 and NOx would not have adverse impacts as they would be below the applicable NAAQS as modeled for 3-hour, 24-hour, and annual time frames. BLM sources add an incremental increase (1%)0 to background concentrations of benzene, formaldehyde, and xylenes that already exceed at least one AACL. No visibility criteria exceedances are projected.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2.2.2 Summary of Impacts – Cultural Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
CULTURAL RESOURCES					
Restriction of OHV travel to designated routes in areas of high cultural resource site density would beneficially reduce potential impacts to cultural resources.	Same as Proposed RMP.	Same as Proposed RMP.	Restrictions on OHV travel and mineral development in the areas of high cultural resource site density would have the most beneficial impacts on high-density cultural sites.	Unrestricted OHV travel and mineral development in areas of high cultural resource density would have the highest potential for adverse impacts to sites.	Restrictions on OHV travel and mineral development in the areas of high cultural resource site density would have the most beneficial impacts on high-density cultural sites.
156,425 acres/decade of prescribed fire to reduce fuels and lessen wildfire severity would have beneficial impacts on cultural resources.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	50,900 acres/decade of prescribed fire to reduce fuels and lessen wildfire severity would have beneficial impacts to cultural resources, but less than the other alternatives.	156,425 acres of prescribed fire per decade to reduce fuels and lessen wildfire severity would have beneficial impacts on cultural resources.
Potential acquisition of Indian trust lands, and other areas, as well as pursuing a locatable mineral withdrawal or other protective measures for certain areas would have beneficial impacts on potential cultural sites in these areas.	Same as Proposed RMP.	Potential acquisition of Indian trust lands only would have beneficial impacts on potential cultural sites in these areas. Impacts from locatable mineral withdrawals would be the same as Alternative A.	Similar to Alternative A, except that an easement for the Uintah Railroad bed, a known and documented historical cultural site, would be pursued, with potential beneficial impacts to cultural resources.	Unspecified lands and realty decisions would have unknown impacts on cultural resources. Pursuing locatable mineral and agricultural withdrawals would have beneficial impacts on cultural resources.	Potential acquisition of Indian Trust Lands, the Uintah Railroad bed, and other areas. Proposals for locatable mineral withdrawals in several areas, including non-WSA lands with wilderness characteristics. Other protective measures for certain areas would have beneficial impacts on potential cultural sites in these areas.
Moderate beneficial impacts to cultural resources from limitations and restrictions imposed on OHV travel.	Same as Proposed RMP.	Greater potential for impacts to cultural resources than Alternative A, with less beneficial impacts from limitations and restrictions on OHV travel.	The most limitations and restrictions on OHV travel would have the most beneficial impacts on cultural resources.	Unspecified travel management actions under this alternative, with the least restrictions on OHV travel would have the fewest beneficial and potentially the most adverse impacts on cultural resources.	Limitations and restrictions on OHV travel would have the most beneficial impacts on cultural resources.
Areas designated as VRM Class I and II would provide greater protection, and more beneficial impacts to cultural resources than Alternatives B and D.	Areas designated as VRM Class I and II would provide greater protection and more beneficial impacts to cultural resources than the Proposed RMP and Alternatives B and D.	Areas designated as VRM Class I and II would provide greater protection than Alternative D, but less than all other alternatives.	Areas designated as VRM Class I and II would provide the second most protection (with the second greatest beneficial impacts) to cultural resources behind Alternative E.	Alternative D would provide the least protection and fewest beneficial impacts to cultural resources from VRM Classes I and II.	Areas designated as VRM Class I and Class II would provide for the least landscape change and the most protection (with the greatest beneficial impacts) to cultural resource, greater than all other alternatives.

Table 2.2.3 Summary of Impacts – Environmental Justice

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
ENVIRONMENTAL JUSTICE					
Indian tribes would benefit from revenues derived from rights-of-way grants to oil and gas industry, but traditions and religious sites could be adversely impacted.	Same as Proposed RMP	Similar to Proposed RMP, however oil and gas-related revenues could be greater and religious sites and traditions could be most adversely impacted under this alternative given Alternative B proposed the greatest amount of wells.	Same as Proposed RMP.	Similar impacts to Proposed RMP, except that Hill Creek extension would not be developed. Adverse impacts to human health would be reduced under this alternative.	Similar to Proposed RMP, however Indian tribes would benefit least from revenues derived from rights-of-way grants to oil and gas industry. Protection of traditions and religious sites could be greatest under this alternative.
Minerals development could adversely reduce or replace tribal livestock grazing, decrease opportunities for hunting and gathering and ceremonial worship. The tribal community of Ouray could be adversely impacted with regard to health and safety with increases in oil and gas extraction-related activity	Same as Proposed RMP	Similar to Proposed RMP, potential for adverse heath-related impacts to Ouray community would be greatest under this alternative.	Same as Proposed RMP.	Similar to Proposed RMP.	Similar to Proposed RMP except minerals development would be least likely to reduce or replace tribal livestock grazing and opportunities for hunting and gathering and ceremonial worship could be greatest under Alternative E.

Table 2.2.4 Summary of Impacts – Fire Management

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
FIRE MANAGEMENT					
156,425 acres/decade of prescribed fire would reduce fuel loading and the risk of a large-scale, catastrophic fire.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	50,900 acres/decade of prescribed fire would reduce fuel loading and the risk of a large-scale, catastrophic fire.	Same as Proposed RMP.
Approximately 18,860 acres of surface disturbance would pose a greater risk for wildland fire due to minerals development (and surface disturbances) within the BLM administered areas of the VPA, in the short term and long term. Short-term surface disturbances within this area would increase the risk of wildland fire, particularly during clearing and blading of well pads and access roads, due to spark or heat ignition from vehicles, construction equipment, and construction personnel. Long-term adverse impacts on fire management would be due to limitations on prescribed fire. There may also be beneficial long-term benefits as access roads, well pads, and mines would provide access and create firebreaks that would be helpful in preventing and suppressing future wildfires.	Impacts similar to those described under Proposed RMP, with approximately 18,971 acres at risk from minerals-related wildland fire.	Impacts similar to those described under Proposed RMP, with approximately 19,033 acres at risk from minerals-related wildland fire.	Impacts similar to those described under Proposed RMP, with approximately 18,757 acres at risk from minerals-related wildland fire.	Impacts similar to those described under Proposed RMP, with approximately 18,212 acres at risk from minerals-related wildland fire.	Impacts similar to those described under Proposed RMP, with approximately 17,469 acres at risk from minerals-related wildland fire.
Rangeland improvement would occur on 34,640 acres, with beneficial impacts on fire management.	Same as Proposed RMP.	Rangeland improvement would occur on 50,900 acres, with beneficial impacts on fire management.	Rangeland improvement would occur on 45,860 acres, with beneficial impacts on fire management.	Rangeland improvement would occur on 40,390 acres, with beneficial impacts on fire management.	Same as Alternative C.
Seven SRMAs, 400 miles of non-motorized trails, and 800 miles of motorized trails would increase indirect fire risks from human- and vehicle-caused ignitions.	Same as Proposed RMP.	Fire risks similar to Alternative A, but with only four SRMAs, 800 miles of motorized trails, and no non-motorized trails.	Fire risks similar to Alternative A, with eight SRMAs and 400 miles of non-motorized trails, and no motorized trails.	Fire risks similar to but less than Alternative A, with 4 SRMAs and designation of 55 miles of non-motorized trails.	Eight SRMAs, 400 miles of non-motorized trails, and 800 miles of motorized trails would increase visitor use and indirect risks of human- and vehicle-caused fires.
546,152 acres of forest and woodland available for treatment would reduce wildfire risk.	552,152 acres of forest and woodland available for treatment would reduce wildfire risk	554,108 acres of forest and woodland available for treatment would reduce wildfire risk.	Same as Alternative A.	Impacts similar to but less than Alternative A, with 288,200 acres (88,200 acres of forest and 200,100 acres of woodland) available for treatment to reduce fire risks.	131,809 acres of forest and woodland treatments would reduce fuel loading and the risk of wildfires.

Table 2.2.5 Summary of Impacts – Hazardous Materials

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
HAZARDOUS MATERIALS					
Potentially increased long-term, indirect, adverse impacts from hazardous material use, generation, storage, transportation, and/or disposal associated with the development of 1,640,381 acres of mineral resources.	Impacts similar to Proposed RMP, but with 1,780,860 acres of mineral resource development.	Impacts similar to Proposed RMP, but with 1,819,397 acres of minerals resource development.	Impacts similar to Proposed RMP, but with 1,627,085 acres of minerals resource development.	Impacts similar to Proposed RMP, but with 1,536,030 acres of minerals resource development.	Decreased, long-term potential to generate hazardous materials from the lowest acreage available for mineral resources development (1,499,461 acres). Recommended closure of non-WSA lands with wilderness characteristics to mining and closure of these areas to mineral leasing decreases lands available for mining and mineral leasing and the associated generation of hazardous materials.

Table 2.2.6 Summary of Impacts – Lands and Realty

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
LANDS AND REALTY					
Pursuing easements for Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road would beneficially permit public access to the White River.	Same as Proposed RMP	No pursuit of easements to Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road would restrict access to public lands.	Similar impacts as Proposed RMP, except would also pursue an easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Wash.	Unspecified actions on pursuit of easements.	Same as Alternative C.
Acquisition of Indian Trust lands in Bitter Creek and Sweetwater Canyon would beneficially allow public access and improved management of the area.	Same as Proposed RMP	Administration access only sought for Indian Trust lands in Bitter Creek and Sweetwater Canyon would have adverse impacts on cohesive management of the area.	Same as Proposed RMP	Unspecified actions on acquisition of Indian Trust lands.	Same as Alternative C.
22,814 acres would be pursued as a locatable mineral withdrawal, resulting in adverse impacts to Lands and Realty because more acres would be restricted and the range of allowable land uses would be less.	Same as Proposed RMP	Same as Proposed RMP	Similar impacts as the proposed RMP, except that 36,265 acres would be pursued as a locatable mineral withdrawal, resulting in adverse impacts to lands and realty	Land withdrawal decisions would preclude mineral and agricultural entry on 35,900 acres, resulting in adverse, long-term impacts on lands and realty because the range of land uses would be more limited and in general, more acres would be subject to restrictions.	Same as Alternative C.
Management of 106,178 acres non-WSA lands with wilderness characteristics as right-of-way avoidance areas to prevent surface disturbance and protect the wilderness characteristics of these areas would result in fewer lands and realty actions.	Unspecified in the DEIS.	Unspecified in the DEIS.	Unspecified in the DEIS.	Unspecified in the Current Management Plan.	Management of 277, 596 acres of non-WSA lands with wilderness characteristics as right-of-way exclusion areas to prevent surface disturbance and protect the wilderness characteristics of these areas would result in fewer lands and realty actions.
Retention of public lands in federal ownership would maintain and enhance BLM's ability to manage the resource values and uses of the non-WSA lands with wilderness characteristics.	Unspecified in the DEIS.	Unspecified in the DEIS.	Unspecified in the DEIS.	Unspecified in the Current Management Plan.	Retention of public lands in federal ownership would maintain and enhance BLM's ability to manage the resource values and uses of the non-WSA lands with wilderness characteristics.

Table 2.2.7 Summary of Impacts – Livestock and Grazing Management

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
156,425 acres/decade of prescribed fire would produce beneficial improvements in the health, biomass, age class, and diversity of forage.	Same as Proposed RMP	Same as Proposed RMP	Same as Proposed RMP	50,900 acres/decade of prescribed fire would produce beneficial improvements in the health, biomass, age class, and diversity of forage, though at a less degree than the other alternatives.	Same as Proposed RMP
LIVESTOCK AND GRAZING MANAGEMENT					
Phenology-based use system would have positive impacts on rangeland health. 138,402 AUMs allocated to livestock, a 5.3% AUM reduction compared to Alternative D.	Same as Proposed RMP, except 137,838 AUMs allocated to livestock, a 5.7% reduction form Alternative D.	Billed use based system. 139,163 AUMs allocated to livestock, a 4.8% AUM reduction from Alternative D.	Adjudicated use based system. Adverse impacts from 77,294 AUMs allocated to livestock, a 47.1% AUM reduction from Alternative D.	Permitted use based system. 146,161 AUMs allocated to livestock.	Same as Alternative C.
Oil and gas well construction would cause adverse short-term loss of 303 AUMs and long-term adverse loss of 829 AUMs from well pads, roads, and minerals infrastructure (a 4% reduction in AUMs compared to Alternative D).	Same as Proposed RMP, except short-term loss of 304 AUMs and long-term loss of 833 AUMs (a 4% reduction in AUMs compared to Alternative D).	Same as Proposed RMP, except adverse short-term loss of 305 AUMs and long-term adverse loss of 837 AUMs from minerals surface disturbances and construction (a 5% reduction in AUMs compared to Alternative D).	Same as Proposed RMP, except adverse short-term loss of 301 AUMs and long-term adverse loss of 824 AUMs from constructed minerals facilities and activities (a 3% reduction in AUMs compared to Alternative D).	Same as Proposed RMP from adverse short-term loss of 293 AUMs and long-term adverse loss of 800 AUMs.	Same as Proposed RMP from short-term adverse loss of 282 AUMs and long-term loss of 766 AUMs (a 4% increase in AUMs compared to Alternative D).
Short-term adverse impacts to livestock from displacement during rangeland improvement treatments on 34,640 acres, development of 812 guzzlers/reservoirs and 51 springs. Long-term benefits from improved rangeland for livestock.	Same as Proposed RMP.	Same as Proposed RMP, except treatments on 50,900 acres, 1,165 guzzlers/reservoirs, and 78 wells/springs.	Same as Proposed RMP, except treatments on 45,860 acres, 811 guzzlers/reservoirs, and 87 wells/springs.	Same as Proposed RMP, except treatments on 40,390 acres, 775 guzzlers/reservoirs, and 74 wells/springs.	Same as Alternative C.
Beneficial impacts from continued grazing allowed on 106,178 acres of non-WSA lands with wilderness characteristics.	No management for non-WSA wilderness characteristics values.	No management for non-WSA wilderness characteristics values.	No management for non-WSA wilderness characteristics values.	No management for non-WSA wilderness characteristics values.	Same as Proposed RMP, except grazing would be allowed on 277,596 acres of non-WSA lands with wilderness characteristics.

Table 2.2.8 Summary of Impacts – Minerals and Energy Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MINERALS AND ENERGY RESOURCES					
1,640,381acres available for oil and gas under standard and controlled use leasing stipulations, a 7% increase over Alternative D, would have direct beneficial impacts on minerals development from increased revenues and royalties. Adverse impacts from reduction of finite minerals resources after extraction. Impacts to non-fluid mineral resources would be similar.	1,780,860 acres available for oil and gas under standard and controlled use leasing stipulations, a 16% increase over Alternative D, with impacts similar to the Proposed RMP for fluid and non-fluid minerals.	1,819,397 acres available for oil and gas under standard and controlled use leasing stipulations, an 18% increase over Alternative D, with impacts similar to the Proposed RMP for fluid and non-fluid minerals.	1,627,085 acres available for oil and gas under standard and controlled use leasing stipulations, a 6% increase over Alternative D, with minor adverse impacts from reduced availability of the resource for extraction and reduced royalties and revenues. Impacts to non-fluid mineral resources would be similar to the Proposed RMP.	1,536,030 acres available for oil and gas leasing under standard and controlled use stipulations, with adverse impacts similar to the Proposed RMP. Non-fluid minerals impacts similar to the Proposed RMP.	1,499,461 acres available for oil and gas leasing, a 2% decrease from Alternative D – No Action. Alternative E has the fewest acres open to oil and gas development; however, the open areas have more potential than Alternative D. A 4% increase in the number of wells is anticipated compared to Alternative D.
Cultural actions would have long-term indirect economically adverse impacts by increasing costs of development.	Same as the Proposed RMP.	Similar to Alternative A.	Cultural resource decisions would close 48,801 acres to oil and gas leasing in the Uinta Foothills, Little/Devil's Hole, Upper Willow Creek, and Four Mile Wash.	Beneficial impacts to minerals development by opening areas to leasing and development.	Same as Alternative C.
106,178 acres of non-WSA lands with wilderness characteristics would be closed to oil and gas leasing (except White River, which would be NSO), solid mineral leasing, and mineral material disposal. These decisions would reduce opportunities for exploration and production of mineral and energy resources.	No acres of non-WSA lands with wilderness characteristics would be managed for protection of wilderness characteristics. There would be no effect on exploration or development of mineral and energy resources.	Same as Alternative A.	Same as Alternative A.	Unspecified in the Current Management Plan.	277,596 acres of non-WSA lands with wilderness characteristics would be closed to oil and gas leasing, solid mineral leasing, and mineral material disposal. These areas would be proposed for withdrawal from entry for locatable minerals. These decisions would reduce opportunities for exploration and production of mineral and energy resources.
• Decision to minimize noise and light pollution adjacent to Dinosaur NM would increase costs of exploration and development, and reduce opportunities for development. • Closure of the Pelican Lake SRMA to mineral material disposal and NSO of oil and gas leasing would increase costs for fluid mineral development and limit production of mineral materials	Same as the Proposed RMP. Closures and NSO at Pelican Lake SRMA would be the same as the Proposed RMP. In addition, NSO around old growth pinyon in the Book Cliffs and within ½ mile each side of the White River would increase cost of oil and gas production.	Same as Alternative A. Same as Alternative A at the Pelican Lake SRMA.	Same as Alternative A. Same as Alternative A at the Pelican Lake SRMA.	No required mitigation for noise and light pollution adjacent to Dinosaur NM; thus no effect on oil and gas development. Management prescription for Pelican Lake SRMA would have the same effect on mineral and energy development as described under Alternative A.	Similar to Alternative C, except that 277,597 acres of non-WSA lands with wilderness characteristics closed to mineral and energy development to provide opportunities for primitive recreation; reducing opportunities for production of these resources.
Restrictions on surface disturbance and development on steep slopes would increase costs of mineral and energy exploration and development, potentially limit amount of ultimate development, and decrease royalties paid to the federal government and the State of Utah.	Same as the Proposed RMP.	Similar to the Proposed RMP and Alternative A.	Similar to the Proposed RMP and Alternative A.	Similar to the Proposed RMP and Alternative A.	Similar to the Proposed RMP and Alternative A.
Management prescriptions to protect 54,958 acres of ACEC, 52 miles of wild and scenic rivers, and 53,058 acres of WSA would close or limit surface disturbance in these special designation areas, limiting future exploration and	Management prescriptions to protect 101,181acres of ACEC, 86 miles of wild and scenic rivers, and 53,058 acres of WSA would close or limit surface disturbance in these special designation areas, limiting future exploration and	Management prescriptions to protect 53,411 acres of ACEC, 52 miles of wild and scenic rivers, and 53,058 acres of WSA would close or limit surface disturbance in these special designation areas, limiting future exploration and	Management prescriptions to protect 266,948 acres of ACEC, 216 miles of wild and scenic rivers, and 53,058 acres of WSA would close or limit surface disturbance in these special designation areas, limiting future exploration and	Management prescriptions to protect 86,604 acres of ACEC, 52 miles of wild and scenic rivers, and 53,058 acres of WSA would close or limit surface disturbance in these special designation areas, limiting future exploration and	Management prescriptions to protect 311,666 acres of ACEC, 192 miles of wild and scenic rivers, and 53,058 acres of WSA would close or limit surface disturbance in these special designation areas, limiting future exploration and

Table 2.2.8 Summary of Impacts – Minerals and Energy Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
MINERALS AND ENERGY RESOURCES					
development of mineral and energy resources.	development of mineral and energy resources.	development of mineral and energy resources.	development of mineral and energy resources.	development of mineral and energy resources.	development of mineral and energy resources.
Seasonal and spatial buffers and mitigation to maintain and enhance habitat for special status species and other wildlife would have minor adverse impacts on mineral and energy exploration and development by increasing economic costs.	Protections for special status species and other wildlife would be more restrictive to mineral and energy exploration and development than Alternative D – No Action.	Limitations for protecting special status species and other wildlife would be less restrictive than Alternative D, with minor adverse impacts similar to Alternative A.	Similar impacts as the Proposed RMP, but more restrictive, with more adverse economically related impacts to minerals development than Alternative D.	An adverse, but minor, increase in development costs for the protection of special status species and other wildlife species.	Same as Alternative C.
289,687 acres of VRM Class I and Class II areas would limit mineral and energy development and economic gain by increasing production costs and reducing areas of development.	357,909 acres of VRM Class I and Class II areas would have impacts similar to the Proposed RMP, but to more acres.	167,088 acres of VRM Class I and Class II areas would have impacts similar to the Proposed RMP, but to fewer acres.	508,441 acres of VRM Class I and Class II areas would have adverse impacts on minerals development similar to the Proposed RMP, but to a greater number of acres.	166,772 acres of current VRM Class I and Class II would have impacts similar to Alternative B.	594,210 acres of VRM Class I and Class II areas would have impacts similar to the Proposed RMP, but to the greatest number of acres.

Table 2.2.9 Summary of Impacts – Non-WSA Lands with Wilderness Characteristics

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS					
Limiting OHV use to designated routes in Little Hole/Devils Hole, Upper Willow Creek, and Four Mile Wash (areas of high cultural site density) would prevent surface disturbance that would degrade the natural characteristics of Lower Flaming Gorge, Wolf Point, and Desolation Canyon non-WSA lands with wilderness characteristics. Motorized use, however, would reduce opportunities for solitude and primitive recreation. Oil and gas leasing with an NSO stipulation in Four Mile Wash would prevent surface disturbance that would impact the natural characteristics of Desolation Canyon non-WSA land with wilderness characteristics.	Same as the Proposed RMP.	Same as the Proposed RMP, except oil and gas leasing would be permitted with standard stipulations, resulting in surface disturbance that degrades the natural characteristics of the Four Mile Wash area of Desolation Canyon non-WSA lands with wilderness characteristics.	OHV use and oil and gas leasing would be closed in Little Hole/Devils Hole and Four Mile Wash, protecting the wilderness characteristics of Lower Flaming Gorge and Desolation Canyon non-WSA lands with wilderness characteristics. Limiting OHV use in Upper Willow Creek would have the same effects on Wolf Point as described in the Proposed RMP. Oil and gas leasing with timing and controlled surface use stipulations would permit surface disturbance that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics.	OHV use would not be limited in areas of high cultural site density, resulting in surface disturbance that would degrade the natural characteristics of Lower Flaming Gorge, Wolf Point, and Desolation Canyon. The areas would be open to oil and gas leasing, resulting in surface disturbance that would degrade the wilderness characteristics of the three non-WSA lands with wilderness characteristics.	OHV use would have the same effects as described for Alternative C, except Upper Willow Creek would also be closed to OHV use and oil and gas leasing, protecting the wilderness characteristics of Wolf Point.
156,425 acres of prescribed fire treatments per decade would restore vegetation communities and the naturalness of non-WSA lands with wilderness characteristics. Fire operations would degrade opportunities for solitude and primitive recreation in the short term.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	50,900 acres of prescribed fire treatments with the same impacts as the Proposed RMP.	Same as the Proposed RMP.
Proposed locatable mineral withdrawal of 17,814 acres would protect the wilderness characteristics of portions of the Lower Flaming Gorge, Cold Spring Mountain, White River, and Cripple Cowboy non-WSA lands with wilderness characteristics.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP, but also includes mineral withdrawal in Desolation Canyon non-WSA lands with wilderness characteristics for a total of 26,386 acres.	Proposed locatable mineral withdrawal of 30,900 acres would protect the wilderness characteristics of portions of the Lower Flaming Gorge, Cold Spring Mountain, and Desolation Canyon non-WSA lands with wilderness characteristics.	Proposed locatable mineral withdrawal of 277,596 acres would protect the wilderness characteristics of all non-WSA lands with wilderness characteristics.
Land acquired in Nine Mile Canyon would not be grazed by livestock. Improvement of riparian and watershed condition would enhance the natural characteristics of a portion of the Desolation Canyon non-WSA lands with wilderness characteristics and the setting required to provide opportunities for solitude and primitive recreation.	Same as the Proposed RMP.	Land acquired in Nine Mile Canyon would be grazed by livestock, but there would be no noticeable impacts to the naturalness of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence of livestock could degrade the desired experience of some visitors.	Same as the Proposed RMP.	Same as Alternative B.	Same as the Proposed RMP.
Between 54% and 100% of 11 non-WSA lands with wilderness characteristics,	Between 70% and 100% of 11 non-WSA lands with wilderness characteristics,	Same as Alternative A, except up to 171,412 of non-WSA lands with	Between 51% and 100% of 11 non-WSA lands with wilderness characteristics,	Same as Alternative C, except up to 145,711 acres of non-WSA lands with	Between 14% and 85% of 11 non-WSA lands with wilderness characteristics,

Table 2.2.9 Summary of Impacts – Non-WSA Lands with Wilderness Characteristics					
Proposed RMP	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D Current Management (No Action)**	**Alternative E**
NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS					
totaling up to 150,421 acres, would lose their wilderness characteristics due to oil and gas development.	totaling up to 153,768 acres, would lose their wilderness characteristics due to oil and gas development.	wilderness characteristics would lose their wilderness characteristics.	totaling up to 123,571 acres would lose their wilderness characteristics due to oil and gas development.	wilderness characteristics would lose their wilderness characteristics.	totaling up to 117,470 acres would lose their wilderness characteristics due to oil and gas development.
Managing White River, Blue Mountain, Browns Park, and Nine Mile Canyon SRMAs would provide for primitive recreation opportunities in portions of the SRMAs – preserving wilderness characteristics. Motorized recreation opportunities would be emphasized in other parts of the SRMA, conflicting with opportunities for solitude and primitive recreation.	Same as the Proposed RMP, but also include management of the Book Cliffs SRMA.	Managing Browns Park and Nine Mile Canyon as SRMAs would have the same impacts on non-WSA lands with wilderness characteristics as Proposed RMP.	Same as Alternative A.	Managing Browns Park and Nine Mile Canyon as SRMAs would have the same impacts on non-WSA lands with wilderness characteristics as described under the Proposed RMP.	Same as Alternative A, except that all non-WSA lands within the five SRMAs would be managed for primitive recreation, opportunities for solitude, and the setting required to support those opportunities.
Developing 400 miles of non-motorized trails would provide added opportunities for primitive recreation. Development of 800 miles of motorized trails would conflict with primitive recreation, and non-WSA lands with wilderness characteristics that provide those opportunities.	Same as the Proposed RMP.	Development of 800 miles of motorized trails would have the same impacts on non-WSA lands with wilderness characteristics as the Proposed RMP and Alternative A.	Same as the Proposed RMP and Alternative A, except 800 miles of motorized trails would not be developed.	Developing 57 miles of non-motorized trails would have the same impacts on non-WSA lands with wilderness characteristics as the Proposed RMP and Alternative A.	Same as the Proposed RMP and Alternative A, except 800 miles of motorized trails would not be developed.
75,845 acres closed to OHV use would enhance the wilderness characteristics of portions of the Lower Flaming Gorge and White River non-WSA lands with wilderness characteristics.	Same as the Proposed RMP.	60,187 acres closed to OHV use would enhance the wilderness characteristics of portions of the White River non-WSA lands with wilderness characteristics.	366,559 acres would be closed to OHV use, enhancing the wilderness characteristics of 18 non-WSA lands with wilderness characteristics.	50,388 acres would be closed to OHV use, enhancing the wilderness characteristics of parts of every non-WSA lands with wilderness characteristics, except Hideout Canyon.	392,818 acres would be closed to OHV use, enhancing the wilderness characteristics of all non-WSA lands with wilderness characteristics.
Prohibiting surface disturbance on slope greater than 40% would prevent surface disturbances that would degrade the naturalness of the non-WSA lands with wilderness characteristics.	Same as the Proposed RMP.	Erosion control plans required for surface disturbances on slopes greater that 20% would not prevent degradation of the natural characteristics of non-WSA lands with wilderness characteristics.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.
Designation of 4 ACECs would protect the wilderness characteristics of portions of 4 non-WSA lands with wilderness characteristics. Protection of 2 recommended wild and scenic rivers would protect the wilderness characteristics of portions of 3 non-WSA lands with wilderness characteristics.	Designation of 6 ACECs would protect the wilderness characteristics of portions of 7 non-WSA lands with wilderness characteristics. Protection of 3 recommended wild and scenic rivers would protect the wilderness characteristics of portions of 3 non-WSA lands with wilderness characteristics.	Designation of 4 ACECs would protect the wilderness characteristics of portions of 4 non-WSA lands with wilderness characteristics. Protection of 2 recommended wild and scenic rivers would protect the wilderness characteristics of portions of 3 non-WSA lands with wilderness characteristics.	Designation of 8 ACECs would protect the wilderness characteristics of portions of 11 non-WSA lands with wilderness characteristics. Protection of 5 recommended wild and scenic rivers would protect the wilderness characteristics of portions of 8 non-WSA lands with wilderness characteristics.	Designation of 4 ACECs would protect the wilderness characteristics of portions of 4 non-WSA lands with wilderness characteristics. Protection of 2 recommended wild and scenic rivers would protect the wilderness characteristics of portions of 3 non-WSA lands with wilderness characteristics.	Same as Alternative C, except White River would not be recommended suitable for wild and scenic river designation. White River would be managed as eligible, and protected, pending review of a dam construction permit.
139,502 acres would be managed by VRM Class I and Class II objectives, protecting the landscapes and the natural characteristics of portions of the non-WSA lands with wilderness characteristics.	148,364 acres would be managed by VRM Class I and Class II objectives, protecting the landscapes and the natural characteristics of portions of the non-WSA lands with wilderness characteristics.	52,777 acres would be managed by VRM Class I and Class II objectives, protecting the landscape and the natural characteristics of portions of the non-WSA lands with wilderness characteristics.	191,657 acres would be managed by VRM Class I and Class II objectives, protecting the landscape and the natural characteristics of portions of the non-WSA lands with wilderness characteristics.	52,626 acres would be managed by VRM Class I and Class II objectives, protecting the landscape and the natural characteristics of portions of the non-WSA lands with wilderness characteristics.	277,596 acres would be managed by VRM Class I objectives, protecting the landscape and the natural characteristics of the non-WSA lands with wilderness characteristics.
No horse herds would be maintained in the Bonanza, Hill Creek, or Winter Ridge	The presence of wild horses would supplement the wilderness characteristics	The presence of wild horses would supplement the wilderness characteristics	The presence of wild horses would supplement the wilderness characteristics	The presence of wild horses would supplement the wilderness characteristics	Same as Alternative C.

Table 2.2.9 Summary of Impacts – Non-WSA Lands with Wilderness Characteristics					
Proposed RMP	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D Current Management (No Action)**	**Alternative E**
NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS					
herd areas. There would be no supplemental wilderness characteristics or opportunity to view wild horses.	of the Wolf Point and Desolation Canyon non-WSA lands with wilderness characteristics. Construction of waters and fences to manage horses would degrade the naturalness of the non-WSA lands with wilderness characteristics to some degree.	of the Desolation Canyon non-WSA lands with wilderness characteristics. Construction of waters and fences to manage horses would degrade the naturalness of the non-WSA lands with wilderness characteristics to some degree.	of the White River, Wolf Point, and Desolation Canyon non-WSA lands with wilderness characteristics. Construction of waters and fences to manage horses would degrade the naturalness of the non-WSA lands with wilderness characteristics to some degree.	of the Desolation Canyon non-WSA lands with wilderness characteristics. Construction of waters and fences to manage horses would degrade the naturalness of the non-WSA lands with wilderness characteristics to some degree.	
546,152 acres of forests and woodlands would be treated or harvested. Treatments with prescribed fire could restore natural vegetation communities and enhance the natural characteristics of the non-WSA lands with wilderness characteristics. Treatments with chainsaws and bulldozers would degrade naturalness of the non-WSA lands with wilderness characteristics. Operation of the treatment would diminish opportunities for solitude and primitive recreation in the short term.	552,152 acres would be treated or harvested with the same impacts to non-WSA lands with wilderness characteristics as described for the Proposed RMP.	554,108 acres would be treated or harvested with the same impacts to non-WSA lands with wilderness characteristics as described for Alternative A.	Same as Alternative A, except treatment would not be permitted in 242,760 acres of ACECs.	Up to 88,200 acres of forests and 200,100 acres of woodlands would be treated or harvested with the same impacts to non-WSA lands with wilderness characteristics as Alternative A.	No mechanical forest or woodland treatment would be permitted in non-WSA lands with wilderness characteristics. Treatments could be performed with prescribed fire, with impacts the same as described for the Proposed RMP.
A management prescription would be implemented to protect the wilderness characteristics of 15 non-WSA lands with wilderness characteristics, totaling 106,178 acres.	No specific actions are prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics. There would be no impacts on non-WSA lands with wilderness characteristics.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	A management prescription would be implemented to protect the wilderness characteristics of all 25 non-WSA lands with wilderness characteristics, totaling 277,596 acres.

Table 2.2.10 Summary of Impacts - Paleontology

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
PALEONTOLOGY					
Long-term, direct, potentially adverse impacts from surface disturbance caused by, fire management, lands and realty decisions, livestock and grazing, minerals development, recreation, and woodland management. Beneficial impacts from development include increased access that would increase likelihood of site discoveries and long-term increase in knowledge of fossil resources.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Beneficial impacts from development include site discoveries and long-term increase in knowledge of fossil resources.
Limits on surface disturbance in VRM Class I and Class II areas (289,687 acres) and non-WSA lands with wilderness characteristics (106,178 acres) would protect paleontological resources.	Limits on surface disturbance in designated VRM Class I and Class II areas (357.909 acres) would protect paleontological resources.	Same as Alternative A, except protection within 167,088 acres of designated VRM Class I and Class II areas.	Same as Alternative A, except protection within 508,441 acres of designated VRM Class I and Class II areas.	Same as Alternative A, except protection within 166,772 acres of designated VRM Class I and Class II areas.	Limits on surface disturbance in designated VRM Class I and Class II areas (594,210 acres) and non-WSA lands with wilderness characteristics (277,596 acres) would protect paleontological resources.
Beneficial long- and short-term direct-protection-related impacts from travel decisions by limiting open OHV areas to 6,202 acres.	Same as the Proposed RMP.	Same as the Proposed RMP, except open OHV use would be allowed on 5,434 acres.	Same as Alternative B.	Long-term adverse impacts from unrestricted OHV use on 787,859 acres.	Same as Alternative B.

Table 2.2.11 Summary of Impacts - Recreation

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION					
OHV restrictions in areas with high-density cultural sites would be adverse for motorized recreation, but beneficial to non-mechanized recreation. OHV restrictions would beneficially reduce resource use conflicts and improve visitor safety.	Same as the Proposed RMP	Similar impacts as the Proposed RMP	Same as the Proposed RMP	Beneficial impacts on motorized recreational use from open OHV areas at cultural sites. Lack of resource protection would have adverse impacts on sightseeing and interpretive sites.	Closing areas to OHV use would have long-term, adverse impacts on motorized recreational opportunities. Long-term, beneficial impacts on non-motorized recreation from OHV restrictions.
Prescribed burn fuel treatments on 156,425 acres per decade would limit recreation in treatment areas in the short term, but have long-term beneficial impacts on recreation from improved wildlife habitat, increased landscape diversity, and decreased risks of damage to developed recreation sites from wild land fire.	Same as the Proposed RMP	Same as the Proposed RMP	Same as the Proposed RMP	Same as the Proposed RMP except that the short-term and long-term impacts would be less (prescribed burns would be permitted on 50,900 acres).	Same as the Proposed RMP
Proposed minerals withdrawals and easements would beneficially increase recreational access and recreational opportunities for motorized and non-motorized users. Retention of 106,178 acres of non-WSA lands with wilderness characteristics in federal ownership and excluding ROWs would have beneficial impacts on non-mechanized recreational opportunities.	Proposed minerals withdrawals and easements would beneficially increase recreational access and recreational opportunities for motorized and non-motorized users.	Beneficial impacts to recreational opportunities from proposed mineral withdrawals.	Same as the Proposed RMP, except that non-WSA lands with wilderness characteristics would not be managed under this alternative.	Same as Alternative B.	Same as the Proposed RMP, except that 277,596 acres of non-WSA lands with wilderness characteristics would increase the beneficial recreational opportunities for non-mechanized users. The impacts to mechanized users would be more adverse because OHV use would be prohibited in these areas.
Potential leasing and minerals development and surface disturbances on approximately 2,143,223 acres would have direct and indirect adverse impacts on recreational opportunities and experiences, except for OHV use that would benefit from additional road construction. Managing 106,178 acres of non-WSA lands with wilderness characteristics as closed to mineral leasing would have long-term beneficial impacts on motorized and non-motorized recreational opportunities.	Same as the Proposed RMP, except that 2,320,825acres would be affected by minerals leasing and mining and no management of non-WSA lands with wilderness characteristics.	Same as Alternative A, except that 2,376,920 acres would be affected by minerals leasing and mining.	Same as Alternative A, except that 2,116,201 acres would be affected by minerals leasing and mining and no management of non-WSA lands with wilderness characteristics.	Same as Alternative A, except that approximately 2,044,339 acres would be available for minerals leasing and mining.	Same as the Proposed RMP, except that 1,931,353 acres would be affected by minerals leasing and mining and 277,596 acres in non-WSA lands with wilderness characteristics would beneficially impact opportunities for non-mechanized recreational opportunities. Adverse impacts on mechanized opportunities in non-WSA lands with wilderness characteristics from prohibitions on OHV travel.
Designation of 133,560 acres of SRMAs would have long-term, beneficial impacts on mechanized and non-mechanized recreational opportunities.	Same as the Proposed RMP, but to a greater degree, from designation of 499,588 acres of SRMAs.	Same as Alternative D from designation of 86,454acres of SRMAs.	Same as the Proposed RMP, but to a greater degree, from designation of 522,604 acres of SRMAs.	Same as Alternative B.	Same as Alternative C.
Development and/or improvement of 800 miles of motorized trails, development and/or maintenance of 400 miles of mechanized (non-motorized) trails, and increasing the number of cabins would	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP, except that 800 miles of motorized trails would not be developed (with adverse impacts from limited OHV recreational opportunities, but beneficial to other, non-mechanized	Development of 55 miles of hiking or horse trails and 2 miles of mountain-bike trails would have beneficial impacts on recreation.	Development of 400 miles of non-motorized trails would enhance recreation opportunities for non-motorized and non-mechanized opportunities, but would be adverse for motorized OHV users from

Table 2.2.11 Summary of Impacts - Recreation

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RECREATION					
have beneficial impacts on recreation.			recreational activities).		limited opportunities.
Designation of 131,697 acres of ACECs would be beneficial to mechanized and non-mechanized recreation opportunities.	Same as the Proposed RMP, but to a greater degree from designation of 345,850 acres as ACECs.	Same as the Proposed RMP from designation of 170,886 acres as ACECs.	Same as the Proposed RMP, but to a greater degree from designation of 681,310 acres as ACECs.	Same as the Proposed RMP from designation of 165,944 acres as ACECs.	Same as Alternative C.
Management of 106,178 acres of non-WSA lands with wilderness characteristics would provide opportunities for primitive forms of recreation.	Not managed under this alternative.	Not managed under this alternative.	Not managed under this alternative.	Not managed under this alternative.	Protection of wilderness characteristics on 277,596 acres of non-WSA lands with wilderness characteristics would provide opportunities for primitive forms of recreation.
6,202 acres would be designated as open to OHV travel, 1,643,475 acres would allow OHV travel on designated routes, 75,845 acres would be closed to OHV travel, and 4,860 miles of designated OHV routes would have long-term beneficial impacts on OHV recreation and long-term beneficial impacts on other forms of recreation by reducing recreation use conflicts.	Same as the Proposed RMP.	5,434 acres would be open to OHV use, 1,659,901 acres would be designated as limited, 60,187 acres would be closed to OHV use, and 4,860 miles of designated OHV routes would have impacts similar to the Proposed RMP.	5,434 acres would be open to OHV use, 1,353,529 acres would be designated as limited, 366,559 acres would be closed to OHV use, and 4,707 miles of designated routes would have impacts similar to the Proposed RMP.	787,859 acres would remain open to OHV travel, 887,275 acres would be designated as limiting OHV use to designated routes, and 50,388 acres as closed to OHV use. There would be beneficial impacts for OHV users from a substantial area open to unrestricted OHV travel. There would be adverse impacts to other (non-mechanized and non-motorized)recreational activities, and resource use conflicts would continue.	5,434 acres would be designated as open to OHV travel; 1,326,024 acres would be designated as limited; and 392,818 acres would be closed to OHV travel. 4,654 miles of designated OHV routes would have long-term beneficial impacts on OHV recreation and long-term beneficial impacts on other forms of recreation by reducing recreation use conflicts.

Table 2.2.12 Summary of Impacts – Riparian Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RIPARIAN RESOURCES					
Prescribed fire allowed on 156,425 acres/decade would result in fewer adverse impacts from wildland fire to riparian resources.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	Prescribed fire allowed on 50,900 acres/decade would result in more adverse impacts from wildland fire to riparian resources compared with the other alternatives.	Prescribed fire on 156,425 acres per decade would result in fewer severe wildfires, promote healthy upland vegetation condition, and reduce erosion and sedimentation to riparian systems.
245,607 AUMs allotted with 50% riparian utilization would cause more adverse impacts to riparian resources than Alternative C.	245,649 AUMs allotted with 50% riparian utilization would cause more adverse impacts to riparian resources than Alternative C.	244,034 AUMs allotted with greater forage utilization (60%) in riparian areas would cause more adverse impacts to riparian resources than Alternative C.	187,450 AUMs allotted with 50% riparian utilization would have the least adverse impacts to riparian resources.	246,128 AUMs allotted with unspecified use of riparian areas would have the greatest adverse impacts to riparian resources.	187,450 AUMs allotted with 50% riparian utilization would maintain proper functioning condition of riparian zones in the VPA.
Increased public access via easements and acquisitions, and agricultural entry on withdrawn lands would expose riparian areas to adverse impacts from resource degradation.	Increased public access via easements and acquisitions, and agricultural entry on withdrawn lands would expose riparian areas to adverse impacts from resource degradation.	No easements or acquisitions sought. Agricultural entry on withdrawn lands would expose riparian areas to adverse impacts from resource degradation.	Similar to Alternative A, though somewhat greater adverse impacts could occur if more easements or acquisitions were sought than under Alternative A.	Unspecified amounts of land easements and acquisitions.	Increased public access via easements and land acquisitions would lead to increased visitation and increased human impacts on riparian systems. Proposal for mineral withdrawals would limit surface disturbances in riparian zones.
Rangeland improvements would treat 34,640 acres, with the least beneficial impacts to riparian resources from improving filtration (reducing sedimentation) and reducing livestock watering within riparian areas.	Rangeland improvements would treat 34,640 acres, with the least beneficial impacts to riparian resources from improving filtration (reducing sedimentation) and reducing livestock watering within riparian areas.	Rangeland improvements would treat 50,900 acres, with impacts similar to Alternative A, but would be the most beneficial of all the alternatives.	Rangeland improvements would treat 45,860 acres, with impacts similar to but less than Alternative B.	Rangeland improvements would treat 40,390 acres, with impacts similar to Alternative A.	Rangeland improvements would treat 45,860 acres, with impacts similar to but less than Alternative B.
Beneficial impacts from designating SRMAs, managing OHV use. Long-term adverse impacts from trail development.	Beneficial impacts from designating SRMAs, managing OHV use. Long-term adverse impacts from trail development.	Similar to Alternative D, but with less beneficial impacts caused by trail development, which would adversely impact riparian areas.	Similar to Alternative A, but would have the most beneficial impacts on riparian resources.	Beneficial impacts from continued management of SRMAs, management of OHV use, and limited trail development.	Managing portions of SRMAs for primitive opportunities and settings would limit surface disturbances that result in erosion and sedimentation in riparian systems. Limiting most OHV use to designated routes would also limit surface disturbance, with the same impacts on riparian systems.
Closing obsolete roads and limiting OHV use would have more long-term, direct, beneficial impacts on riparian resources than Alternative D, but less than Alternative C.	Closing obsolete roads and limiting OHV use would have more long-term, direct, beneficial impacts on riparian resources than Alternative D, but less than Alternative C.	Management of OHV use would have more beneficial impacts than Alternative D, but less than A and C.	Closing obsolete roads and placing the most limitations on OHV use would have the most beneficial impacts on riparian resources.	Unspecified road and trail closures, and the most Open-class OHV use would have long-term adverse impacts on riparian resources.	Closing obsolete roads and placing the most limitations on OHV use would have the most beneficial impacts on riparian resources.
Limiting surface disturbance on steep slopes would reduce erosion and sedimentation to riparian systems.	Limiting surface disturbance on steep slopes would reduce erosion and sedimentation to riparian systems.	Disturbance would not be limited on steep slopes.	Limiting surface disturbance on steep slopes would reduce erosion and sedimentation to riparian systems.	Disturbance would only be restricted on steep slopes for mineral production activities.	Limiting surface disturbance on steep slopes would reduce erosion and sedimentation to riparian systems.
Designation of additional special management areas (ACEC and recommended wild and scenic rivers) would limit surface disturbances that lead to erosion and sedimentation and deterioration of riparian zones.	Designation of additional special management areas (ACEC and recommended wild and scenic rivers) would limit surface disturbances that lead to erosion and sedimentation and deterioration of riparian zones.	Designation of limited special management areas (ACEC and recommended wild and scenic rivers) would slightly limit surface disturbances that lead to erosion and sedimentation and deterioration of riparian zones.	Designation of the greatest area of special management areas (ACEC and recommended wild and scenic rivers) would limit surface disturbances that lead to erosion and sedimentation and deterioration of riparian zones.	Unspecified in the Current Management Plan.	Designation of the greatest area of special management areas (ACEC and recommended wild and scenic rivers) would limit surface disturbances that lead to erosion and sedimentation and deterioration of riparian zones.
Protection of 106,178 acres of wilderness characteristics in non-WSA lands with wilderness characteristics would limit surface disturbances that lead to erosion	Unspecified in the DEIS.	Unspecified in the DEIS.	Unspecified in the DEIS.	Unspecified in the Current Management Plan.	Protection of 277,596 acres of wilderness characteristics in non-WSA lands with wilderness characteristics would limit surface disturbances that lead to erosion

Table 2.2.12 Summary of Impacts – Riparian Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
RIPARIAN RESOURCES					
and sedimentation in riparian zones.					and sedimentation in riparian zones.
552,152 acres of woodlands treated or harvested would have long-term adverse impacts caused by soil erosion.	552,152 acres of woodlands treated or harvested would have long-term adverse impacts caused by soil erosion.	554,108 acres of woodlands harvested or treated would have impacts similar to Alternative A.	Same as Proposed RMP.	288,300 acres of woodlands harvested or treated would have the least adverse impacts on riparian resources caused by soil erosion.	Treatment or harvest of 421,133 acres of forests and woodlands would result in increased soil erosion.

Table 2.2.13 Summary of Impacts – Social and Economic Considerations

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOCIAL AND ECONOMICS CONSIDERATIONS					
LIVESTOCK GRAZING: Socioeconomic impacts would be identical to current conditions because the amount of AUMs available is identical to Alternative D.	**LIVESTOCK GRAZING:** Same as Proposed RMP.	**LIVESTOCK GRAZING:** 7,084 fewer AUMs (5% less) would not alter socioeconomic impacts compared to Alternative D.	**LIVESTOCK GRAZING:** 68,926 fewer AUMs (47% less) would have negligible impact on socioeconomics given the total average actual use of AUMs has been around 78,500 over the previous 10 years.	**LIVESTOCK GRAZING:** Socioeconomic impacts would remain similar to current conditions.	**LIVESTOCK GRAZING:** Same as Alternative C.
MINERAL DEVELOPMENT: 93,861 jobs over 20 years and 14.8 employees per well. $12.9 billion in development costs $520 million annually in federal royalty revenue. $462.9 million annually in county royalty revenue. $20.4 million estimated annual property tax benefit from oil and gas production	**MINERAL DEVELOPMENT:** Same as Proposed RMP	**MINERAL DEVELOPMENT:** 94,586 jobs over 20 years. $13.0 billion in development costs. $524.8 million annually in federal royalty revenue. $466.5 million annually in county royalty revenue. $20.5 million estimated annual property tax benefit from oil and gas production	**MINERAL DEVELOPMENT:** 92,085 jobs over 20 years. $12.7 billion in development costs. $511.2 million annually in federal royalty revenue. $454.4 million annually in county royalty revenue. $20.0 million estimated annual property tax benefit from oil and gas production	**MINERAL DEVELOPMENT:** 86,668 jobs over 20 years. $11.9 billion in development costs. $480.9 million annually in federal royalty revenue. $427.4 million annually in county royalty revenue. $18.8 million estimated annual property tax benefit from oil and gas production	**MINERAL DEVELOPMENT:** 90,532 jobs over 20 years. $12.5 billion in development costs over 20 years. $453,600,000 in state revenue. $281,300,000 in local revenue. $446,600,000 in royalties to counties. $19.6 million estimated annual property tax benefit from oil and gas production
RECREATION: Long-term, indirect beneficial impacts on communities from development of recreational opportunities, increased tourist spending, and limits on other activities.	**RECREATION:** Similar impacts as Alternative A with regard to Backcountry Byways, trails and cabins. More potential for visitation and recreation opportunities (and related economic gains) within SRMAs compared to Proposed RMP and Alternative D.	**RECREATION:** Similar impacts as Alternative D. Less recreational opportunities than Alternative A, with fewer long-term indirect beneficial impacts from tourism.	**RECREATION:** Similar impacts as Alternative A. More potential for visitation and recreational opportunities than Alternative B, but less economic gain than Alternative A.	**RECREATION:** Current recreational opportunities support 2.5 total annual visitation. $99.5 million in total annual traveler spending, $2.08 million in tourism related taxes, with 2,580 in recreation related jobs.	**RECREATION:** Long-term, indirect benefits to communities from development of recreational opportunities, increased tourist spending, and limits on other activities.
SPECIAL DESIGNATIONS: Opportunities for adverse socioeconomic impacts resulting from the designation of ACECs is likely to be minor as 83,539 acres would be Closed or designated as NSO. Beneficial impacts of tourism-related revenue as a result of WSA designation would be identical to Alternative D.	**SPECIAL DESIGNATIONS:** Same as Proposed RMP.	**SPECIAL DESIGNATIONS:** Opportunities for adverse socioeconomic impacts resulting from ACEC designation would be least under Alternative B, as 23,390 would have major restrictions on oil and gas development. Beneficial impacts of tourism-related revenue as a result of WSA designation would be identical to Alternative D.	**SPECIAL DESIGNATIONS:** Opportunities for adverse impacts resulting from ACEC designation would be greatest under Alternative C, as 257,006 acres would have major restrictions on oil and gas development. WSR designation of 216 river miles could have long-term beneficial impacts on tourism-related revenues.	**SPECIAL DESIGNATIONS:** Impacts to socioeconomics would be similar to current conditions, as 47,167 acres are designated as ACECs. With 52 river miles designated as eligible for WSR status, socioeconomic impacts would be negligible.	**SPECIAL DESIGNATIONS:** Similar to Alternative C.
TRAVEL MANAGEMENT: Greatest potential for social and economic benefits to the extent that user conflicts are reduced, and that sufficient opportunities exist for both motorized and non-motorized recreation.	**TRAVEL MANAGEMENT:** Same as Proposed RMP	**TRAVEL MANAGEMENT:** Social and economic benefits to OHV users and associated businesses higher than under the Proposed Plan, but less than under current conditions. Social and economic benefits to non-motorized recreationists less than under the Proposed Plan, but greater than under current conditions.	**TRAVEL MANAGEMENT:** Potential decrease in OHV visitation with corresponding potential increase in non-motorized recreation. Adverse economic impacts to businesses focusing on OHV use, but positive economic benefits to businesses focusing on non-motorized recreation.	**TRAVEL MANAGEMENT:** Economic contributions from OHV users would be similar to current conditions. There could be a potential decrease in social well-being and contribution to the local economy from recreationists seeking non-motorized opportunities. There could be possible degradation of other resources that could adversely impact recreation opportunities and	TRAVEL MANAGEMENT: Greatest potential for a decrease in OHV visitation with a corresponding increase in non-motorized recreation. Adverse impacts to businesses focusing on OHV use would be greatest.

Table 2.2.13 Summary of Impacts – Social and Economic Considerations

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOCIAL AND ECONOMICS CONSIDERATIONS					
				visitation in the long term.	
NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS: Negligible adverse economic impacts from reduction of oil and gas development on 106,178 acres of non-WSA lands with wilderness characteristics. Possible increases in revenues from primitive recreation	**NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS:** No impacts, as no non-WSA lands would be managed for wilderness characteristics	**NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS:** No impacts, as no non-WSA lands would be managed for wilderness characteristics	**NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS:** No impacts, as no non-WSA lands would be managed for wilderness characteristics	**NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS:** No impacts, as no non-WSA lands would be managed for wilderness characteristics	**NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS:** Adverse economic impacts from reduction in oil and gas development on 277,596 acres of non-WSA lands with wilderness characteristics. Possible increases in revenues from primitive recreation.

Table 2.2.14 Summary of Impacts – Soil and Water Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOIL AND WATER RESOURCES					
Prescribed burning on 156,425 acres/decade would cause short-term erosion on: 20,335 acres of water-erodible soils 123,575 acres of wind-erodible soils, and reclamation difficulty on: 14,078 acres of sodic soils 31,285 acres of saline soils 10,949 acres of gypsic soils	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.	Management for prescribed burning on 50,900 acres/decade would have 3 times less short-term adverse impacts on soils.	Same as Proposed RMP.
50% forage utilization and 245,607 AUMs allocated would moderate adverse impacts on soil and water resources through loss of cover and trampling.	50% forage utilization and 245,649 AUMs allocated would moderate adverse impacts on soil and water resources through loss of cover and trampling.	60% forage utilization and 244,034 AUMs allocated would have impacts similar to Alternative A.	60% forage utilization and 187,450 AUMs allocated would have the least adverse impacts on soil and water resources through loss of cover and trampling.	245,108 AUMs allocated and unspecified forage utilization would potentially have the greatest adverse impacts on soil and water resources through loss of cover and trampling.	50% forage utilization and 187,450 AUMs allocated would have less adverse impacts on soil and water resources through loss of cover and trampling, than Alternative D – No Action.
Increased public access via easements and acquisitions, and agricultural entry on proposed land withdrawals would expose soil and water resources to potential degradation.	Same as Proposed Plan.	No easements or acquisitions would be sought. Agricultural entry on withdrawn lands would expose soil and water resources to potential degradation.	Same as Proposed Plan.	Land withdrawals that would preclude agricultural entry would have the least adverse impacts on soil and water resources compared with other alternatives. Unspecified land easements and acquisitions.	Same as Proposed Plan.
1,640,381 acres available for oil and gas development under standard and controlled use leasing stipulations, adversely impacting 18,860 acres of soils in the long-term on approximately 3,665 wells.	1,780,860 acres available for oil and gas development under standard and controlled use leasing stipulations, adversely impacting 18,945 acres of soils in the long-term on approximately 3,688 wells.	1,819,397 acres available for oil and gas development under standard and controlled use leasing stipulations, adversely impacting 18,757 acres of soils in the long term on approximately 3,712 wells.	1,627,085 acres available for oil and gas development under standard and controlled use leasing stipulations, adversely impacting 18,757 acres of soils in the long term on approximately 3,637 wells.	1,536,030 acres available for oil and gas development under standard and controlled use leasing stipulations, adversely impacting 18,212 acres of soils in the long term on approximately 3,488 wells.	1,499,461 acres available for oil and gas development, adversely impacting 17,468 acres of soils in the long term from development of about 3,285 wells.

Table 2.2.14 Summary of Impacts – Soil and Water Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOIL AND WATER RESOURCES					
Managing 106,178 acres of non-WSA lands with special protections to maintain their wilderness characteristics would result in long-term benefits to water quality and soil productivity in the form of reduced soil erosion, sedimentation, and salinity in streams.	Varying levels of development and surface disturbance within non-WSA lands would have indirect, long-term, adverse impacts to water quality and soil productivity.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Managing 277,596 acres of non-WSA lands with special protections to maintain their wilderness characteristics would result in long-term benefits to water quality and soil productivity in the form of reduced soil erosion, sedimentation, and salinity in streams.
34,640 acres of rangeland treatments would beneficially impact vegetation cover, reducing erosion and sedimentation by the least amount.	Same as Proposed RMP.	50,900 acres of rangeland treatments would beneficially impact vegetation cover, reducing erosion and sedimentation by the greatest amount.	45,860 acres of rangeland treatments would beneficially impact vegetation cover, reducing erosion and sedimentation.	40,390 acres of rangeland treatments would beneficially improve vegetative cover, thereby reducing erosion and sedimentation.	45,860 acres of rangeland treatments would maintain and restore vegetation condition, reducing erosion and sedimentation.
Designating 3 backcountry byways, 7 SRMAs, 400 miles of non-motorized trails, and 800 miles of motorized trails would likely have adverse impacts from erosion, sedimentation, and soil degradation. Limiting OHV use to trails for game retrieval would beneficially impact soils.	Designating 3 backcountry byways, 7 SRMAs, 400 miles of non-motorized trails, and 800 miles of motorized trails would likely have adverse impacts from erosion, sedimentation, and soil degradation. Limiting OHV use to trails for game retrieval would beneficially impact soils.	Designating 3 backcountry byways, 4 SRMAs, and 800 miles of motorized trails would likely have adverse impacts from erosion, sedimentation, and soil degradation. Allowing OHV off trails to retrieve game would be adverse to soils.	Designating 8 SRMAs, and 400 miles of non-motorized would have adverse impacts caused by erosion, sedimentation, and soil degradation. Limiting OHV use to trails for game retrieval would beneficially impact soils.	Designating 3 backcountry byways, 4 SRMAs, and 57+ miles of motorized trails (and unlimited access) would likely have adverse impacts caused by erosion, sedimentation, and soil degradation.	Establishing 8 SRMAs and 400 miles of non-motorized would result in increased visitation and adverse impacts from erosion, sedimentation, and soil degradation. Elements of recreation management that limit surface disturbance, however, would protect soil and water resources. Limiting OHV use to trails for game retrieval would beneficially impact soils.

Table 2.2.14 Summary of Impacts – Soil and Water Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SOIL AND WATER RESOURCES					
Restrictions on surface-disturbing activities for slopes 21-40% and greater than 40% would reduce erosion and sedimentation.	Same as Proposed Plan.	Restrictions on surface-disturbing activities for slopes greater than 20% would reduce erosion and sedimentation, but less than Alternatives A, C, and the Proposed Plan.	Restrictions on surface-disturbing activities for slopes 21-40% and greater than 40% would reduce erosion and sedimentation.	Restrictions on surface-disturbing for mineral activities only for slopes greater than 40% would reduce erosion and sedimentation, but less than any other alternative.	Same as Alternative C.
The designation of 131,700 acres as ACECs would result in less surface disturbance but would have the least indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. The designation of 39 BLM shoreline miles as WSRs may increase visitation, but would also prevent surface disturbance in the immediate vicinity and have direct and indirect, long-term benefits to water quality and soil productivity.	The designation of 345,400 acres as ACECs would result in less surface disturbance and would have the second greatest indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. The designation of 57 BLM shoreline miles as WSRs may increase visitation, but would also prevent surface disturbance in the immediate vicinity and have direct and indirect, long-term benefits to water quality and soil productivity.	The designation of 179,356 acres as ACECs would result in less surface disturbance and would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. The designation of 39 BLM shoreline miles as WSRs may increase visitation, but would also prevent surface disturbance in the immediate vicinity and have direct and indirect, long-term benefits to water quality and soil productivity	The designation of 681,310 acres as ACECs would result in less surface disturbance and would have the greatest indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. The designation of 112 BLM shoreline miles as WSRs may increase visitation, but would also prevent surface disturbance in the immediate vicinity and have the greatest direct and indirect, long-term benefits to water quality and soil productivity.	The designation of 165,944 acres as ACECs would result in less surface disturbance and would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. The designation of 39 BLM shoreline miles as WSRs may increase visitation, but would also prevent surface disturbance in the immediate vicinity and have direct and indirect, long-term benefits to water quality and soil productivity.	The designation of 681,310 acres as ACECs would result in less surface disturbance and would have the greatest indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. The designation of 104 BLM shoreline miles as WSRs may increase visitation, but would also prevent surface disturbance in the immediate vicinity and have the greatest direct and indirect, long-term benefits to water quality and soil productivity
OHV USE: 6,202 acres open 1,643,475 acres limited 75,845 acres closed 4,860 miles of designated routes would limit adverse impacts caused by erosion and sedimentation.	**OHV USE:** Same as Proposed RMP.	**OHV USE:** 5,434 acres open 1,659,901 acres limited 60,187 acres closed 4,861 miles of designated routes would allow more adverse OHV-caused erosion and sedimentation.	**OHV USE:** 5,434 acres open 1,353,529 acres limited 366,559 acres closed 4,707 miles of routes designate would allow the least OHV-caused erosion and sedimentation.	**OHV USE:** 787,859 acres open 887,275 acres limited 50,388 acres closed undesignated routes would have long-term adverse impacts from OHV-caused soil erosion and sedimentation.	**OHV USE:** 5,434 acres open 1,326,024 acres limited 392,818 acres closed 4,654 miles of designated routes would result in the least OHV-caused erosion and sedimentation.
Management of 546,152 acres of forest and woodlands harvested would result in short-term adverse impacts from erosion and sedimentation, but long-term beneficial impacts by reducing wildland fire risks.	Management of 552,152 acres of forest and woodlands harvested would result in short-term adverse impacts from erosion and sedimentation, but long-term beneficial impacts by reducing wildland fire risks.	Management of 554,108 acres of forest and woodlands harvested would result in short-term adverse impacts from erosion and sedimentation, but long-term beneficial impacts by reducing wildland fire risks.	Same as Alternative A.	Management of 288,300 acres of forest and woodlands harvested would result in the highest amount of adverse short-term erosion and sedimentation from disturbance during management, but long-term beneficial impacts from reducing wildland fire.	Harvest of 421,133 acres of forest and woodlands would result in short-term adverse impacts from erosion and sedimentation, but long-term beneficial impacts by reducing wildfire risks.
289,687 acres as VRM Class I and II would result in less development and surface disturbance and, thus, in fewer indirect, long-term adverse impacts to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams.	357,909 acres as VRM Class I and II would result in less development and surface disturbance and, thus, in fewer indirect, long-term adverse impacts to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams.	166,794 acres as VRM Class I and II would result in the lowest limitations of development and surface disturbance and, thus, would result in fewer indirect, long-term benefits to water quality and soil productivity	508,441 acres as VRM Class I and II would result in the second least amount of development and surface disturbance and, thus, in fewer indirect, long-term adverse impacts to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams.	166,772 acres as VRM Class I and II would result in the lowest limitations of development and surface disturbance and, thus, would result in fewer indirect, long-term benefits to water quality and soil productivity.	594,210 acres as VRM Class I and II would result in the least amount of development and surface disturbance and, thus, in fewer indirect, long-term adverse impacts to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams

Table 2.2.15 Summary of Impacts – Special Designations

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL DESIGNATIONS					
Management of 131,700 acres of ACECs, 53,058 acres of WSAs, and 52 miles of wild and scenic rivers would result in the least benefit to special area values including rangeland, fire, soil, watershed, vegetation, riparian, woodland, and wildlife resources, and recreation uses.	Management of 345,850 acres of ACECs, 53,058 acres of WSAs, and 86 miles of wild and scenic rivers would result in the third highest benefit to special area values including rangeland, fire, soil, watershed, vegetation, riparian, woodland, and wildlife resources, and recreation uses.	Management of 179,356 acres of ACECs, 53,058 acres of WSAs, and 52 miles of wild and scenic rivers would result in the fourth highest benefit to special area values including rangeland, fire, soil, watershed, vegetation, riparian, woodland, and wildlife resources and recreation uses.	Management of 681,310 acres of ACECs, 53,058 acres of WSAs, and 216 miles of wild and scenic rivers would result in the highest benefit to special area values including rangeland, fire, soil, watershed, vegetation, riparian, woodland, and wildlife resources, and recreation uses.	Management of 165,944 acres of ACECs, 53,058 acres of WSAs, and 52 miles of wild and scenic rivers would result in the fifth highest benefit to special area values including rangeland, fire, soil, watershed, vegetation, riparian, woodland, and wildlife resources, and recreation uses.	Management of 681,310 acres of ACECs, 53,058 acres of WSAs, and 192 miles of wild and scenic rivers would result in the second highest benefit to special area values including rangeland, fire, soil, watershed, vegetation, riparian, woodland, and wildlife resources, and recreation uses.

Table 2.2.16 Summary of Impacts – Special Status Species

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
156,425 acres/decade of prescribed fire would help beneficially restore habitat health over the long term, though individual displacement and loss of habitat would be adverse in the short term.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	50,900 acres/decade of prescribed fire would have similar impacts as Alternative A, but on a smaller scale.	Same as the Proposed RMP.
22,814 acres of mineral withdrawals would preclude mineral entry, providing beneficial protection of special status species.	Same as the Proposed RMP	Same as the Proposed RMP.	36,265 acres of mineral withdrawals would preclude mineral entry, providing beneficial protection of special status species.	35,900 acres of mineral withdrawals would preclude agricultural and mineral entry and provide beneficial protection of special status species.	Same as Alternative C. Land and easement acquisition would lead to increased visitation and surface disturbance that would impact special status species habitat. Proposed mineral withdrawals and ROW exclusion areas, on the other hand, would reduce surface disturbance that would impact vegetation communities.
1,640,381 acres associated with mineral development under standard and controlled use leasing stipulations would have impacts similar to Alternative D, but to a greater degree.	1,780,860 acres associated with mineral development under standard and controlled use leasing stipulations would have impacts similar to Alternative D, but to a greater degree.	1,819,397 acres associated with mineral development under standard and controlled use leasing stipulations would have impacts similar to Alternative D, but to the highest degree of all the alternatives.	1,627,085 acres associated with mineral development under standard and controlled use leasing stipulations would have impacts similar to Alternative D, but to a slightly higher degree.	1,536,030 acres associated with mineral development under standard and controlled use leasing stipulations would cause moderate reductions in the AUMs available to wildlife, adversely increase habitat fragmentation, cause adverse deterioration of fisheries and wildlife habitats, and disruption and alteration of seasonal migration routes. **Note:** This alternative does not include the acreage for the Hill Creek Extension as it was not leased in the Book Cliffs RMP.	1,499,461 acres associated with mineral development under standard and controlled use leasing stipulations would have impacts similar to Alternative D, but to a slightly lesser degree.
34,640 acres of rangeland improvements (vegetation treatments) would benefit special status species where additional water sources were established and habitat were restored, though improvements could have adverse impacts if livestock move into areas that have received little grazing in the past.	Same as the Proposed RMP	50,900 acres of rangeland improvements would have impacts similar to the Proposed RMP but to a greater extent.	45,860 acres of rangeland improvements would have impacts similar to the Proposed RMP but to a greater extent.	40,390 acres of rangeland improvements would have impacts similar to the Proposed RMP but to a greater extent.	Same as Alternative C
Establishment of 3 backcountry byways, 7 SRMAs (133,560 total acres), 400 miles of non-motorized and 800 miles of motorized trails would expose areas that may have special status species, causing displacement, disturbance, and/or harm.	Establishment of 3 backcountry byways, 7 SRMAs (499,588 total acres), 400 miles of non-motorized and 800 miles of motorized trails would expose areas that may have special status species, causing displacement, disturbance, and/or harm.	Establishment of 3 backcountry byways, 4 SRMAs (86,454 total acres), and 800 miles of motorized trails would expose areas that may have special status species, causing displacement, disturbance, and/or harm.	Establishment of 8 SRMAs (522,604 total acres), and 400 miles of non-motorized trails would expose areas that may have special status species, causing displacement, disturbance, and/or harm.	Establishment of 4 SRMAs (86,454 total acres), and 57+ miles of motorized trails (and unlimited access) would expose areas that may have special status species, causing displacement, disturbance, and/or harm.	Establishment of 8 SRMAs (522,604 total acres) and 400 miles of non-motorized trails would expose areas that may have special status species, causing displacement, disturbance, and/or harm.
OHV travel limited to designated routes or closed except for managed open areas. 6,202 acres open to OHV travel; 1,643,475 acres limited to OHV travel;	Same as the Proposed RMP	OHV travel limited to designated routes or closed except for managed open areas. 5,434 acres open to OHV travel; 1,659,901 acres limited to OHV travel;	OHV travel limited to designated routes or closed except for managed open areas. 5,434 acres open to OHV travel; 1,353,529 acres limited to OHV travel;	Minimal recreational management oversight and unrestricted OHV use on 787,859 acres would expose areas that may have special status species, causing	OHV travel limited to designated routes or closed except for managed open areas. 5,434 acres open to OHV travel; 1,326,024 acres limited to OHV travel;

Table 2.2.16 Summary of Impacts – Special Status Species

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
75,845 acres closed to OHV travel. The increase in recreation management and decrease in acres open to OHV travel would result in fewer impacts to special status species than Alternative D.		60,187 acres closed to OHV travel. The increase in recreation management and decrease in acres open to OHV travel would result in fewer impacts to special status species than Alternative D.	366,559 acres closed to OHV travel. The increase in recreation management and decrease in acres open to OHV travel would result in fewer impacts to special status species than Alternative D.	displacement, disturbance, and/or harm.	392,818 acres closed to OHV travel. The increase in recreation management and decrease in acres open to OHV travel would result in fewer impacts to special status species than Alternative D.
Riparian habitat would be utilized to 30% of vegetation, which would indirectly reduce erosion of stream banks and sedimentation of stream habitat.	Same as the Proposed RMP.	Riparian habitat would be utilized to 50% during the growing season and 60% during the dormant season to maintain vegetation, which would indirectly reduce erosion of stream banks and sedimentation of stream habitat, but less than the Proposed RMP and Alternatives A, C, and E.	Same as the Proposed RMP.	Unspecified riparian use would not beneficially impact special status species.	Same as the Proposed RMP.
131,700 acres of ACEC designation, 53,058 acres of WSAs, and 65 miles of W&SR recommended designations would help maintain habitat for special status species.	345,850 acres of ACEC designation, 53,058 acres of WSAs, and 96 miles of W&SR recommended designations would help maintain habitat for special status species.	179,356 acres of ACEC designation, 53,058 acres of WSAs, and 52 miles of W&SR recommended designations would help maintain habitat for special status species.	681,310 acres of ACEC designation, 53,058 acres of WSAs, and 216 miles of W&SR recommended designations would help maintain habitat for special status species.	165,944 acres of ACEC designation, 53,058 acres of WSAs, and 52 miles of W&SR recommended designations would help maintain habitat for special status species.	681,310 acres of ACEC designation, 53,058 acres of WSAs, and 216 miles of W&SR recommended designations would help maintain habitat for special status species.
Beneficial seasonal and spatial buffers would be created for raptor species under guidance of Best Management Practices as described in “Best Management Practices for Raptors and Their Associated Habitats in Utah” (Utah BLM, 2006, Appendix A). Implementation of Sage-grouse protection measures—no surface-disturbing activities within 0.25 miles of active leks year round, no surface-disturbing activities within 2 miles of active leks March 1 through June 15—would have beneficial impacts on this species.	Raptors would be managed using Best Management Practices including implementation of spatial and seasonal buffers comparable to the USFWS’s Guidelines for Raptor Protection From Human and Land Use Disturbances, with modifications allowed as long as protection of nests is ensured. Implementation of Sage-grouse protection measures—avoid human disturbance within 0.6 miles of leks from March 1 through May 31 from 1 hour before sunrise to 3 hours after sunrise and construction of routes, fences, poles, and utility lines would be avoided within 1,300 feet of a lek.	Raptors managed at less restrictive levels than the Proposed RMP and Alternative A. Sage-grouse management similar to Alternative A, but less protective due to allowances for certain developments within 1,300 feet of a lek.	USFWS seasonal and spatial buffers would be implemented for raptor species. Sage-grouse protection measures would be the same as the Proposed RMP.	Seasonal and spatial buffers would be created for raptor species under the Diamond Mountain area for the twenty special status or sensitive raptor species listed in the Diamond Mountain RMP. Raptor buffers in the Book Cliffs area would remain unspecified. For Sage-grouse in the Book Cliffs RMP area surface disturbance, exploration, drilling, and other development activity would only be allowed from June 15 through March 15 and no drilling or storage facilities would be allowed within 300 feet of a Sage-grouse lek. For Sage-grouse in the Diamond Mountain RMP area surface-disturbing activities would not be allowed within Sage-grouse nesting areas from March 1 through June 30 or within 1,000 feet of Sage-grouse strutting grounds.	Same as Alternative C.
Colorado River cutthroat trout would be beneficially reintroduced into 9 streams and their tributaries.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Suitable habitat would be provided and maintained to reintroduce Colorado River cutthroat trout into 8 streams as found applicable.	Same as the Proposed RMP.
Management of 546,152 acres of forest and woodlands would have treatments or be harvested resulting in short-term adverse impacts related to the removal of vegetation and other surface disturbance but with beneficial impacts in the long-term as habitat for special status species	Impacts similar to the Proposed RMP for management of 552,152 acres of forest and woodlands.	Impacts similar to the Proposed RMP for management of 554,108 acres of forest and woodlands.	Same as Alternative A.	Impacts similar to the Proposed RMP for management of 288,300 acres of forest and woodlands.	Impacts similar to the Proposed RMP for management of 421,133 acres of forest and woodlands. Approximately 330,573 acres within WSAs and Non-WSAs with wilderness characteristics would not have vegetation removal resulting in reduced surface

Table 2.2.16 Summary of Impacts – Special Status Species

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
SPECIAL STATUS SPECIES					
is restored.					disturbance but no treatments that could restore habitats.
Management of 106,178 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would limit surface disturbances, providing protection of special status species and their habitat.	No specific actions are specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Management of 277,596 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would limit surface disturbances, providing protection of special status species and their habitat.

Table 2.2.17 Summary of Impacts - Vegetation

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VEGETATION					
156,425 acres of fire treatments/decade would produce beneficial improvements in the long-term in the health, biomass, age class, and diversity of forage.	Same as the Proposed RMP	Same as the Proposed RMP.	Same as the Proposed RMP.	50,900 acres/decade of prescribed fire would produce beneficial improvements in the health, biomass, age class, and diversity of forage, though at a lesser degree than the Proposed RMP and other alternatives.	Same as the Proposed RMP.
245,607 AUMs allotted could result in short-term impacts that include loss of vegetative cover and biomass, and trampling, with long-term impacts such as reductions in plant productivity and regenerative ability, and increases in weeds; though 50% upland vegetation utilization by livestock, and 30% riparian vegetation utilization would set limits on grazing impacts.	Same as the Proposed RMP except that 245,649 AUMs would be allotted for livestock, wildlife, and wild horses.	244,034 AUMs allotted could result in impacts similar to the Proposed RMP; though 60% upland vegetation utilization by livestock and 50% riparian vegetation utilization would set limits on grazing impacts.	Same as the Proposed RMP except that 187,450 AUMs would be allotted for livestock, wildlife, and wild horses.	246,128 AUMs allotted could result in impacts similar to the Proposed RMP; unspecified upland vegetation utilization by livestock and no utilization specified for riparian areas could have indirect, adverse impacts on vegetation.	Same as the Proposed RMP except that 187,450 AUMs would be allotted for livestock, wildlife, and wild horses.
Increased public access via easements and acquisitions, and agricultural entry on withdrawn lands would expose vegetation resources to potential degradation. 22,814 acres of locatable mineral withdrawals would result in protection from surface disturbance due to locatable minerals activities on these lands.	Same as the Proposed RMP	No easements or acquisitions sought except across Indian trust lands in Bitter Creek. Agricultural entry on withdrawn lands would expose vegetation resources to potential degradation. 22,814 acres of locatable mineral withdrawals would result in protection from surface disturbance due to locatable minerals activities on these lands.	Similar to the Proposed RMP, though somewhat greater impacts may occur if more easements/acquisitions are sought than those under the Proposed RMP. 36,265 acres of locatable mineral withdrawals would result in protection from surface disturbance due to locatable minerals activities on these lands.	5,000 acres would preclude agricultural entry that would lessen exposure of vegetation resources to potential degradation compared with other alternatives. Unspecified amounts of land easements and acquisitions would occur. 35,900 acres of locatable mineral withdrawals would result in protection from surface disturbance due to locatable minerals activities on these lands.	Same as Alternative C.
18,860 acres of surface disturbance associated with mineral development would have adverse impacts to vegetation resources including direct loss of vegetation and increased risk of noxious weed invasion.	Same as the Proposed RMP except on 18,971 acres.	Same as the Proposed RMP except on 19,033 acres.	Same as the Proposed RMP except on 18,757 acres.	Same as the Proposed RMP except on 18,212 acres.	Same as the Proposed RMP except on 17,469 acres.
34,640 acres of vegetation treatments would disrupt vegetation communities in the short-term but, in the long-term, would help restore natural vegetation communities, eliminate weeds, and control livestock movement (through fencing). Guzzlers/ reservoirs (812) would result in the direct removal of vegetation in the locations where these rangeland improvements are installed.	Same as the Proposed RMP.	Same as the Proposed RMP except that 50,900 acres would receive vegetation treatments and 1,165 guzzlers/reservoirs would be installed.	Same as the Proposed RMP except that 45,860 acres would receive vegetation treatments and 811 guzzlers/reservoirs would be installed.	Same as the Proposed RMP except that 40,390 acres would receive vegetation treatments and 775 guzzlers/reservoirs would be installed.	Same as Alternative C.
Establishment of 3 backcountry byways, 7 SRMAs (133,560 total acres), 400 miles of non-motorized and 800 miles of motorized trails would adversely expose areas to trampling and weed introduction.	Establishment of 3 backcountry byways, 7SRMAs (499,588 total acres), 400 miles of non-motorized and 800 miles of motorized trails would adversely expose areas to trampling and weed introduction.	Establishment of 3 backcountry byways, 4 SRMAs (86,454 total acres), and 800 miles of motorized trails would adversely expose areas to trampling and weed introduction.	Establishment of 8 SRMAs (522,604 total acres), and 400 miles of non-motorized trails would adversely expose areas to trampling and weed introduction.	Establishment of 4 SRMAs (86,454 total acres), and 57+ miles of motorized trails (and unlimited access) would adversely expose areas to trampling and weed introduction.	Establishment of 8 SRMAs (522,604 total acres) and 400 miles of non-motorized trails would expose areas to trampling and weed introduction.
Erosion control on slopes greater than	Same as the Proposed RMP.	Erosion control on slopes greater than	Erosion control on slopes greater than	Restrictions on surface-disturbing for	Same as Alternative C.

Table 2.2.17 Summary of Impacts - Vegetation

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VEGETATION					
20% and surface disturbance restrictions on slopes greater than 40% would have beneficial impacts that ensure adequate substrate exists for continued plant growth.		20% would have beneficial impacts that ensure adequate substrate exists for continued plant growth, but less beneficial than the Proposed RMP and Alternatives C and E.	20% and no surface disturbance on slopes greater than 40% would have beneficial impacts that ensure adequate substrate exists for continued plant growth.	mineral activities for slopes greater than 40% would ensure adequate substrate exists for continued plant growth. Erosion control on slopes less than 40% are unspecified.	
131,700 acres of ACEC designation, 53,058 acres of WSAs, and 72 miles of W&SR recommended designations would benefit vegetation resources by reducing surface disturbance in these areas.	Same as the Proposed RMP except that there would be 345,850 acres of ACEC designation and 96 miles of W&SR recommended designation.	Same as the Proposed RMP except that there would be 179,356 acres of ACEC designation, and 65 miles of W&SR recommended designations.	Same as the Proposed RMP except that there would be 681,310 acres of ACEC designation, and 216 miles of W&SR recommended designations.	Same as the Proposed RMP except that there would be 165,944 acres of ACEC designation, and 52 miles of W&SR recommended designations.	Same as the Proposed RMP except that there would be 681,310 acres of ACEC designation, and 216 miles of W&SR recommended designations.
75,845 acres would be closed to OHV travel, which would reduce damage to and loss of vegetation, and the spread of weeds.	Same as the Proposed RMP.	Same as the Proposed RMP except that 60,187 acres would be closed to OHV travel.	Same as the Proposed RMP except that 366,559 acres would be closed to OHV travel.	Same as the Proposed RMP except that 50,388 acres would be closed to OHV travel.	Same as the Proposed RMP except that 366,559 acres would be closed to OHV travel.
Management of 106,178 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would limit surface disturbances, providing protection of vegetation communities in these areas.	No specific actions are specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Management of 277,596 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would limit surface disturbances and protect vegetation communities in these areas.

Table 2.2.18 Summary of Impacts – Visual Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VISUAL RESOURCES					
156,425 acres of fire treatments/decade would have short-term impacts that affect color, line, form, and texture of the treated area; long-term benefits to visual resources would include lower frequency, size, and smoke generation of unmanaged wildland fires, and enhance scenic quality through greater variety of vegetation.	Same impacts as the Proposed RMP.	Same impacts as the Proposed RMP.	Same impacts as the Proposed RMP.	Same types of impacts as the Proposed RMP, except that 50,900 acres/decade would be treated, with reduced levels of short-term and long-term adverse and beneficial impacts.	Same impacts as the Proposed RMP.
22,814 acres of locatable mineral withdrawals, and ROW exclusion and prohibitions on oil and gas leasing within the 106,178 acres of non-WSA lands with wilderness characteristics would have protection-related, beneficial impacts on scenic quality.	22,814 acres of locatable mineral withdrawals would have beneficial, long-term, protection-related impacts on scenic quality.	Same as Alternative A.	Same impacts as the Proposed RMP, except 36,265 acres would be protected under mineral withdrawals.	Pursuing 35,900 acres of minerals withdrawals would have long term, beneficial impacts on visual resources.	Same impacts as the Proposed RMP, except that 36,265 acres of proposed minerals withdrawals and 277,596 acres of non-WSA lands with wilderness characteristics managed as ROW exclusion areas and prohibitions on oil and gas leasing would have long-term, beneficial impacts on visual resources.
2,143,223 acres available for minerals surface disturbances would have adverse impacts to visual resources.	2,320,825 acres available for minerals leasing surface disturbances would have similar impacts as the Proposed RMP.	2,376,920 acres available for minerals leasing surface disturbances would have similar impacts as the Proposed RMP.	Same impacts as the Proposed RMP, but on 2,116,201 acres available for minerals surface disturbances.	2,044,339 acres available for minerals leasing surface disturbances would have adverse impacts to visual resources.	1,931,353 acres available for minerals leasing surface disturbances would have adverse impacts to visual resources.
Designation of 133,560 acres as SRMAs would have short-term and long-term beneficial impacts on visual resources by limiting surface-disturbing activities to ensure recreational opportunities. The mitigation of light pollution adjacent to Dinosaur NM would also be beneficial in the long term.	Same impacts as the Proposed RMP, but to a greater degree, from designation of 499,620 acres as SRMAs and from light pollution mitigation.	Same impacts as the Proposed RMP, but to a lesser degree, from designation of 86,454 acres as SRMAs and from light pollution mitigation.	Same impacts as the Proposed RMP, but to a greater degree, from designation of 522,604 acres as SRMAs and from light pollution mitigation.	Impacts the same as Alternative B because the same acreage would be designated as SRMAs. Some adverse impacts from lack of light mitigation adjacent to Dinosaur NM.	Same impacts as Alternative C.
Development/improvement of 800 miles of motorized trails would produce fugitive dust, erosional impacts, and surface-disturbing contrasts that would be directly adverse to visual quality. Closing or limiting OHV travel on 1,719,320 acres would benefit scenic quality by limiting surface disturbances.	Same impacts as Proposed RMP.	Same impacts as Proposed RMP on 1,720,088 closed or with limits on OHV travel.	No motorized trails would be established. Closing or limiting OHV travel on 1,720,088 acres would benefit visual quality.	Establishment of 55 miles of motorized trails would produce fugitive dust, erosional impacts, and surface-disturbing contrasts that would be directly adverse to visual quality. Closing or limiting OHV travel on 937,663 acres would benefit scenic quality.	No motorized trails would be established. Closing or limiting OHV travel on 1,720,088 acres would reduce surface disturbance and benefit visual quality.
Designating 131,700 acres as ACECs would benefit visual resources through VRM management implementation and restricting surface disturbances.	Same impacts as Proposed RMP, but to a greater degree from designation of 345,850 acres as ACECs.	Same impacts as Proposed RMP from designation of 179,356 acres as ACECs.	Same impacts as Proposed RMP, but to a greater degree, from designation of 681,310 acres as ACECs.	Same impacts as Proposed RMP from designation of 165,944 acres as ACECs.	Same impacts as Alternative C.
Management of 133,560 acres of SMRAs would have beneficial, short-term and long-term impacts on scenic quality by protecting these areas from surface disturbances.	Same impacts as Proposed RMP, but to a greater degree from designation of 499,588 acres as SRMAs.	Same impacts as Proposed RMP from designation of 86,454 acres as SRMAs.	Same impacts as Proposed RMP, but to a greater degree from designation of 522,604 acres as SRMAs.	Same as Alternative B.	Same as Alternative C.
Managing 289,687 acres under VRM Class I and Class II objectives would	Same impacts as Proposed RMP, except to a greater degree by managing 357,909	Same impacts as Proposed RMP, but to a lesser degree, by managing 167,088	Same impacts as Proposed RMP, except to a substantially greater degree, by	Same as Alternative B.	Impacts similar to Alternative C by managing 594,210 acres under VRM

Table 2.2.18 Summary of Impacts – Visual Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
VISUAL RESOURCES					
benefit scenic resources in the long term.	acres under VRM Class I and II objectives.	acres under VRM Class I and II objectives.	managing 508,441 acres under VRM Class I and II objectives.		Class I and Class II objectives.
546,152 acres of woodlands and forests would have treatments or be harvested; short-term impacts would be degradation of line, color, and texture contrasts created from woodland treatments, harvesting and salvage, and OHV surface disturbances in areas visible to the public; long-term impacts would include reducing the potential for wildland fires and creation of scenic variety through a mosaic of vegetation types.	Same impacts as the Proposed RMP, but on 552,152 acres.	Same impacts as the Proposed RMP, but on 544,108 acres.	Same as Alternative A.	Same impacts as the Proposed RMP, but to a lesser degree, on 88,200 acres.	Same impacts as the Proposed RMP, but on 421,133 acres.
Management of 106,178 acres under VRM Class II objectives within non-WSA lands with wilderness characteristics would have long-term, beneficial impacts on scenic quality.	No management of non-WSA lands with wilderness characteristics	No management of non-WSA lands with wilderness characteristics	No management of non-WSA lands with wilderness characteristics	No management of non-WSA lands with wilderness characteristics	Management of 277,596 acres of non-WSA land with wilderness characteristics to protect their wilderness characteristics would limit changes to the landscape and scenery.

Table 2.2.19 Summary of Impacts – Wild Horses

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILD HORSES					
No impacts to wild horses from fire treatments, as all horses would be removed from the VPA.	Prescribed burning on 156,425 acres/decade would have short term, adverse impacts on forage and on access of horses to burned areas. Long term, beneficial impacts from improved forage resulting from vegetation treatments.	Same as the Proposed RMP.	Same as Alternative A.	50,900 acres/decade of prescribed fire would produce beneficial improvements of wild horse habitat in the health, biomass, age class, and diversity of forage, though to a lesser degree than the other alternatives.	Same as Alternative A.
All horses would be removed from VPA in the long term. Short-term, beneficial impacts from allocation of 2,340 AUMs allocated to wild horses because forage would be available until final gathering and removal.	Long-term, beneficial impacts from allocation of 2,940 AUMs in Winter Ridge HA and Hill Creek HMA to ensure sustainability and health of these herds.	0 AUMs allocated to wild horses (horses would be removed from the VPA), with short-term, adverse impacts from lack of forage allocation until gathering and removal of wild horses.	A total of 3,960 AUMs allocated to wild horses in Bonanza HMA, Winter Ridge HA, and Hill Creek HMA would have short-term and long-term, beneficial impacts on horses by providing for health and sustainability of these herds. Long-term adverse impacts from reduction of forage allocation if conflicts are identified between horse and wildlife.	3,360 AUMs allocated to wild horses, with 2,340 AUMs allocated to Hill Creek HMA and Winter Ridge HA would have impacts the same as Alternative C.	Same as Alternative C.
No impacts to wild horses from minerals decisions since they would be removed.	Surface-disturbing mineral leasing within 89% of HMAs and HA (240,247 acres) would have adverse impacts to horse habitat by directly reducing forage productivity. Indirect, adverse impacts would be likely from human-caused harassment (noise, motion, lights, and human presence).	Same as the Proposed RMP.	Same impacts as Alternative A, except that 79% of HMA and HA (213,908 acres) would be available for surface-disturbing mineral leasing	Short-term and long-term direct and indirect impacts to wild horses (same as discussed under Alternative A) from allowing mineral leasing within 88% (234,010 acres) of HMAs and HA.	Same as Alternative C, except 78% (209,838 acres) of HMA and HA would be affected.
Long-term, adverse impacts to wild horses from removal of all horses from the VPA	Long-term, beneficial impacts from re-establishment of Winter Ridge herd and maintenance of Hill Creek herd.	Same as Proposed RMP.	Long-term, beneficial impacts to wild horses from re-establishment of a herd in the Bonanza HMA, with a minimum herd size of 40 horses; 50 horses minimum in the Winter Ridge HMA, and a Hill Creek HMA herd with a minimum herd size of 70 individuals.	Long-term, beneficial impacts on wild horses from maintaining the Hill Creek HMA herd. Long-term, adverse impacts to horses from lack of specific management decisions to address equine disease concerns, herd gathering to maintain population size, or resolution of Ute and private property boundaries concerns.	Same as Alternative C.

Table 2.2.20 Summary of Impacts – Wildlife and Fisheries Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					
Restrictions on OHV travel to designated routes and on oil and gas development (open subject to timing and controlled surface use or no surface occupancy) in areas with high cultural resource site density would beneficially preserve habitat for wildlife.	Same as the Proposed RMP except in the Little/Devils Hole areas where only OHV travel limited to designated routes would be in place.	Same as the Proposed RMP except in the Little/Devils Hole areas (same as Alternative A) and in the Four Mile Wash area which would include the OHV restrictions but allow oil and gas development subject to standard stipulations.	High cultural site density areas would be closed to OHV travel and oil and gas development except in the Upper Willow Creek area of the Book Cliffs, which would be the same as the Proposed RMP.	High cultural site density areas would remain open to OHV use and oil and gas development and therefore not protect wildlife habitat near cultural sites, with potentially adverse impacts to wildlife.	Same as Alternative C.
154,900 acres of fire treatments/decade would produce beneficial improvements in the health, biomass, age class, and diversity of forage for wildlife resources.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	50,900 acres/decade of prescribed fire treatments would have similar impacts as Alternative A, though on a smaller scale than the other alternatives.	Same as the Proposed RMP.
104,865 AUMs allocated to wildlife and 2,340 AUMs (temporarily) allocated to wild horses would have more beneficial impacts for wildlife than Alternative D by providing more forage for wildlife.	104,871 AUMs allocated to wildlife and 2,940 AUMs allocated to wild horses would have more beneficial impacts for wildlife than Alternative D by providing more forage for wildlife.	104,871 AUMs allocated to wildlife would have impacts similar to the Proposed RMP by providing forage for wildlife.	106,196 AUMs allocated to wildlife and 3,960 AMUs allocated to wild horses would have impacts similar to the Proposed RMP by providing forage for wildlife.	96,607 AUMs allocated to wildlife and 3,360 AMUs allocated to wild horses would have impacts similar to but less than the Proposed RMP and action alternatives.	Same as Alternative C.
Limiting upland vegetation utilization by livestock to 50%, and 30% riparian vegetation utilization would beneficially improve habitat for wildlife resources.	Same as the Proposed RMP	Limiting upland vegetation utilization by livestock to 60%, and 50% riparian vegetation utilization would benefit wildlife habitat, but less than The Proposed RMP and Alternatives A, C, and E.	Same as the Proposed RMP.	Unspecified vegetation utilization by livestock, and unspecified riparian vegetation utilization would provide less protection to wildlife and fisheries habitat than the Proposed RMP and action alternatives.	Same as the Proposed RMP.
Precluding mineral entry on withdrawn lands (22,814 acres) would have long-term beneficial impacts on habitat by protecting them from minerals surface disturbances.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP except that 36,265 acres would be withdrawn from mineral entry.	Same as the Proposed RMP except that 35,900 acres would be withdrawn from mineral entry.	Same as Alternative C.
Construction activities associated with mineral development would cause reduction in the AUMs available to wildlife, loss of wildlife and fisheries habitats, and disruption and/or alteration of seasonal migration routes due to the additional construction facilities; indirect impacts include habitat fragmentation and changes in behavior, distribution, activity, and energy expenditure that are caused by human disturbance. Total area open to oil and gas development, mineral material disposal, and phosphate and gilsonite development would be 1,640,381 acres, 389,788 acres, 76,208 acres, and 172 miles, respectively.	Same as the Proposed RMP except that total area open to oil and gas development, mineral material disposal, and phosphate and gilsonite development would be 1,780,860 acres, 415,395 acres, 87,724 acres, and 172 miles, respectively.	Same as the Proposed RMP except that total area open to oil and gas development, mineral material disposal, and phosphate and gilsonite development would be 1,819,397 acres, 432,953 acres, 87,724 acres, and 172 miles, respectively.	Same as the Proposed RMP except that total area open to oil and gas development, mineral material disposal, and phosphate and gilsonite development would be 1,627,085 acres, 388,699 acres, 63,571 acres, and 172 miles, respectively.	Same as the Proposed RMP except that total area open to oil and gas development, mineral material disposal, and phosphate and gilsonite development would be 1,536,030 acres, 387,700 acres, 84,600 acres, and 168 miles, respectively.	Same as the Proposed RMP except that total area open to oil and gas development, mineral material disposal, and phosphate and gilsonite development would be 1,499,461 acres, 344,682 acres, 52,063 acres, and 163 miles, respectively.
Rangeland improvements—34,640 acres of vegetation treatments, 69 miles of fencing, 812 guzzlers/reservoirs, 38 miles of pipeline, and 51 wells/springs–would have long-term beneficial impacts to	Same as the Proposed RMP.	Same as the Proposed RMP except that rangeland improvements would consist of 50,900 acres of vegetation treatments, 369 miles of fencing, 1,165 guzzlers/reservoirs, 51 miles of pipeline,	Same as the Proposed RMP except that rangeland improvements would consist of 45,860 acres of vegetation treatments, 129 miles of fencing, 811 guzzlers/reservoirs, 30 miles of pipeline,	Same as the Proposed RMP except that rangeland improvements would consist of 40,390 acres of vegetation treatments, 65 miles of fencing, 775 guzzlers/reservoirs, 35 miles of pipeline, and 74 wells/springs.	Same as Alternative C.

Table 2.2.20 Summary of Impacts – Wildlife and Fisheries Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					
wildlife habitat by improving existing habitat and providing water during high-stress drought periods.		and 78 wells/springs.	and 87 wells/springs.		
Establishment of 3 backcountry byways and 7 SRMAs (133,560 total acres),would have long-term beneficial impacts on wildlife and fisheries by limiting surface-disturbing activities; adverse impacts would be produced by increased visitor use and recreational activities.	Establishment of 3 backcountry byways and 7 SRMAs (499,588 total acres) would have similar impacts to the Proposed RMP.	Establishment of 3 backcountry byways and 4 SRMAs (86,454 total acres), would have similar impacts to the Proposed RMP.	Establishment of 8 SRMAs (522,604 total acres) would have similar impacts to the Proposed RMP.	Establishment of 4 SRMAs (86,454 total acres) would have similar impacts to the Proposed RMP. Establishment of 57+ miles of motorized trails (and unlimited access) and minimal recreational management would adversely impact wildlife and fisheries from recreational activities without protective measures.	Establishment of 8 SRMAs (522,604 total acres) would have similar impacts to the Proposed RMP.
Stream habitat improvements, enhancements, and/or maintenance for Colorado River cutthroat trout on 9 streams would help reduce erosion and sedimentation, which would have direct beneficial impacts on wildlife and fisheries resources. Other measures to protect, enhance, or provide habitat for special status species would also have direct beneficial impacts on wildlife and fisheries resources.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP except that there would be fewer protection and improvement measures than the Proposed RMP and the action alternatives.	Same as the Proposed RMP.
Wildlife management actions would have beneficial impacts by providing habitat and forage for wildlife, expanding wildlife reintroduction efforts, and protecting crucial winter ranges.	Same as the Proposed RMP except that there would be more protective measures provided for crucial winter ranges and BLM would provide habitat and forage for the emigration and/or reintroduction of bison in the Southern Book Cliffs.	Same as the Proposed RMP, but with fewer beneficial impacts related to offering less protection for crucial winter ranges. Also, reintroductions of moose and bison would not be supported.	Same as the Proposed RMP except that there would be more protective measures provided for crucial winter ranges and BLM would provide for the emigration and/or reintroduction of bison in the Southern Book Cliffs. This alternative would be more beneficial to wildlife and fisheries than the Proposed RMP and all the other alternatives.	Amount of allowed disturbances in crucial winter ranges would be unspecified; species reintroduction would be unspecified.	Same as Alternative C.
75,845 acres would be closed to OHV travel, which would have beneficial impacts by providing additional wildlife habitat protection from surface disturbances, noise, and human harassment.	Same as the Proposed RMP.	Same as the Proposed RMP except that 60,187 acres would be closed to OHV travel.	Same as the Proposed RMP except that 366,559 acres would be closed to OHV travel.	Same as the Proposed RMP except that 50,388 acres would be closed to OHV travel.	Same as the Proposed RMP except that 366,559 acres would be closed to OHV travel.
546,152 acres of forest and woodlands harvested or treated would have long-term beneficial impacts to wildlife and fisheries by reducing fuel loading and the risks of wildland fire, and improving big-game habitat. Short-term impacts would include temporary loss of forage and cover.	Same as the Proposed RMP except that 552,152 acres of forest and woodland would have treatments or be harvested.	Same as the Proposed RMP except that 554,108 acres of forest and woodland would have treatments or be harvested.	Same as Alternative A.	Same as the Proposed RMP except that 288,300 acres of forest and woodland would have treatments or be harvested.	Same as the Proposed RMP except that 421,133 acres of forest and woodland would have treatments or be harvested and 330,573 acres within non-WSA lands with wilderness characteristics would not have vegetation removal.
131,700 acres of ACEC designation, 53,058 acres of WSAs, and 72 miles of W&SR recommended designations would	Same as the Proposed RMP except that there would be 345,850 acres of ACEC designation and 96 miles of W&SR	Same as the Proposed RMP except that there would be 179,356 acres of ACEC designation, and 65 miles of W&SR	Same as the Proposed RMP except that there would be 681,310acres of ACEC designation, and 216 miles of W&SR	Same as the Proposed RMP except that there would be 165,944 acres of ACEC designation, and 52 miles of W&SR	Same as Alternative C.

Table 2.2.20 Summary of Impacts – Wildlife and Fisheries Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WILDLIFE AND FISHERIES RESOURCES					
benefit wildlife resources by reducing surface disturbance in these areas.	recommended designation.	recommended designations.	recommended designations.	recommended designations.	
Management of 106,178 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would limit surface disturbances, providing protection of wildlife habitat in these areas.	No specific actions are specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Management of 277,596 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would limit surface disturbances and protect wildlife habitat in these areas.

Table 2.2.21 Summary of Impacts – Woodlands and Forest Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WOODLANDS AND FOREST RESOURCES					
156,425 acres of fire treatments/decade would produce long-term, beneficial improvements in the health, biomass, age class, and diversity of woodlands and forest. Treatments would also reduce the long-term risks of stand-altering wildland fire. Short-term, adverse impacts would result from increased potential for soil erosion and soil loss on steep slopes.	Same as Proposed RMP	Same as Proposed RMP	Same as Proposed RMP	50,900 acres/decade of prescribed fire treatments would have the same types of impacts as the Proposed RMP, though to a lesser degree.	Same as Proposed RMP
Impacts to 18,860 acres from mineral leasing surface disturbances would have potentially long-term, adverse impacts on woodlands and forest from loss of productivity and harvesting opportunities in disturbed areas.	Same as Proposed RMP, but impacts would be on 18,971 acres.	Same as Proposed RMP, but impacts would be on 19,033 acres.	Same as Proposed RMP, but impacts would be on 18,757 acres.	Same as Proposed RMP, but impacts would be on 18,212 acres.	Same as Proposed RMP, but impacts would be on 17,469 acres22.
133,560 acres of area designated as SRMAs would have long-term beneficial impacts to woodlands and forest by restricting OHV use to designated routes and managing woodland harvesting.	Same types of impacts as the Proposed RMP, but more beneficial through designation of 499,5880 acres as SRMAs	Designation of 86,454 acres of SRMAs would result in the same types of impacts as the Proposed RMP, but to the lowest degree of long-term beneficial impacts to woodlands and forest of the action alternatives.	Designation of 522,604 acres as SRMAs would have the same types of impacts as the Proposed RMP, but the most long-term beneficial impacts to woodlands and forest of the action alternatives.	Same as Alternative B.	Same as Alternative C.
Managing browse in riparian areas would protect riparian woodland species in the short term and long term. Soils/water resource decisions to protect slopes would have short-term and long term, beneficial impacts on woodlands.	Same as the Proposed RMP.	Same as the Proposed RMP.	Same as the Proposed RMP.	Long-term, adverse impacts to riparian woodland species from allowed grazing within riparian areas; long-term, adverse impacts to woodlands from protection of steep slopes >40% only	Same as the Proposed RMP.
Designating 131,700 acres as ACECs would have long-term, beneficial, indirect impacts to woodlands and forest resources by protecting scenery, habitat, and cultural values in these areas. Protection of Upper and Lower Green River segments would benefit riparian woodland species.	Designation of 345,850 acres as ACECs would have same impacts as the Proposed RMP, but increased in scope. The impacts would be the same as the Proposed RMP along designated river segments.	Designation of 179,356 acres as ACECs would have same impacts as the Proposed RMP.	Designation of 681,310 acres as ACECs and protection of upper and lower Green River segments, segments along the White River, and tributaries would have long-term, beneficial impacts on upland and riparian woodland species.	Beneficial impacts on woodlands from continued protection of the resource within 165,944 acres of designated ACECs and along the upper and lower Green River segments.	Same impacts as Alternative C.

Table 2.2.21 Summary of Impacts – Woodlands and Forest Resources

Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D Current Management (No Action)	Alternative E
WOODLANDS AND FOREST RESOURCES					
Travel decisions to develop and manage up to 800 miles of motorized trails and 400 miles of non-motorized trails would have adverse impacts from surface disturbance, but would be beneficial by increasing opportunities for woodland harvesting opportunities. Developing 400 miles of trails along the Green River would jeopardize relict stands of riparian woodlands.	Same impacts as the Proposed RMP.	Same impacts as the Proposed RMP.	400 miles of non-motorized trails would have adverse impacts on riparian and relict woodlands.	55 miles of new trails development along riparian areas would have impacts similar to the Proposed RMP, but to a lesser degree.	Same impacts as the Alternative C.
546,152 acres managed through treatment or be available for woodland harvest would have beneficial impacts to woodlands by either reducing fuel loading and/or providing opportunities for harvesting.	552,152 acres managed for treatments and/or harvesting, with the same impacts as the Proposed RMP.	554,108 acres managed for treatment and/or harvesting, with same impacts as the Proposed RMP.	Same impacts as the Proposed RMP.	Same impacts as the Proposed RMP, but to a lesser degree as 288,300 acres managed for treatment and/or harvesting.	Same impacts as the Proposed RMP, but 421,133 acres would be managed for treatments and/or woodland harvesting.

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The Affected Environment chapter describes the present condition of the physical, biological, social, and economic environment within the U.S. Bureau of Land Management's (BLM) Vernal Planning Area (VPA) prior to the initiation of the Proposed RMP or any alternative. This chapter is organized by existing natural resources and describes the present uses of these resources, fire management, special land designations, and the present socioeconomic conditions. This information provides the basis for evaluating potential changes in the environment due to implementation of the Proposed RMP or any alternative.

3.1.1 GEOGRAPHIC SETTING

The vast area of the VPA covered by this Resource Management Plan (RMP) revision is located in northeastern Utah and includes the Uinta Basin, the East and West Tavaputs Plateaus, the Eastern Uinta Mountains, the Book Cliffs, Diamond Mountain, Nine Mile Canyon, and Browns Park. The area is bounded on the west by the Wasatch Mountains and on the east by the Douglas Creek Arch in Colorado. The Wyoming/Utah state line forms the northern boundary of the VPA, and the Tavaputs Plateau and the Book Cliffs form the southern boundary.

3.1.2 RESOURCE SETTING

Within the VPA, public lands administered by the BLM encompass 1,725,512 acres (approximately 30%) of the land area. Most of the land that the BLM manages is in the eastern and southern portions of the VPA and is generally characterized by habitats associated with the Colorado Plateau. Other government agencies that manage land in the area include the U.S. Forest Service (USFS), U.S. National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), Utah Division of Wildlife Resources (UDWR), and Utah School and Institutional Trust Lands Administration (SITLA). Additional lands are held in private ownership or are located within the boundaries of the Uintah and Ouray Indian Reservation.

The lands of the VPA are characterized by a variety of valuable natural resources, including oil, natural gas, minerals, livestock forage, and unique vistas and land formations that draw both developers and visitors to the area. These user groups place demands on the resources under the jurisdiction of the BLM that either directly or indirectly affect the management of associated resources.

3.2 AIR QUALITY

Air quality within the VPA and its surrounding airshed has the potential to be affected by such activities as emissions from the construction and operation of oil and gas facilities, access roads, and other elements of management activities. This section describes the existing air quality resource of the VPA and the applicable air regulations that would apply to the alternatives.

3.2.1 REGIONAL OVERVIEW

The climate in the VPA is characterized as arid, with cold winters and hot summers. Annual precipitation (rainfall and snowfall) in the VPA ranges from 8 to 35 inches and is dependent largely on elevation and aspect. Temperature inversions, where air temperatures near the ground are colder than the temperatures above, are common in the basins and other lower elevational areas of the VPA. Inversions commonly occur in winter when snow accumulation on the ground combines with short daylight hours. In summer, inversions dissipate rapidly when early morning sunlight warms the air near the ground surface. Inversions can hinder air pollutant dispersion by preventing emissions from mixing with the ambient air in the vertical direction. On average, mean morning mixing heights in the area are approximately 1,000 feet; mean afternoon mixing heights are more than 7,800 feet (Holzworth 1972). Mean morning mixing heights tend to be lowest in summer and fall, and highest in winter.

Air pollutant dispersion in the VPA is also dependent on wind direction and speed. Wind information available from the Western Regional Climatic Center (WRCC) and the BLM as part of their remote automated weather stations (RAWS) project (http://raws.dri.edu/) for 1996 show that although wind direction is highly influenced by the local terrain, the wind direction in the northern portion of the VPA tends to be northwesterly, i.e. blowing from the northwest to the southeast (Kings Point – Dutch John RAWS station). The wind direction in the western and southern portions of the VPA tends to be southwesterly, i.e., blowing from the southwest to the northeast (Five Mile - Duchesne and Winter Ridge RAWS stations, respectively). Figure 3.2.1 presents representative windroses for these locations in the VPA.

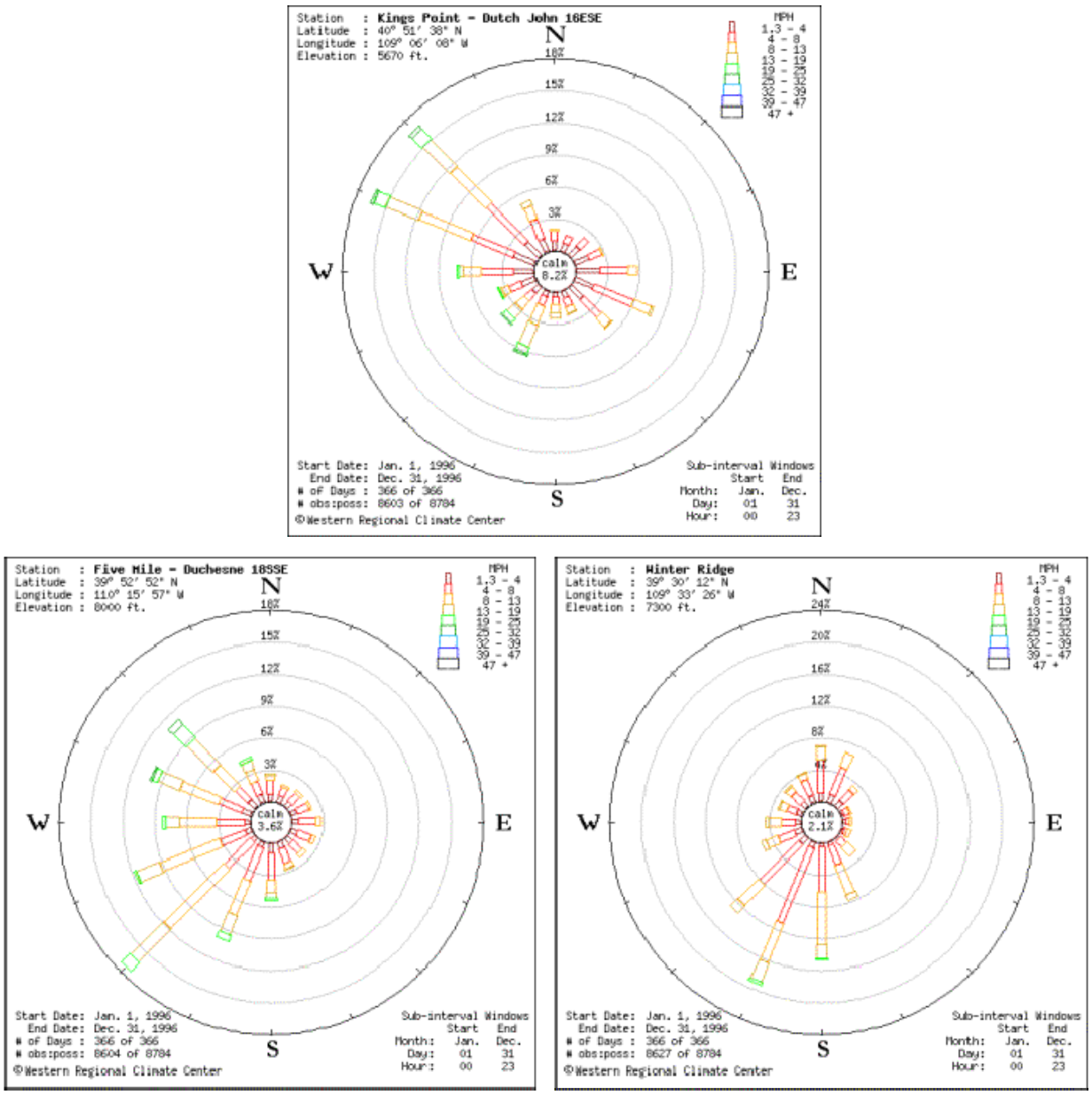

Figure 3.2.1. Representative windroses for the VPA (RAWS data, 1996).

3.2.2 Baseline Air Quality

The VPA is located in a region designated as unclassifiable for PM_{10} and unclassifiable/attainment for all other airborne pollutants [See 40 CFR Part 81] (L. Svoboda, EPA Region VIII, 2005).

3.2.3 REGULATORY SETTING

The U.S. Environmental Protection Agency (EPA) delegates the authority to manage air resources to the state when a State Implementation Plan (SIP) is approved and implemented. The UDEQ currently has approved SIPs for air quality programs under its jurisdiction, and the EPA has delegated authority for all air quality issues in the State of Utah, excluding Uintah and Ouray Indian Reservation lands. The air quality in Utah is currently regulated by the Utah Division of Air Quality (UDAQ). All stationary sources of air pollution are subject to the air quality regulations and standards under the UDEQ administration.

A portion of the VPA is located within the Uintah and Ouray Indian Reservation. The UDEQ does not have authority to administer air quality programs on Uintah and Ouray Indian Reservation lands. Sources located within Native American Indian Territory are not regulated by any SIP approved programs; and they are subject only to the federal air quality programs under the authority of EPA Region 8.

The Federal Clean Air Act (FCAA) amendments of the 1990s require all states to control air pollution emission sources so that national ambient air quality standards (NAAQS) are met and maintained.

In addition to these requirements, the National Park Service (NPS) Organic Act requires the NPS to protect the natural resources of the lands it manages from the adverse effects of air pollution. In 1978, the US Forest Service (USFS) Air Monitoring Program was established to protect all USFS managed lands from the adverse effects of air pollution. In 1988, the USFS became a primary participant in the national visibility monitoring program titled Interagency Monitoring of Protected Visual Environments (IMPROVE). Starting with the enactment of the Regional Haze Rule, the USFS has provided regional haze monitoring representing all visibility-protected federal VRM Class I areas where practical.

Air quality in a given location is defined by pollutant concentrations in the atmosphere and is generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). One measure of a pollutant is its concentration in comparison to a national and/or state ambient air quality standard. The National Ambient Air Quality Standards (NAAQS) and Utah Air Quality Standards are health-based criteria for the maximum acceptable concentrations of air pollutants (with a margin of safety) at all locations to which the public has access. The NAAQS are established by the EPA and are outlined in the Code of Federal Regulations (40 CRF 50). An area that does not meet the NAAQS is designated as a nonattainment area on a pollutant-by-pollutant basis. The State of Utah has adopted the NAAQS as state air quality standards. In 2004, the EPA passed a suite of actions called the Clean Air Rules of 2004 aimed at improving America's air quality. Two of the rules, the Nonroad Diesel Rule and the Ozone Rules, will potentially improve the future air quality of the VPA.

3.2.4 REGIONAL AIR EMISSIONS

The VPA covers Daggett, Duchesne, and Uintah Counties and part of Grand County. Currently, emission sources within the VPA consist of mostly oil and gas development facilities and mining

sites. There are also fugitive dust sources associated with these sites, construction activities and roadways. A detailed listing of emission sources in and around the VPA, along with information on how specific sources were addressed in the air quality modeling, is available the TSD (Trinity and Nicholls, 2006, tabular source information is found in Appendix C).

3.2.4.1 National Ambient Air Quality Standards (NAAQS) and Criteria

The significant criteria for potential air quality impacts include NAAQS requirements for CO, PM_{10}, $PM_{2.5}$, SO_2, O_3, and NO_2/NO_x. Applicable federal and state criteria are presented in Table 3.2.1.

Table 3.2.1. Applicable Ambient Air Quality Standards

Pollutant	Averaging Period	National Ambient Air Quality Standards ($\mu g/m^3$)	State Ambient Air Quality Standards ($\mu g/m^3$)
CO	1-Hour [a]	40,000 $\mu g/m^3$	
	8-Hour [a]	10,000 $\mu g/m^3$	
PM_{10}	24-Hour [a]	150 $\mu g/m^3$	
$PM_{2.5}$	24-Hour [c]	35 $\mu g/m^3$	
	Annual [b]	15 $\mu g/m^3$	
SO_2	3-Hour [a]	1,300 $\mu g/m^3$	700 $\mu g/m^3$ [d]
	24-Hour [a]	365 $\mu g/m^3$	260 $\mu g/m^3$ [e]
	Annual [b]	80 $\mu g/m^3$	60 $\mu g/m^3$ [e]
O_3	8-Hour	0.075 ppm	
NO_2	Annual [b]	100 $\mu g/m^3$	

[a] Not to be exceeded more than once per year on average over 3 years.

[b] The 3-year average of the weighted annual mean. PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 ug/m^3.

[c] The 3-year average of the 98th percentile of 24-hour concentrations must not exceed 35 $\mu g/m^3$

[d] Colorado standard, more stringent than the NAAQS.

[e] Wyoming standard, more stringent than the NAAQS.

3.2.4.2 Criteria for Prevention of Significant Deterioration (PSD)

The applicable air quality criteria also include the PSD increments, which limit the incremental increase of PM_{10}, SO_2 and NO_2 above the legally defined baseline levels. A PSD Increment is the maximum increase in ambient concentrations that is allowed to occur above a baseline concentration for a pollutant. The increments are evaluated for both the Class I and Class II areas. PSD Increments have not yet been established for $PM_{2.5}$ and are not addressed in increments analysis.

The National Ambient Air Quality Standards (NAAQS) and Utah Air Quality Standards are health-based criteria for the maximum acceptable concentrations of air pollutants at tall locations to which the public has access. All NEPA analysis comparisons to the PSD Class I and II

increments are intended to evaluate a threshold of concern for potential impacts, and do not represent a regulatory PSD Increment Consumption Analysis. The determination of PSD increment consumption is a regulatory agency responsibility conducted as part of the New Source Review process, which also includes a Federal Land Management Agency's evaluation of potential impacts to Air Quality Related Values (AQRV) such as visibility, aquatic ecosystems, flora, fauna, etc.

Although the EPA has revised the $PM_{2.5}$ (particulate matter less than 2.5 microns in effective diameter) Ambient Air Quality Standard, this revised limit will not be enforceable until formally approved. However, due to public concern and possible impacts on human health and visibility, $PM_{2.5}$ is being considered in this analysis. Current NAAQS and Utah Air Quality Standards, and PSD Class I and II increments are discussed below. The increment standards addressed in this study are listed in Table 3.2.2.

Table 3.2.2. Increment Standards for Class I and Class II Areas

Pollutant	Averaging Period	Class I Increment ($\mu g/m^3$)	Class II Increment ($\mu g/m^3$)
PM_{10}	24-Hour	8	30
	Annual	4	17
SO_2	3-Hour	25	512
	24-Hour	5	91
	Annual	2	20
NO_2	Annual	2.5	25

The PSD Class I Areas included in the analysis are listed in Table 3.2.3. Limitations on the additional amount of air pollution allowed in these areas from major emitting facilities are strict. The remainder of the project area is classified a PSD Class II, where similar but less stringent incremental pollution limits apply. These increments are shown in Table 3.2.2.

Potential air quality impacts from the Proposed RMP and Alternatives are analyzed and reported in Chapter 4. However, the analysis is prepared solely under the requirements of NEPA, in order to assess and disclose "reasonably foreseeable" impacts to both the public and the Bureau decision maker before a Record of Decision is issued. Due to the preliminary nature of the NEPA air quality assessment, it should be considered a reasonable upper estimate of potential impacts. Actual impacts at the time of development may be lower.

UDEQ is the air quality regulatory agency responsible for determining potential impacts once detailed development plans have been made, subject to applicable air quality laws, regulations, standards, control measures and management practices. Therefore, the State of Utah has the ultimate responsibility for reviewing and permitting air pollutant emission sources before they become operational. EPA has this responsibility on tribal lands. Representative background concentrations recommended by UDEQ and other appropriate sources were added to the modeled results for comparison to the appropriate ambient air quality standards as outline in Table 3.2.4.

Table 3.2.3. Sensitive Areas to Be Considered in the Analysis

Mandatory Federal Class I Area (unless otherwise specified) [a]	Managing Agency [b]	Class Category	State
Arches NP	NPS	Class I	UT
Browns Park NWR	USFWS	Class II	UT
Canyonlands NP	NPS	Class I	UT
Capitol Reef NP	NPS	Class I	UT
Dinosaur NM	NPS	Class II[c, d]	UT/CO
Flaming Gorge NRA	FS	Class II[e]	UT/WY
High Uintas WA	FS	Class II[c]	UT
Ouray NWR	USFWS	Class II	UT
USFS Request (Areas near Mount Olympus, Twin Peaks, Lone Peak, Mount Timpanogos, and Mount Nebo)	FS	Class II	UT

[a] NP= National Park, WA=Wilderness Area, NWR=National Wildlife Refuge, NM=National Monument, NRA=National Recreation Area.

[b] NPS= USDI - National Park Service. USFWS = US Fish & Wildlife Service, FS= USDA - Forest Service.

[c] Sensitive Class II areas included in the analysis. (Archer, 2001a and Archer, 2002a)

[d] SO2 increments in these Class II areas in Colorado have the same protection as Class I areas.

[e] Sensitive Class II areas included in the analysis per CDPHE. (Machovec, 2002)

Sensitive areas of the Ute Indian Tribe were also considered.

Table 3.2.4. Background Concentrations for Vernal RMP Area

Pollutant	Annual ($\mu g/m^3$)	24-Hour ($\mu g/m^3$)	8-Hour ($\mu g/m^3$)	3-Hour ($\mu g/m^3$)	1-Hour ($\mu g/m^3$)	Monitoring Station Location Description
NO_2	10	-	-	-	-	Recommended by the Utah Dept. of Environmental Quality.[a]
SO_2[b]	5	10	-	20	-	Estimates based on the 1993 PSD application for Bonanza Power Plant, Deseret Generation and Transmission.
PM_{10}	10	28	-	-	-	Recommended by the Utah Department of Environmental Quality.[a]
CO[c]	-	-	4,236	-	6,984	Grand Junction, Mesa County, Colorado. (Highest monitored concentration in 2001.)[d]

[a] Background concentrations recommended by the Utah Department of Environmental Quality in memorandum No. DAQP-003-03, dated on January 17, 2003 from Richard W. Sprott to Yu Shan Huang.

[b] The SO2 background concentrations are provided by Tom Orth, UDEQ. (Orth 2002)

[c] The CO concentrations are reported in ppm: 8-hr, 3.7 ppm; 1-hr, 6.1 ppm.

[d] Monitoring station was nearest to the Vernal RMP area. This background concentration is a conservatively high estimate for the Vernal RMP area since it was measured in an urban area.

3.2.4.3 VISIBILITY CRITERIA

Federal Class I areas, which include certain national wilderness areas, national memorial parks, and national parks, are afforded the highest level of protection. Ambient air increments that apply within Class I areas are more stringent than those that apply to other areas (i.e., Class II areas). In addition to more stringent ambient air increments, Class I areas are also protected by the regulation of AQRVs within their borders. Federal Land Managers (FLMs) are responsible for the management of Class I areas. Mandatory Federal Class I areas (sensitive areas) considered in the Air Quality modeling methodology for the Vernal and Roan Plateau air analysis were Dinosaur National Monument, Canyonlands National Park, Flaming Gorge NRA, Arches National Park, and Capitol Reef National Park.

3.2.5 CONSISTENCY WITH NON-BUREAU PLANS

The Vernal Field Office manages its resources consistent with other plans not administered by the BLM. EPA Region 8 regulates all air quality related issues in the Uintah and Ouray Indian Reservation; while the UDEQ regulates the air quality related issues in the state of Utah, except on Indian lands.

In addition to the federal and state air quality programs mentioned in the previous section, the BLM is also committed to manage the VPA consistent with the Utah Smoke Management Plan (SMP). The BLM, U.S. Forest Service, National Park Service, Utah Department of Natural Resources, U.S. Fish and Wildlife Service, and the UDEQ currently have a signed Memorandum of Understanding (MOU) in place to regulate the prescribed burning activities in Utah (UDAQ 1999). The MOU requires the BLM to report all prescribed fire activities to the SMP program coordinator. UDEQ has incorporated the SMP into UAC R307-204 in 2001. Each prescribed fire must first be approved by the SMP through issuance of a burn permit in order to assure that the burning activity will not cause dangerous air quality conditions.

3.2.6 GLOBAL CLIMATE CHANGE

On-going scientific research has identified the potential impacts of climate changing pollutants on global climate. These pollutants are commonly called "greenhouse gases" and include carbon dioxide, CO_2; methane; nitrous oxide; water vapor; and several trace gas emissions. Through complex interactions on a regional and global scale, these emissions cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the Earth back into space. Although climate changing pollutant levels have varied for millennia (along with corresponding variations in climatic conditions), recent industrialization and burning of fossil carbon sources have caused CO_2 concentrations to increase dramatically, and are likely to contribute to overall climatic changes, typically referred to as global warming. Increasing CO_2 concentrations also lead to preferential fertilization and growth of specific plant species.

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Figure 3.2.2 demonstrates that northern latitudes (above 24° N) have exhibited temperature

increases of nearly 1.2°C (2.1°F) since 1900, with nearly a 1.0°C (1.8°F) increase since 1970. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of these "greenhouse gases" are likely to accelerate the rate of climate change.

The Intergovernmental Panel on Climate Change (IPCC) has recently completed a comprehensive report assessing the current state of knowledge on climate change, its potential impacts, and options for adaptation and mitigation. At printing of this PRMP/FEIS, this assessment is available on the IPCC web site at http://www.ipcc.ch/. According to this report, global climate change may ultimately contribute to a rise in sea level, destruction of estuaries and coastal wetlands, and changes in regional temperature and rainfall patterns, with major implications to agricultural and coastal communities. The IPCC has suggested that the average global surface temperature could rise 1 to 4.5 degrees Fahrenheit (°F) in the next 50 years, with significant regional variation. The National Academy of Sciences (2006) has confirmed these findings, but also indicated that there are uncertainties regarding how climate change may affect different regions. Computer models indicate that such increases in temperature will not be equally distributed globally, but are likely to be accentuated at higher latitudes, such as in the Arctic, where the temperature increase may be more than double the global average (BLM 2007). Also, warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures. Vulnerabilities to climate change depend considerably on specific geographic and social contexts.

The BLM recognizes the importance of climate change and the potential effects it may have on the natural environment. Several activities occur within the planning area that may generate emissions of climate changing pollutants. For example, oil and gas development, large fires, and recreation using combustion engines, can potentially generate CO2 and methane. Wind erosion from disturbed areas and fugitive dust from roads along with entrained atmospheric dust has the potential to darken glacial surfaces and snow packs resulting in faster snowmelt. Other activities may help sequester carbon, such as managing vegetation to favor perennial grasses and increase vegetative cover, which may help build organic carbon in soils and function as "carbon sinks".

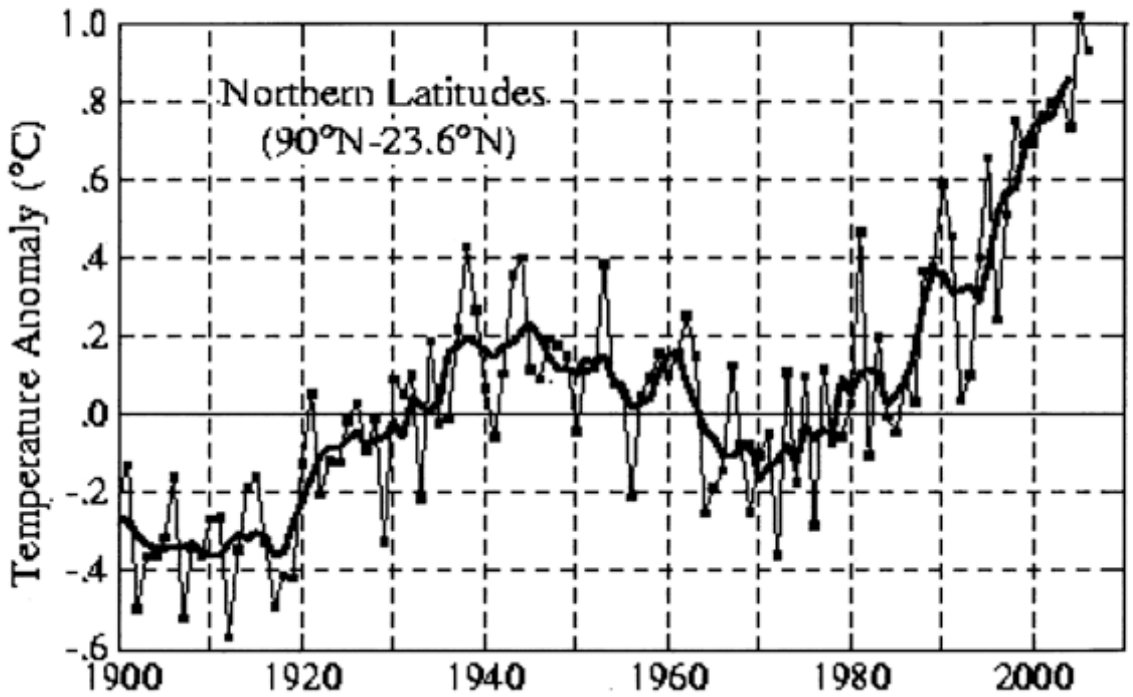

Figure 3.2.2. Annual mean temperature change for northern latitudes (24–90° N). Source: Goddard Institute for Space Studies (2007).

3.3 CULTURAL RESOURCES

The VPA has a wide array of environmental settings and resources long used by humans. Consequently, the VPA encompasses a large and diverse assemblage of prehistoric archaeological sites, historical archaeological sites and localities, and locations of traditional cultural value. For the purpose of this chapter, *cultural resources* are defined as both prehistoric and historical archaeological sites and structures, as well as non-archaeological and non-structural sites (i.e., waterways, view sheds, and resource areas) that have been identified as important for traditional and/or ideological reasons by the various Native American groups with ancestral and/or present ties to the area. Many of these cultural resources have multiple associations and use values. These non-renewable resources provide a record of prehistoric and historical cultures and events and have use value for many contemporary groups including local residents, scientists, and Native Americans.

3.3.1 PREVIOUS PROJECTS AND KNOWN CULTURAL RESOURCE TYPES WITHIN THE VPA

Various explorers, scholars, government institutions, academic institutions, and private cultural resource consulting firms have carried out anthropological and archaeological research within the VPA. The quality and quantity of research carried out by these different entities has, to date,

proven highly variable. Previous research projects range from small surveys of a limited geographic area to large, linear projects spanning the entire VPA.

Beginning as early as 1892 and extending to 1926, approximately seventeen significant archaeological projects were completed in the Uinta Basin. These projects recorded numerous sites and recovered many artifacts and data. As most of these projects were undertaken in a period when rigorous scientific standards were not the norm, much of the data is poorly recorded, reports are descriptive or speculative in nature, or data has been lost. Nonetheless, these early reports remain valuable as descriptive or comparative sources of data (Spangler 1995:81).

By the mid-1930s, the application of more rigorous and systematic archaeological standards was becoming more common. Beginning in this period, researchers focused on areas where high site frequencies were anticipated (i.e., in canyons, along drainages, near permanent water, etc.). As expected, research in these areas yielded high frequencies of sites with evidence of permanent settlement and horticulture. Areas that have been studied in this manner include the Dinosaur National Monument area, Nine Mile Canyon, and various areas along the Tavaputs Plateau and Uinta Basin foothills (Spangler 1995:181). Prior to the 1970s, archaeologists associated with universities or research institutions carried out archaeological research in these areas. The passage of several environmental protection laws during the 1960s and 1970s (the foremost being the National Historic Preservation Act of 1966) spurred cultural resource management archaeology across the country. In the Uinta Basin, the first significant cultural resource management projects were carried out in the 1950s and 1960s, with a quantitative jump noted in the early 1970s (Spangler 1995:190). Since the 1930s, more than 62 significant archaeological projects have been completed in the Uinta Basin (Spangler 1995). Numerous archaeological sites were recorded during these projects, with large numbers recommended eligible to and many actually nominated to the NRHP (Appendix D).

3.3.2 Prehistoric and Ethnographic Site Types

The following section provides a basic description of the primary known prehistoric site types within the VPA. Some site types, such as artifact scatters, are included because they are common throughout the area and are a major component of the Section 106 compliance workload for BLM archaeologists. Others, such as burials, rock art, and ceremonial sites, may not occur in as large numbers as do artifact scatters but are included because they represent significant management challenges to the BLM due to their importance to Native American tribal groups.

Rock Art – A large number of rock art sites have been identified in the Uinta Basin and more are likely to exist. Rock art sites identified in the Uinta Basin are highly variable and may range from one depiction to a panel or series of panels with numerous depictions. Some sites contain large, multiple, and interconnected rock art panels. In addition to variations in size, numerous different rock art styles have been recorded in the Uinta Basin. In some instances rock art is located near other types of sites; in other instances, rock art is isolated. As rock art is frequently located in difficult terrain, a comprehensive survey of existing rock art and its relationships to other sites has been difficult to complete. Finally, rock art sites have routinely been subjected to acts of vandalism and are susceptible to deterioration (Spangler 1995:140-145). Currently, there

remains much to be learned regarding known rock art sites with a high probability for further significant rock art discoveries.

Well-preserved Open Camp and Village Sites – Open camp and village sites are similar large prehistoric occupations, distinguished primarily on the basis of the presence or absence of residential structures. Campsites located on plateaus, outcrops, and valley floors characterize open campsites. These sites typically have evidence of lithic scatters, ceramic scatters, and projectile points, and are often defined on the presence of remnants of hearths and other features. Many of the sites have been characterized as hunting and butchering activity areas.

Platform Sites – Platform sites, or sites located on top of flattened knolls, are rare within the Uinta Basin. One site overlooking the Green River is an unusual site on a knoll that appears to have been leveled off, whether manually or by environmental processes is unknown. The leveled surface of the knoll has a circular structure made of flat sandstone slabs approximately 1.5 feet high with the interior filled with a light-colored clay material. This structure is unknown in function and, to date, it is the only known feature of its type within the Uinta Basin. Others could be present with the Uinta Basin, but have yet to be discovered.

Rock Shelters and Caves – As their name implies, rock shelter sites contain evidence of human occupation located within existing rock overhangs or caves. The range of rock shelter sites includes relatively long-term single occupations, multiple reuse occupations through time, and ephemeral single-use episodes. Rock shelters and caves are generally located within canyons, near permanent water sources, such as rivers or streams. Most of these sites also tend to be located on the southern side of canyons (Spangler 1995:162), although they can be found within any portion of geologically suitable areas.

Prehistoric Architectural Sites – A relatively wide range of site types is included in this category. Architectural sites have been recorded in open-air and sheltered settings, at nearly all elevations, and in virtually every environment within the Uinta Basin. However, some types of architecture are restricted to only certain regions or settings. To date, the range of architectural sites includes stone or masonry structures, pit structures, temporary brush structures, tipi rings, sweat lodges, storage structures or granaries, stone alignments or walls, cairns, and rubble mounds. Structures such as tipi rings, temporary brush structures, and perhaps sweat lodges are located in more open environments, on knolls, cliff edges, or terraces. Stone or masonry structures, granaries, and often walls are found in cliffside rock shelters, in canyons or on ledges. Other stone or masonry structures can also be found in open areas, stream and river terraces, upland ridges, small cliff openings, and butte or mesa faces. Typically, such structures are found within reasonable proximity of sandstone formations and outcrops, which provide much of the source material for building them.

Prehistoric Artifact Scatters – Prehistoric artifact scatters may be encountered in open-air or sheltered settings and in nearly all environment types and elevations. These types of sites are located throughout the Uinta Basin and number from the hundreds to the thousands. Artifact scatters typically consist of lithic artifacts such as chipped stone debitage, tools, cores, and tool and core fragments. However, many artifact scatters may also contain ceramic artifacts, groundstone artifacts, or a combination of lithic, ceramic, and groundstone artifacts. Previously

recorded artifact scatters in the Uinta Basin range from only a few to hundreds (or even thousands) of artifacts. Artifact scatters do not typically contain evidence of architecture, although smaller features, such as hearths, may be present either on the surface or below the surface. The function of artifact scatters is highly variable and can be subject to differing interpretations. Minimally, artifact scatters are likely to have been involved in short-term land-use settlement systems.

Prehistoric Resource Procurement Sites – Locations where prehistoric populations procured a specific resource are common within the Uinta Basin. A wide range of resources appear to have been exploited in a manner that left archaeological evidence, including game animals (hunting sites), chipped stone materials (lithic procurement sites), and floral materials (botanical processing sites). Several different hunting site types have been identified to date, including hunting blinds, game drives, game traps, and butchery sites. Hunting sites can be designed to either funnel game toward a desired goal or to hide the hunter in ambush-style hunting. In general, hunting sites are identifiable due to the strategic placement of rock or brush structures along game trails, water sources, near topographic features that restricted game movement, or in locales that provide an advantage in elevation. Butchery sites are typically identified by the presence of high numbers of animal bones that bear evidence of processing - such as cut marks or diagnostic breakage patterns. In many instances, the kill location and butchery location are the same.

Prehistoric Ceremonial Sites – Ceremonial sites are usually located in areas with panoramic views, and are recognized by the presence of a stone circle or alignment that contains little or no artifacts. Ceremonial sites are interpreted as vision quest locations (Reed and Metcalf 1999:52). The vision quest interpretation has largely been inferred from ethnographic work among modern Native American groups. However, the actual nature of prehistoric ceremonial sites is currently not well understood.

Prehistoric Isolated Features – Sites recorded as prehistoric isolated features typically consist of one isolated cultural feature that has few or no associated artifacts. In many instances the isolated feature is unidentified, while in other cases the feature is identified as a simple cultural feature (i.e., a cairn, etc.).

Prehistoric Landscapes – Prehistoric landscapes are a type of cultural resource that encompasses a range of cultural resource sites within a given environment. The study of prehistoric landscapes is a relatively new endeavor in the New World. This approach has become more common in the Old World, namely Great Britain and Europe. The interaction of human sociopolitical and economic systems and the landscapes in which humans live and create environments is one main focus of research into landscape archaeology. In short, prehistoric landscape can be defined as including humans and their anthropogenic ecosystem.

The types of landscapes that could be characterized within the Uinta Basin include canyons and plateaus. These encompassing landscapes are large in scale, but contain hundreds of smaller, more distinct units of residential dwellings, storage areas, resources scatters, etc., that make up the landscape. Individually, the sites within a given landscape may not be particularly noteworthy or significant. However, when each site is taken into consideration with other,

geographically close sites, a landscape emerges that encompasses multiple types of past human uses of the landscape. These individual sites cluster together in a setting that sets it apart from the region as a whole. These landscapes could also have importance for extant Native American tribes as sacred or important places with cultural importance.

Prehistoric Trails – Travel routes along river corridors and open drainages were common ways for prehistoric peoples to get from area to area. The White River was a traditional Ute travel route within the eastern Uinta Basin to western Colorado (Spangler 1995:872). Other trail areas have been formally identified to the east of the region (Reed and Metcalf 1999:51) as well as in the Book Cliffs (Blaine Phillips personal communication 2002), and additional unidentified prehistoric and protohistoric trails are likely to exist within the region. Prehistoric trails could potentially be identified through remote sensing and ground-truthing.

3.3.3 HISTORICAL SITE TYPES

The following section provides a basic description of the primary known historical site types within the VPA. Undoubtedly, other site types do exist within the area, but those listed here comprise the bulk of historical sites currently managed by the BLM.

Historical Architectural Sites – Historical architecture sites range from simple one-room cabins to multi-story and multi-room structures. Historical structure sites may contain abandoned structures or evidence of structures, while other sites might consist of a structure or structures that are still in use. To date, historical architecture sites include structures such as cabins/homesteads, forts or military posts, trading posts, private residences, line shacks, civic structures, stone or masonry walls, fences, corrals or pens (both Anglo and Ute), sheds, barns, or outhouses. Although typically located in desirable areas or near reliable water sources, historical architecture can be found in nearly every setting or environment. Among the more common structural sites with the VPA are those towns, such as Dragon, Watson, and Rainbow mines, and rail sidings associated with gilsonite mining in the region.

Artifact Scatters/Middens – Historical artifact scatters and middens may consist of one or more of the following: glass, ceramics, cans, building materials, barbed wire, cartridge cases, faunal material, personal items, or miscellaneous artifacts. Artifact densities may range from relatively sparse to relatively dense scatters. Historical artifact scatters can represent light or intense land use, and can be encountered in nearly any environment or elevation. Artifact scatters may be associated with isolated residences, larger settlements, campsites, or, they may be the result of random dumping episodes.

Aspen Art and Historical Inscriptions – Aspen art (i.e., dendroglyphs) and historical inscriptions are present on BLM lands within the VPA. These inscriptions have been found both on trees (primarily aspen) and on rock faces. Aspen art is considered to be any historical carving or engraving made on trees. Aspen art includes carvings related to activities such as settlement (e.g. as property markers) as well as random works found near roads or near historical campsites. The frequencies of aspen art range from a single mark, multiple markings on one tree, or a series of markings on multiple trees. Aspen art is often associated with particular ethnic groups, such as the Basque (primarily in Nevada), or with particular labor groups, such as sheepherders, timber

men, and others who spend time within aspen groves. Elsewhere in Utah, particular groves of trees became favorites for carvers, and dozens of inscriptions can be found which span long periods of time. These groves essentially became historical "message boards" for users of the area.

Historical Burials/Cemeteries – Early historic period burials may consist of isolated burials of a few or one individual, while early cemeteries will contain numerous individuals. Currently, several cemeteries exist within the Uinta Basin. In addition, several isolated burials, located both on public and private land, have been recorded. Other isolated burials might yet be encountered.

Irrigation Systems/Canals – The development of agriculture and ranching in the Uinta Basin often required the building of waterworks to bring water into relatively dry regions. In general, irrigation works are considered as improvements, which have been made on natural drainages, or as the construction of new waterways. Irrigation works can include ponds, dams, concrete, stone-lined or earthen ditches or canals, headgates, culverts, diversion gates, or wells.

Mining Sites – In many parts of the Uinta Basin, the mining industry has played an important economic role. Mining related sites are variable. Recorded examples include small-scale mining efforts at one locale, small-scale operations at multiple sites, and complex mining works at one or more locations carried out by large mining firms. The goals of Uinta Basin mining efforts are also varied, with several different kinds of precious metals (i.e., gold, silver, copper, and uranium), minerals, and hydrocarbons sought. Besides the actual mine or quarry, mining sites can have related architecture, temporary camps, ore piles, middens, artifact scatters, burials, or aspen art located nearby. Additionally, railroads constructed specifically to serve the mining industry may also be associated with mine sites.

Oil and Gas Industry Sites – Oil and gas industry historical sites can consist of pipelines, wells, processing and transport facilities, and "prospects." The first well in the Uinta Basin was drilled on the East Tavaputs Plateau in 1900 (Spangler 1995:822). Although unsuccessful, the sinking of this first well foreshadowed the fervent activity that would occur in the area 40 years later. While more than 40 wells were drilled in the Uinta Basin between 1908 and 1913, most historical archaeological and structural sites associated with the industry date to the post-World War II era, when oil and gas exploration began in earnest.

Privies/Outhouses – Prior to the installation of buried sewer lines, sanitation facilities often consisted of excavated pits designed to collect and contain waste. Although originally intended to serve as sanitation facilities, privies often served as secondary refuse dumping locales. Also during use, personal items were often accidentally dropped into privies. Through secondary dumping and accidental loss, many privies contain high frequencies of artifacts. As privies routinely contain high numbers of artifacts, in an often-undisturbed subsurface deposit, privies may serve as valuable sources of data. Privies are routinely found in association with campsites, private residences, public structures, military posts, and commercial buildings. Privy sites have been found on mining sites and other industrial sites as well. No clear indication of the frequency and/or distribution of such sites could be gleaned from Spangler (1995), thus it is unclear how many historical privies and outhouses are present on BLM lands within the VPA. However,

given their general association with permanent and/or long-term occupation sites, few privies are likely to be found on BLM lands.

Historical Transportation Sites – Establishing efficient transportation routes was one of the main goals of explorers and settlers during the settlement of the west. The Uinta Basin was no different. As Euroamericans settled the Uinta Basin, establishing efficient travel avenues was of vital importance in aiding the growth of settlements, the mining industry, and the agriculture and ranching businesses. To date, identified transportation related sites include trails, paths, paved or unpaved roads, bridges, railroads, wagon or stagecoach routes, stagecoach or railroad stops, railroad section stations, ferry sites, and airstrips or runways. Furthermore, as trappers and fur traders routinely used waterways for travel, the shores of various sections of waterways might contain evidence of early travel. Several East-West and North-South transportation routes used and developed by the Northern Ute bands in the 19th and early 20th centuries are known within the VPA. These include "Pony Trails" and "Wagon Trails". These routes gave access into and out of western Colorado and into and out of the San Rafael area of Utah. Burials, rockart and other site types are associated with these routes.

3.3.4 Non-Archaeological Site Types

Non-archaeological site types are distinguished from archaeological site types in order to discuss places that are not necessarily associated with prehistoric or historical artifacts assemblages and collections. Tribal representatives typically identify these sites during the government-to-government consultation process that is required of federal agencies. However, Traditional Cultural Properties can also be identified by representatives of other culture groups, such as historical culture groups associated with the Euro-American migration to the western United States. Some common site types are lakes and springs, land features, and traditional gathering or collection areas.

Lakes and Springs – Several tribes, including the Shoshone and Ute, claim places of water as places of traditional importance and have traditional stories about mythical beings, or water spirits that live in lakes, rivers, and springs (Spangler 1995). No specific places of this type have been identified in lands managed by the VFO. However, an ethnographic overview for the Flaming Gorge Dam Environmental Impact Statement prepared by SWCA for the USBR recorded several stories about "water babies" and other mythical beings seen in the Green River in historic times (Rhodenbaugh and Newton 2000). None of these areas were identified as Traditional Cultural Properties.

Traditional Gathering or Collection Areas – Traditional plant or other resource gathering areas may be places of traditional importance to Native American groups. These areas are generally places where Native Americans go to collect resources such as medicinal plants used and minerals to be used in ceremonies and are often in current use when identified. Recently, Native Americans have also identified hunting areas as Traditional Cultural Properties (Newton and Hancock 2000). No specific places of this type have been recorded on lands managed by the VFO.

Land Features – Large geographic regions, such as deserts, mountain ranges, and valleys are often identified as Traditional Cultural Places but few have been formally documented as such. According to Deloria and Stoffle (1998), the Oquirrh Mountains and Granite Mountain near Salt Lake contains various places that are considered to be traditionally important or sacred to the Goshute Indians. Deloria and Stoffle did not specify what these places were or precisely where they were located. Bull Lake, which is located on the Wind River reservation, is considered to be a place of traditional importance to the Eastern Shoshone (Shimkin 1986). It is said that Bull Lake is where monsters live and if eaten, the monsters will change into water buffalo and disappear. No specific places of this type have been recorded on lands managed by the VFO.

3.3.5 General Site Locations and High Site Density Areas

Cultural resources are scattered throughout the VPA. Present knowledge of their locations is largely constrained by the nature of cultural resource investigations, most of which have been driven by the Section 106 compliance needs of development projects. As such, existing data on site types, locations, and significance (use values) consists of snapshots across the VPA rather than a comprehensive picture. Nevertheless, based on these data, as well as on a number of overview surveys, it is possible to define the types of environmental settings where prehistoric and historical sites are more or less likely to occur. Overview surveys and existing data provide a general picture of site location tendencies that can be used to describe the places where prehistoric and historical sites are likely to exist.

During the late 1970s and early 1980s a number of surveys called "Class II" surveys were undertaken in order to attempt to determine if environmental variables could predict prehistoric archaeological site location in a way that would preclude the need to conduct formal surface inventories in particular environmental settings (Spangler 1995:226). Because the surveys found that prehistoric archaeological sites could be found across nearly all environmental zones, these surveys failed to meet their original goals. Furthermore, the surveys were unable to accurately predict specific site locations. However, the surveys were able to demonstrate good associations of prehistoric archaeological sites with general environmental zones. In other words, while specific site locations could not be predicted, and it appeared that there was potential for the presence of at least one or a few cultural resource sites in nearly all environmental zones of a given area, the Class II surveys were able to identify zones that had higher and lower frequencies of prehistoric archaeological sites.

The association of prehistoric archaeological sites with particular environmental zones can serve as a useful management tool for identifying areas where anticipated activities would have greater or lesser potential for impacts on prehistoric cultural resources. The Class II surveys, summarized in Spangler (1995:226-242), identified that proximity to water and certain vegetation types tended to influence site density. Areas within approximately 1 km of permanent water or within immediate proximity of a semi permanent water source appear to have high probabilities for cultural resource site occurrence. Furthermore, vegetation zones dominated by juniper were also identified as areas with high potential for cultural resource site locations. Finally, areas of intermittent sand dunes also tended to have high densities of prehistoric archaeological sites. Areas lacking water, juniper trees, or sand dunes, and areas of relatively steep slope tended to have low site densities. Areas of high site density tended to have between 1

and 7 sites per square mile with an average of 4.87 sites/square mile while areas of low density had less than 1 site per square mile (Spangler 1995:226-242).

The locations of historical cultural resource sites are more difficult to predict. Because historical populations have greater ease of transportation and different economic interests, historical site locations are not as constrained by availability of water and particular vegetative resources as were the locations of prehistoric occupations. Furthermore, linear historical sites such as roads, railroads, and canals, are likely to crosscut a wide variety of topographic settings and environmental zones. Nonetheless, two factors are likely to have conditioned the location of most historical cultural resource sites—proximity to watered/arable land for agriculture and proximity to mineral resources for extractive industries.

For the purposes of analysis, these factors were utilized to develop zones of high and low probability for cultural resource site locations. All areas within approximately 1 km of permanent water, or within juniper vegetation zones, sand dunes, or general area of historical mining districts were considered high site probability zones. Areas with greater than 30% slope, or not having any of the high site probability factors were considered low site probability zones.

In addition, four areas of high site density have been identified within the VPA through previous investigations. These areas, and the acreages they encompass, are identified in Table 3.3.1. To be certain, other areas of high site density exist within the planning area but have not yet been identified and verified through field studies. Areas of high site density, such as those listed in Table 3.3.1, have many significant use values. In particular, they have high scientific and conservation values, and in some cases, high traditional values as well. Such areas also tend to have high public use values, but these are outweighed by other use values that necessitate the restriction of activity within the areas.

Table 3.3.1. Known High Site Density Areas within the VPA

Site Name/Number	Acreage
Little/Devil's Hole	10,878 acres
Uinta Foothills	33,059 acres
Upper Willow Creek	4,304 acres
Site 42Un1388 (Four Mile Wash)	560 acres

3.3.6 Known National Register Listed Sites

Existing data do, however, identify several cultural sites of determined local, regional, or national significance and four areas of high site density. The sites of determined significance are listed on the National Register of Historic Places (NRHP) (Table 3.3.2). Although these sites have been listed on the NRHP, it should be remembered that sites which have been determined eligible for listing on the NRHP but are not currently listed are afforded the same level of protection and consideration in planning and land-use decisions as those that are listed. However, since the locations of every single eligible site within the planning area are not known, largely because of the dearth of investigative surveys that have been conducted, it is not possible to

provide a comprehensive list or map of all such sites. Therefore, only those NRHP-listed sites are provided herein.

Table 3.3.2. Known National Register Listed Sites within the VPA

Site Name/Number	Area
Cockleburr Wash Petroglyphs	Jensen
Dr. John Parson Cabin Complex	Browns Park
John Jarvie Historic Ranch District	Browns Park
Little Brush Creek Petroglyph Panel	Vernal
McConkie Ranch Petroglyphs	Dry Fork
Nine Mile Canyon	Nine Mile Canyon (East Portion)

3.3.7 Summary of Cultural Resources

Cultural resources within the Vernal area are numerous, diverse, and widely dispersed. The resources range from small, ancient artifact scatters associated with prehistoric populations to historical resources like cabins, homesteads, mines, and railroads. Although these resources have been documented over years of study, a comprehensive picture of the exact distribution of the resources is not possible due to the large area encompassed and the lack of region-wide systematic study.

Nonetheless, previous data and investigations do provide a general picture of the types of sites present and their locations. Although it is not possible to provide exact data on the location of all types of cultural resources and to therefore gauge with precision the effects of particular management decisions on those resources, it is possible to derive general tendencies for site locations that can be use to gauge the relative probability and relative severity of the impacts of various management decisions on cultural resources in the overall area. For the purposes of subsequent analyses, areas within the VPA would be divided into zones with "High" and "Low" probabilities for cultural resources, based on the relationships between site location and environmental variables that have been established by previous research (Spangler 1995:226–242). High probability zones would be considered those that are within 1 km of permanent water, a juniper zone, sand dune areas, and historical mining districts. Low probability zones would be all areas with greater than 20% slope and areas not meeting the criteria for definition as a high probability zone. These criteria provide replicable proxy data for site location, and can be used to gauge whether a management decision is more or less likely to impact cultural resources.

3.4 Environmental Justice

The Executive Order on Federal actions to address environmental justice in minority populations and low-income populations (Executive Order 12898, with explanatory memorandum) directs federal agencies to assess whether their actions have disproportionately high and adverse human health or environmental effects on minority communities and low-income communities. The Ute Tribe constitutes both a minority community and a low-income community.

Federal minerals are located on 188,500 acres of the Hill Creek Extension, Uintah and Ouray Indian Reservation in Uintah County 113,684 acres within the Hill Creek Extension are Indian minerals. The Hill Creek Extension has important cultural and economic values for the Northern Ute Tribe. This area, as with other areas on the reservation, is economically important because of oil and gas royalties, rights-of-way fees and employment opportunities.

The Uintah and Ouray Indian Reservation has 3,725 Tribal members living on the reservation. The total potential labor force is approximately 1,600, of which about 42% are considered unemployed. Approximately 80% of those who are employed work for the Tribe. Eighty-three percent of those that are employed earn less than $14,000 annually. Mineral resources, particularly oil, gas, and oil shale, are the greatest economic assets of the Tribe. Other minerals on the reservation include tar sands, coal, gilsonite, bentonite, wurtzilite, phosphate, and sand and gravel. Raising cattle and the growing of livestock feed are other important economic activities that occur on the reservation (BLM 1999).

The southern portion of the Hill Creek Extension, along the Book Cliffs divide, has important traditional life ways and religious values for the Tribe. This area has been distinguished as "wilderness" by the Tribe because of its relatively pristine condition. Big game hunting is an important traditional lifestyle for Tribal members. Some religious ceremonies of the Ute people require plants and other materials that are located here. Additionally, the Hill Creek Extension contains numerous archaeological sites, including rock art, camps and burials that have sacred meaning (Duncan 1992).

3.5 Fire Management

3.5.1 Resource Overview

Fire management planning policy requires that a Fire Management Plan, including fire prevention, preparedness, suppression, and use as well as subsequent restoration and rehabilitation, be conducted on an interagency basis. The Fire Management Plan conforms to the National Fire Plan and Federal Wildland Fire Management Policy (USDI 1995). The Vernal Field Office is a major partner in the Uinta Basin Interagency Fire Center (Center). The Center conducts all initial and extended-attack dispatching for the BLM, Ashley National Forest, the Uintah-Ouray Indian Agency, the USFWS - Ouray and Browns Park National Wildlife Refuges, the Utah Division of State Lands and Forestry, and the Utah component of Dinosaur National Monument. An annual operating plan (AOP) has been developed by the Center to establish operating procedures for coordinated responses and cooperative sharing of resources throughout the VPA. Consolidation of dispatch services in the Center has improved coordination of interagency fire planning among the land management agencies in the area.

Wildland fires are integral natural forces affecting public lands within the VPA. In the 10-year period from 1989 to 1998, 497 wildland fires burned a total of 8,540 acres in the VPA. Of these wildland fires, 445 were caused by lightning, and 52 were human-caused ignitions. During the period from 1999 through 2001, 24,294 acres were treated by prescribed burning in a total of

nine treatment areas. Plans for the following five years included prescribed burns on approximately 11,000 acres annually (see Fire Management Plan for specific sites and acreage).

Historically, a lack of funding from resources programs limited the fuels program to a few prescribed fires. The fire suppression program was funded at limited levels until the new Fire Management Plans (FMPs) were completed, and suppression of wildland fire was the only fire management tool used. The fire suppression policy did not take into account the long-term effects on the ecosystems of the area or the long-term costs associated with it. By restricting the natural role of fire in the ecosystem, fuel loads have increased over the years. Pinyon-juniper, sagebrush, and other shrub-type species have become the dominant vegetation communities. Other large conifer species (e.g., Douglas fir, Ponderosa pine) have become decadent, and the health of these stands has declined (see Woodlands and Forest section).

More than one million acres have been designated as needing fire treatments within the VPA. Treatment goals are to reduce the potential for catastrophic stand-destroying wildland fire, enhance wildlife habitat, and increase vegetation diversity. These VPA fire treatment areas also include forage areas for livestock and wildlife, mineral resources including oil and gas fields, and popular hunting and fishing areas. The area is mainly rural, but has an increasing number of residences and population centers within four identified Wildland Urban Interface (WUI) areas.

3.5.2 Fire Management Categories

The VPA is divided into fire management categories, and the appropriate fire treatment response for the VPA would be managed using the Fire Management Polygons (A, B, C, and D) as described in BLM Handbook 1601 - land-use Planning, and as summarized below:

> **Category A.** Areas where unplanned fire is not desired at all.
>
> **Category B.** Areas where unplanned fire is not desired because of current conditions. Prescribed fire use is allowed to obtain resource management objectives. Mechanical/chemical treatments would be used where social and/or resource constraints preclude the use of prescribed fire.
>
> **Category C.** Areas where wildland fire is desired. Prescribed fire is allowed and may be extensive to obtain resource management objectives. Mechanical/ chemical treatments would be used where social and/or resource constraints preclude the use of prescribed fire.
>
> **Category D.** Areas where wildland fire is desired, and there are few or no constraints for its use.

Fire suppression activities and the appropriate management response (AMR) would be implemented through the guidance developed in the fire management categories and developed for the Vernal Field Office. The criteria used in developing the categories were determined by an interdisciplinary team of resource specialists. Criteria for each category are described below:

Category A. This category includes the salt desert shrub type where the risk of cheatgrass (a noxious weed) invasion is high after an area has been burned or treated. Also included are the major river corridors in the VPA where fire would destroy Fremont cottonwood, which is a keystone species that is presently declining. Constraints to fire management activities include cultural resource sites, high recreational use, highly developed oil and gas fields, high invasive weed potential, and threatened and endangered (T&E) species habitat. Wildland fire for resource use is not appropriate.

Category B. This category includes identified crucial deer winter range and crucial sage grouse habitat. Within this habitat, Wyoming sagebrush is identified as a keystone species, which has been in a continual state of decline because of widespread drought and invasive species encroachment. Also included within this polygon are the four identified WUI areas, including cultural resource sites, adjacent urban interfaces, sage grouse and deer winter range habitat, moderate potential for invasive weeds, and T&E species habitat. Wildland fire for resource use is not appropriate.

Category C. This category contains the pinyon-juniper type, along with the aspen/Douglas fir, mountain browse, and non-crucial areas of the sagebrush type. Fire is desired to achieve resource objectives. Constraints to fire management activities include a limited amount of oil and gas development, non-critical sage grouse habitat, a limited amount of T&E species habitat, and a limited amount of cultural resources. Wildland fire use for resource objectives is appropriate.

Category D. This category contains all of the existing Wilderness Study Areas (WSAs) within the VPA. The role of fire would be widely incorporated, as there are few resource constraints within these polygons. Constraints to fire management activities would include WSA-designated areas, non-critical sage grouse habitat, a limited amount of T&E species habitat, and a limited amount of cultural resources. Wildland fire use for resource objectives is appropriate.

3.6 HAZARDOUS MATERIALS

3.6.1 BLM HAZARDOUS MATERIALS MANAGEMENT PROGRAM GOALS

Hazardous materials are defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, may pose a real hazard to human health or the environment. Hazardous materials include flammable or combustible material, toxic material, corrosive material, oxidizers, aerosols, and compressed gases.

The Hazardous Materials Management Program, a program that provides guidance supplemental to the National Contingency Plan (EPA 1994), typically supports and guides other programs or agencies to ensure that they adhere to all federal and state environmental laws and regulations regarding hazardous materials. The Hazardous Materials Management Program would review this document, the VPA RMP EIS and would also review all National Environmental Policy Act

(NEPA) compliance documents produced for actions within the VPA for hazardous materials management environmental compliance. If the Hazardous Materials Management Program found within the VPA sites that contained hazardous substances, all surface and/or subsurface activities would be suspended until the VPA obtained direction from the appropriate federal and/or state regulatory agency. Monitoring would be carried out in response to assessment, cleanup, and restoration of a contaminated site. Monitoring would be coordinated with other programs to ensure that those program objectives were met.

The owners and operators of oil, gas, and coal bed natural gas (CBNG) wells within the VPA are required to have emergency plans that cover potential emergencies including fires, employee injuries, chemical releases, and other potential hazards related to hazardous materials. Emergency plans typically contain phone numbers for all medical and emergency services and a list of responsible personnel to contact in the case of emergency. The plans would be posted at all emergency facilities, and employees would be trained in emergency response upon being hired by minerals exploration and development, and maintenance companies.

There are no approved hazardous waste disposal facilities on public lands within the VPA. All hazardous wastes are transported out of the VPA to approved disposal facilities that are constructed and operated in accordance with state and federal regulations. Oil and gas operators are required to comply with a Hazardous Substance Management Plan, as directed by the regulations of the Resource Conservation and Recovery Act (RCRA), which regulates transportation and disposal of hazardous wastes. All private business and organizations that handle hazardous materials would be required to comply with EPA regulations pertaining to the storage, use, transportation, and disposal of these materials. The transportation of hazardous materials is subject to guidelines under the Utah Department of Transportation as well as the United States Department of Transportation.

The current BLM, Vernal Field Office declaration statement regarding hazardous materials management within the VPA is as follows:

> Less than 10,000 pounds of any chemical(s) from EPA's Consolidated list of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act [SARA] of 1986, and less than the Threshold Planning Quantity [TPQ] of any extremely hazardous substance(s), as defined in 40 CFR 355, would be used, produced, transported, stored, disposed, or associated with the proposed operation annually. Vehicle and equipment fuel, lubricants, antifreeze and battery acid would be the only hazardous material used or associated with the proposed action. Risk of a release would be very low, and the adverse environmental affect of a release would be minimal because it would be cleaned up immediately and disposed of in an approved waste disposal facility (BLM 2001).

3.6.2 HAZARDOUS MATERIALS RISKS WITHIN THE VPA

There are two types of hazardous materials risks: those risks associated with unauthorized releases, and other hazardous materials risks from controlled uses of materials listed under SARA and 40 CFR 355.

The remote nature of VPA lands creates an opportunity for illegal dumping of hazardous materials. These unauthorized releases could include materials from illegal drug laboratories or the illegal dumping of hazardous materials by private companies or individuals. When these types of dumps are encountered, the dumpsite is secured to ensure public safety, appropriate agencies are contacted, and clean up is conducted in accordance with established BLM plans and procedures. If the source responsible for the dumping is identified, that information would be released to the appropriate authorities for prosecution.

Controlled releases of hazardous materials could be the result of programs conducted by the Vernal Field Office, state or local governments, or operations of local businesses and industries. Authorized sources of hazardous materials could include oil and gas development, mineral extraction and processing operations, landfills and hazardous material disposal sites, aboveground and underground storage tanks, abandoned mine lands (AML), and small businesses.

3.6.2.1 LANDFILLS AND HAZARDOUS WASTE DISPOSAL FACILITIES

There are no approved hazardous materials waste facilities on public lands in the VPA. However, a hazardous materials disposal site is located on private land near Altamont, Utah. BLM policy has been to either close or transfer ownership of all landfills that were historically on Vernal Field Office-administered lands. The Vernal Field Office is currently in compliance with this policy. In order to meet compliance, Red Wash and Jensen landfills were closed; ownership of the Vernal City/County landfill was transferred from BLM ownership; and dumps at the White River oil shale facility were covered and revegetated.

3.6.2.2 STORAGE TANKS

The use of aboveground storage tank (AST) and underground storage tank (UST) operations is regulated by the EPA and administered by the state of Utah. Operators are responsible for understanding and complying with the EPA regulations. Underground storage tanks within the VPA are concentrated primarily within the towns of Vernal and Naples, and along the Highway 40 and 191 travel corridors (UDERR 2004).

3.6.2.3 SMALL BUSINESSES

The types of small businesses and organizations that generate or use hazardous materials include (but are not limited to) automotive shops, dry cleaning businesses, print shops, and hospitals. These operations are regulated by the EPA and administered by the state of Utah. It is the responsibility of the business/organization owner to understand and comply with EPA

regulations pertaining to hazardous materials used or hazardous wastes that are generated by that business or organization.

3.6.2.4 OIL AND GAS

An increased risk of hazardous materials is an indirect effect of oil, gas, and mineral development. As oil and gas development increases so does the use, generation, and transportation of hazardous materials (Table 3.6.1). For descriptions of areas that may be affected by particular kinds of development, see Section 3.9, Mineral Resources.

3.6.2.5 TAR SAND

In the early 1980s, certain tar sand deposits in the Uinta Basin were divided into seven Special Tar Sand Areas (STSAs), as designated by the USGS under direction from Congress pursuant to the Combined Hydrocarbon Leasing Act of 1981. These STSAs are: (1) Pariette, (2) Sunnyside, (3) Argyle Canyon - Willow Creek, (4) Asphalt Ridge - Whiterocks, (5) Hill Creek, (6) P.R. Spring, and (7) Raven Ridge - Rim Rock (BLM 2002).

Tar sands may be extracted via in-situ methods or via surface mining, depending on the depth. In-situ extraction and processing may involve chemicals similar to those for conventional oil and gas (see Table 3.6.1). Hazardous materials associated with surface mining are those primarily used in vehicle and equipment operation, such as battery acid, fuels, lubricants, and antifreeze.

3.6.2.6 GILSONITE

Gilsonite mining operations within the VPA do not conduct mineral processing on the mine site. Therefore, the only hazardous materials used for Gilsonite mining are those associated with vehicle and equipment operation.

3.6.2.7 OIL SHALE

Currently one RD&D lease has been issued to OSEC to prove development potential of oil shale processes. In addition, on SITLA lands, northeast of Bonanza (Sections 10 and 15 of T9S, R25E), is an oil shale project owned by Oiltech. This project is a pilot plant running processing tests of White River Oil Shale.

Table 3.6.1. Hazardous Constituents Potentially Used or Produced During Construction, Drilling, Production, and Reclamation Operations Associated with Oil and Gas Production

Use	Material	Hazardous Constituents
Drilling Materials	Barite	Barium compounds, fine mineral fibers
	Bentonite	Fine mineral fibers
	Caustic Soda	Sodium hydroxide
	Glutaraldehyde	Isopropyl alcohol
	Lime	Calcium hydroxide

Table 3.6.1. Hazardous Constituents Potentially Used or Produced During Construction, Drilling, Production, and Reclamation Operations Associated with Oil and Gas Production

Use	Material	Hazardous Constituents
	Mica	Fine material fibers
	Phophate Esters	Methanol
	Polyacrylamides	Acrylamide, Polycyclic aromatic hydrocarbons (PAHs), Petroleum distillates, Polycyclic organic matter (POM), "Fine mineral fibers
	Retarders	Fine mineral fibers
	Anionic Polyacrylamide	Acrylamide
	Polyanionic Cellulose	Fine mineral fibers
Cement/Plug	Anti-foamer	Glycol ethers
	Bentonite	Fine mineral fibers
	Calcium Chloride Flake	Fine mineral fibers
	Cellophane Flake	Fine mineral fibers
	Cements	Aluminum oxide, Fine mineral fibers
	Chemical Wash	Ammonium oxide, Glycol ethers
	Diatomaceous Earth	Fine mineral fibers
	Extenders	Aluminum oxide, Fine mineral fibers
	Fluid Loss Additive	Acrylamide, Fine mineral fibers, Naphthalene
	Friction Reducer	Fine mineral fibers, Naphthalene, PAHs, POM
	Mud Flash	Fine mineral fibers
	Retarder	Fine mineral fibers
	Salt	Fine mineral fibers
	Silica Flour	Fine mineral fibers
Fracturing Material	Biocides	Fine mineral fibers, PAHs, POM
	Breakers	Ammonium persulphate, Ammonium sulphate, Copper compounds, Ethylene glycol, Fine mineral fibers, Glycol ethers
	Clay stabilizer	Fine mineral fibers, Glycol ethers, Isopropyl alcohol, Methanol, PAHs, POM
	Crosslinkers	Ammonium chloride, Methanol, Potassium hydroxide, Zirconium nitrate, Zirconium sulfate
	Foaming Agent	Glycol ethers
	Gelling Agent	Benzene, Ethylbenzene, Methyl tert-butyl ether (MTBE), Naphthalene, PAHs, POM, Sodium hydroxide, m-Xylene, o-Xylene, p-Xylene
	PH buffers	Acetic acid, Benzoic acid, Fumeric acid, Hydrochloric acid, Sodium hydroxide
	Sands	Fine mineral fibers

Table 3.6.1. Hazardous Constituents Potentially Used or Produced During Construction, Drilling, Production, and Reclamation Operations Associated with Oil and Gas Production

Use	Material	Hazardous Constituents
	Solvents	Glycol ethers
	Surfactants	Glycol ethers, Isopropyl alcohol, Methanol, PAHs, POM
Production Product/Fuel	Natural Gas	n-Hexane, PAHs, POM
	Produced water/drill cuttings	Barium, Cadmium, Chromium, Lead, Manganese, Radium 226, Uranium, Other radionuclides
	Liquid hydrocarbons	Benzene, Ethyl benzene, n-Hexane, PAHs, POM, Toluene, m-Xylene, o-Xylene, p-Xylene
Fuel	Diesel fuel	Benzene, Cumene, Ethylbenzene, MTBE, Naphthalene, PAHs, POM, Toluene, m-Xylene, o-Xylene, p-Xylene
	Gasoline	Benzene, Cumene, Cyclohexane, Ethylbenzene, n-Hexane, MTBE, Naphthalene, PAHs, POM, Tetraethyl lead, Toluene, m-Xylene, o-Xylene, p-Xylene
	Jet A	Benzene, Cumene, Cyclohexane, Ethylbenzene, n-Hexane, MTBE, Naphthalene, PAHs, POM, Toluene, m-Xylene, o-Xylene, p-Xylene
	Propane	Propylene
Geophysical Survey Materials	Explosives, fuses, detonators, boosters, fuels	Aluminum, Ammonium nitrate, Benzene, Cumene, Ethylbenzene, Ethylene glycol, Lead compounds, MTBE, Naphthalene, Nitric acid, Nitroglycerine, PAHs, POM, Toluene, m-Xylene, o-Xylene, p-Xylene
Pipeline Material	Coating	Aluminum oxide
	Cupric sulfate solution	Cupric sulfate, Sulfuric acid
	Diethanolamine	Diethanolamine
	LP Gas	Benzene, n-Hexane, Propylene
	Molecular sieves	Aluminum oxide
	Pipeline primer	Naphthalene, toluene
	Potassium hydroxide solution	Potassium hydroxide
	Rubber resin coatings	Acetone, Coal tar pitch, Ethyl acetate, Methyl ethyl ketone (MEK), Toluene, Xylene
Emissions	Gases	Formaldehyde, Nitrogen dioxide, Ozone, Sulfur dioxide, sulfur trioxide
	Hydrocarbons	Benzene, Ethylbenzene, n-Hexane, PAHs, Toluene, m-Xylene, o-Xylene, p-Xylene
	Particulate Matter	Barium, Cadmium, Copper, Fine mineral fibers, Lead, Manganese, Nickel, POM, Zinc
Miscellaneous	Acids	Acetic anhydride, Formic acid, sodium chromate, Sulfuric acid

Table 3.6.1. Hazardous Constituents Potentially Used or Produced During Construction, Drilling, Production, and Reclamation Operations Associated with Oil and Gas Production

Use	Material	Hazardous Constituents
	Antifreeze, Heat Control, and Dehydration Agents	Acrolein, Cupric sulfate, Ethylene glycol, Freon, Phosphoric acid, Potassium hydroxide, sodium hydroxide, Triethylene glycol
	Batteries	Cadmium, Cadmium oxide, Lead, Nickel hydroxide, Potassium hydroxide, Sulfuric acid
	Biocides	Formaldehyde, Isopropyl alcohol, Methanol
	Cleaners	Hydrochloric acid
	Corrosion Inhibitors	4-4' Methylene dianiline, Acetic acid, Ammonium bisulfite, Basic zinc carbonate, Diethylamine, Dodecylbenzenesulfonic acid, Ethylene glycol, Isobutyl alcohol, Isopropyl alcohol, Methanol, Naphthalene, Sodium nitrite, Toluene, Xylene
	Emulsion Breakers	Acetic acid, Acetone, Ammonium chloride, Benzoic acid, Isopropyl Alcohol, Methanol, Naphthalene, Toluene, Xylene, Zinc chloride
	Fertilizers	Unknown
	Herbicides	Active and inert ingredients (including proprietary ingredients) of herbicides are addressed and described in the Final PEIS and ROD Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, June 2007.
	Lead-free thread compound	Copper, zinc
	Lubricants	1,2,4-Trimethylbenzene, Barium, Cadmium, Copper, n-Hexane, Lead, Manganese, Nickel, PAHs, POM, Zinc
	Methanol	Methanol
	Motor Oil	Zinc compounds
	Paints	Aluminum, Barium, n-Butyl alcohol, Cobalt, Lead, Manganese, PAHs, POM, Sulfuric acid, Toluene, Triethylamine, Xylene
	Paraffin Control	Carbon disulfide, Ethylbenzene, Methanol, Toluene, Xylene
	Photoreceptors	Selenium
	Scale inhibitors	Acetic acid, Ethylene diamine tetra, Ethylene glycol, Formaldehyde, Hydrochloric acid, Isopropyl alcohol, Methanol, Nitrilotriacetic acid
	Sealants	1,1,1-Trichloroethane, n-Hexane, PAHs, POM
	Solvents	1,1,1-Trichloroethane, Acetone, t-Butyl alcohol, Carbontetrachloride, Isopropyl alcohol, MEK, Methanol, PAHs, POM, Toluene, Xylene
	Starting Fluid	Ethyl ether
	Surfactants	Ethylene diamine, Isopropyl alcohol, Petroleum naphtha

3.6.2.8 PHOSPHATE

Phosphate deposits exist in the Uinta Basin within the Meade Peak Member of the Permian Park City Formation. Simplot Phosphate (formerly known as SF Phosphate) owns and mines a phosphate deposit that is located on private land within the VPA.

The Utah Division of Water Quality regulates Simplot Phosphate's phosphate mining operation, including the large tailings pond disposal area. Samples of tailings water taken indicate concentrations of phosphate, fluoride, total dissolved solids (TDS), and chromium to have been higher than the Utah Water Quality Standards (UDDW 2003). These standards are the most stringent of the applicable numeric criteria for Big Brush Creek, the nearby creek.

In 1996 Simplot (then SF Phosphate) performed a full-spectrum chemical analysis on a grab sample of the mine's tailings water. With the available data, it is not possible to know if the standards for cyanide, chromium, or zinc exceeded limits because the testing methods did not meet the accuracy levels for those determinations; however, the results indicate that TDS and phosphorus exceeded the limits. Although analyses of tailings solids show that the 1996 tailings solids are non-toxic, non-acid-forming, and non-saline, data showed higher levels of sulfates, hardness, calcium, and TDS in tailings water than those found in Big Brush Creek. This indicates that should tailings water migrate past the seepage collection system into Big Brush Creek, the creek's water would be degraded.

Open plan of operation UTU76097 involves a planned phosphate mill tailings disposal from Simplot Phosphate's milling of phosphate from patented mining claims onto mill sites.

3.6.2.9 MINERAL MATERIALS

Mineral materials include sand, gravel, and building stone. There is currently one open notice under the CFR 3809 BLM Surface Management regulations on public lands within the VPA. This notice, UTU66378, regulates a stone quarry that employs motorized vehicles to extract and haul the stone. Materials used for vehicle and equipment operation, such as battery acid, fuels, lubricants and antifreeze are the hazardous materials associated with surface mining.

3.7 LANDS AND REALTY

As provided by FLPMA, the BLM has the responsibility of planning for and managing public lands. Public lands, as defined by FLPMA, are lands and/or any interest in lands (e.g., mineral estate, reservations, etc.) that are owned by the United States and administered by the Secretary of the Interior, through the BLM. The land surface and mineral ownerships within the VPA are varied and intermingled; consequently, so are the administrative jurisdictions for land use and minerals.

Land and realty program objectives are the following:

- Manage the public lands to support goals and objectives of other resource programs,
- Respond to public requests or applications for land-use authorizations, and

- Acquire administrative and public access where necessary to enhance resource management objectives of the BLM.

3.7.1 LAND OWNERSHIP ADJUSTMENT

As mandated by Sec. 106 (a)(1) of FLPMA (43 USC 1701), public lands are retained in federal ownership except for those public lands that have future potential for disposal (i.e., sale and exchange).

3.7.2 DISPOSAL AND ACQUISITION

As described under Sec. 203 (a) and Sec. 206 of FLPMA (43 USC 1713; 1716), public lands have potential for disposal when they are isolated and/or difficult to manage. Lands in the VPA identified for disposal must meet public objectives (as outlined in Sec. 203 (a) and Sec. 206 of FLPMA), such as community expansion and economic development. Exchanges are initiated in direct response to public requests or by the BLM to improve management of the public lands. The BLM will use both sales and exchange to accomplish disposals to meet plan goals.

Public sales are managed under the disposal criteria set forth in Sec. 203 of FLPMA. Federal law requires lands to be sold at not less than fair market value. Public lands classified, withdrawn, reserved, or otherwise designated as not available or subject to sale are not available for sale.

Public land cannot be effectively administered without legal and physical access. Methods used to acquire legal rights that meet resource management needs include negotiated purchase, donation, exchange, and condemnation. Acquisition alternatives include purchase of fee or less-than-fee interest above, on, and below the surface; perpetual exclusive easements; and permanent or temporary nonexclusive easements. Acquisition of access rights supports one or more of these resources: lands, minerals, forestry, range, wildlife, recreation, and watershed. Acquisitions of road or trail easements are probably the most frequently encountered access needs. Such easements include:

- road easements
- scenic or conservation easements
- sign locations
- stream clearance projects
- utility easements
- hunting and fishing easements
- range improvements

In the case of a split-estate acquisition, courts have historically ruled that use of the mineral estate has precedence over use of the surface estate, regardless of consistency with long-term land-use planning decisions.

3.7.3 WITHDRAWALS

Withdrawals are formal actions that set aside, withhold, or reserve federal land by statute or administrative order for public purposes. A withdrawal may remove areas from the public lands to be managed under the authority of another federal agency or department, although the land does not leave federal ownership. Withdrawals accomplish one or more of the following:

- Transfer total or partial jurisdiction of federal land between federal agencies
- Close (segregate) federal land to operation of all or some of the public land laws and/or mineral laws
- Dedicate federal land to a specific purpose

Withdrawals are often used to preserve sensitive environmental values, protect major federal investments in facilities or other improvements, support national security, and provide for public health and safety. Withdrawals segregate a particular portion of public lands, suspend operation of the public land laws (withdrawn from settlement, sale, location, or entry), and prevent any disposal of public lands or resources involved in certain types of land-use application. Withdrawals remain in effect until specifically revoked.

Withdrawals that no longer serve the purpose for which they were established or that lack sufficient justification of need would be revoked. Withdrawal review is mandated by FLPMA, which requires the BLM to eliminate all unnecessary withdrawals and classifications. Before recommending a withdrawal continuation, alternatives such as rights-of-way (ROWs) and interagency agreements must be explored. Appendix E describes the existing withdrawals within the VPA.

3.7.4 RIGHTS-OF-WAY (ROWS)

All public lands in the VPA are made available for ROW designation, permits, and leases, with the exception of defined exclusion and avoidance areas. Short segments of corridor, or windows, are designated when a full-length ROW corridor cannot be justified. Existing utility windows, ROW concentration areas, and communication sites are the preferred locations for future grants. Designated corridors are the preferred locations for placement of two or more linear or aerial ROWs that are similar, identical, or compatible. Corridors may be designated as Active or Contingency.

3.7.5 UTILITY/TRANSPORTATION SYSTEMS

ROWs are granted on a case-by-case basis. The majority of ROWs granted in the last 20 years have been for oil and gas gathering systems or roads. The majority of these ROWs did not follow designated corridors. Instead, routes were recommended that were the least environmentally damaging and followed de facto utility and transportation systems. Historically, pipeline ROWs granted within the VPA have been small surface pipelines, because they were determined to be the least environmentally damaging. Most of the larger diameter (10+ inches) pipelines (e.g., MAPCO, Northwest and Questar oil/gas transportation pipelines) were buried. The Western Regional Corridor Study Committee recommended that utility corridors cross the VPA.

Exclusion areas prohibit ROWs and corridor/window designation. All WSAs are exclusion areas where new rights-of-ways are prohibited. Avoidance areas are areas where special environmental and/or management considerations exist. ROWs are either not granted in these areas, or, if granted, are subject to stringent terms and conditions. The following avoidance areas were described in the Diamond Mountain and Book Cliffs RMPs:

- Red Mountain
- Six Mile Draw roadless area
- Red Fleet recreation area
- Pariette Wetlands
- Green River corridor
- Development of inventoried recreation sites
- Sage grouse strutting areas
- Scenic corridors
- Archaeological sites
- Fragile watersheds
- Threatened and endangered plant and wildlife habitat areas
- Crucial winter range
- ACECs (Diamond Mountain RMP)

3.7.6 ACCESS

Access to public lands is provided throughout the VPA. Access should be closed or restricted, where necessary, to protect public health and safety and to protect significant resource values. Easements can be acquired to provide access to public lands for recreational, wildlife, range, cultural/historical, mineral, ACEC, special management areas, and other resource needs. Note that all valid existing leases and rights are acknowledged by the BLM, and management actions implemented through approval of the Final RMP and Record of Decision do not apply retroactively to these leases and rights.

Throughout much of Utah, the state owns and manages four isolated sections in each 36-section township. These are generally sections 2, 16, 32, and 36, and are ordinarily one mile square (640 acres). They are primarily administered by the Utah School and Institutional Trust Lands Administration (SITLA) for the purpose of economic support of the state's public schools and institutional trust funds. Activities on state land generally are not substantially different from those on the surrounding land administered by the BLM. Many of the SITLA lands generate funds through grazing permits, right-of-way easements and permits, and hydrocarbon or other mineral leases.

Many BLM lands with management restrictions, such as WSAs, have state lands that are adjacent to or within their boundaries. State lands that are completely or almost entirely surrounded by BLM lands with management restrictions, or are in conjunction with administratively endorsed National Park Service lands, are termed state inholdings.

Existing access to inheld state lands varies. Some of the parcels have direct access through cherry-stemmed or boundary roads of WSAs. Inheld parcels may or may not currently have access, depending upon whether or not existing vehicle routes lead to them. BLM policy, as required by the Cotter decision, is that "the state must be allowed access to the state school trust lands so that those lands can be developed in a manner that will provide funds for the common school...." This decision confined the issue of access to situations directly involving economic revenues generated for the school trust. For example, if a holder of a state oil and gas lease on a parcel of state land that is completely surrounded by a WSA requires access to develop that lease, the BLM must grant the leaseholder reasonable access with consideration given to minimize impacts to wilderness character

3.7.7 PERMITS AND LEASES

Sec. 302 of FLPMA states that public lands may be offered for permit or lease to state, local, or private citizens for use, occupation, or development. For example, the BLM may permit agricultural development, residential use (only under certain very limited conditions), commercial use, advertising, or National Guard use of public lands. Permits are usually short-term authorizations not to exceed 3 years. Leases are long-term authorizations that usually require a significant economic investment in the land. Permits and leases generally require the permittee or lessee to pay rent to the U.S. for the use of federal property.

3.7.8 TRESPASS

Trespass occurrences are known to exist but many have not been documented and pursued because of lack of personnel and higher priority work. Common trespass locations in the VPA are along drainages, oil fields, and other areas bordering public lands. The BLM is responsible for realty trespass abatement, which consists of trespass prevention, trespass detection, and trespass resolution. The method of trespass resolution depends on whether a trespass was intentional or not, the extent and duration of use, and the existence and extent of resource impacts. In the past, trespass resolution has involved the BLM collecting administrative costs from the trespassing party and then either issuing temporary land-use authorizations (such as ROW grants, leases, or permits to resolve unauthorized agricultural use or location of canals, fences, pipelines or other facilities) or requiring that the unauthorized use be discontinued or that the personal property be removed.

3.8 LIVESTOCK AND GRAZING MANAGEMENT

The Vernal Field Office currently administers grazing on 167 allotments throughout the VPA. Of these, five grazing allotments (Dry Creek, Hoy Flat, Offield Mountain, South Pot Creek, and Wild Mountain–Colorado) are located entirely outside the VPA boundary and two allotments (Max Canyon and Blind Canyon) are located entirely on private land inholdings within the VPA. The 160 allotments within the VPA designated for livestock grazing encompass approximately 1,691,116 acres of BLM land. An additional 545,887 acres of other lands (private, state, tribal, etc.) are included within these allotments.

Livestock are regularly permitted to graze on 153 of the 160 allotments as follows: cattle (113), sheep (27), sheep and cattle (12), and horses (1). A few of the cattle and/or sheep allotments also permit some horses. Forty-five of the 153 allotments are currently grazed under a deferment rotation system, which involves delaying grazing in an allotment until the seed maturity of the key forage species.

On the remaining 7 allotments (Red Creek Flat, Rye Grass, Marshall Draw, Taylor Flat, Warren Draw South, Watson-Diamond Mountain and Sears Canyon), cattle are permitted on a temporary, non-renewable basis; however, such use is discretionary.

Within the VPA, 146,161 animal unit months (AUMs) are allocated for livestock, but active permitted use for the 160 allotments is currently 137,897 AUMs. However, the demand for forage resources by livestock (the total average actual use) for the past 10 years was only 78,500 AUMs.[1] Suspended use for the 160 allotments is currently 26,364 AUMs. Comprehensive grazing allotment information is summarized in Appendix L.

3.8.1 Past Grazing Management Categories and Current Range Conditions, Carrying Capacity, Management, and Facilities

Ecological conditions of the two former RMAs (Diamond Mountain and Book Cliffs) were assessed and identified using two different evaluation methods. In the 1994 Diamond Mountain RMP, allotments were evaluated according to seral stages, (Early, Mid or Late). In the 1985 Book Cliffs RMP, allotments were evaluated as being in Excellent, Good, Fair, or Poor ecological condition.

In 1997, the BLM in Utah developed Standards for Rangeland Health and Guidelines for Grazing Management (see Appendix F). These standards are descriptions of the desired condition of the biological and physical components and characteristics of rangelands. Guidelines are management approaches, methods, and practices that are intended to achieve a standard.

The BLM has defined four Fundamentals of Rangeland Health, which are the basic ecological principles underlying sustainable production of rangeland resources. These four fundamentals are embodied in the BLM's new Grazing Regulations (43 CFR Part 4100) and serve as the basis for standards and guidelines for grazing management on BLM-administered public lands in Utah. The Standards and guidelines developed by the Utah Resource Advisory Council provide for conformance with these fundamentals (43 CFR Part 4180.2(b)). The fundamentals are as follows:

- Watersheds are in or making significant progress toward properly functioning physical condition. This condition includes their upland, riparian/wetland, and aquatic components. Soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform, and maintain or improve water quality, and timing and duration of flow.

[1] This information was compiled from the Actual Use records of each livestock operator. When actual use was not available, licensed-use figures were used.

- Ecological processes, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

- Water quality complies with State water quality standards and achieves, or is making significant progress towards achieving, established BLM management objectives such as meeting wildlife needs.

- Habitats are, or are making significant progress toward being, restored or maintained for Federal Threatened and Endangered species, Federal proposed, Category 1 and 2, Federal candidate, and other special status species.

3.8.2 CURRENT GRAZING MANAGEMENT CATEGORIES

Following the four fundamentals, the Vernal BLM has since re-evaluated each grazing allotment and designated each as being in one of three management categories: Maintain (M), Improve (I), or Custodial (C). The criteria used for categorizing the allotments were based on resource potential, resource use conflicts, opportunity for positive economic return on public investments, and the present management situation. Sixty allotments are in the I category, 47 are in the M category, and 53 are in the C category.

3.8.2.1 CATEGORY M – MAINTAIN EXISTING RESOURCE CONDITIONS

- The present ecological condition and management are satisfactory.
- Either:
    1. Late to climax seral stage condition will be maintained under present management, if desired; or
    2. Conditions are mid seral stage or improving, with improvement expected to continue under present management, if desired; or
    3. Opportunities for BLM management are limited, either because the percentage of public land is low or the acreage of public lands is small.
- There are no major, land-use resource conflicts with livestock grazing.

- Land ownership status may or may not limit grazing management opportunities.
- Opportunities for positive economic return from public investment may exist.

3.8.2.2 CATEGORY I – IMPROVE EXISTING RESOURCE CONDITIONS

- Present ecological condition is unsatisfactory.
- Ecological condition is in early to mid seral stage.
- Ecological condition is in mid to late seral stage.
- Ecological succession is expected to regress further.

- Allotment has a potential for medium to high vegetation production, but production is low to moderate.
- Resource conflicts/controversy with livestock grazing are evident.
- There is potential for positive economic return on public investment.

3.8.2.3 CATEGORY C – CUSTODIAL MANAGEMENT

- Present ecological condition is not in a declining trend.
- Allotment has a low vegetation production potential and is producing near this level.
- There may be limited conflicts between livestock grazing and other resources.
- Present management is satisfactory or is the only logical management under existing conditions.
- Opportunities for positive economic return on public investments do not exist.

3.9 MINERALS AND ENERGY RESOURCES

3.9.1 OIL AND GAS

Oil and gas development are major resource development activities within the Uinta Basin, and intense oil and gas exploration and development are expected on BLM-administered lands within the VPA over the planning period of the Proposed RMP. These resources are located in an EPCA focus area. At present, approximately 2,800 oil and gas wells are active within the VPA. The Geologic and Engineering Team in the BLM Vernal Field Office has estimated the relative potential for oil and gas resources, including CBNG, in six exploration and development areas within the VPA. These areas, from north to south, are: Manila-Clay Basin, Tabiona-Ashley Valley, Altamont-Bluebell, Monument Butte-Red Wash, West Tavaputs Plateau, and East Tavaputs Plateau (See Figure 19 in the Maps section).

The number of current leases (wells, developments, and explorations) existing within the VPA changes rapidly and frequently. As such, presenting such information would be without merit, since said information would be outdated immediately upon issuance of the document.

Seismic surveys, both three-dimensional (3D) and two-dimensional (2D), are expected to increase during the planning period, particularly in the East Tavaputs Plateau exploration and development area. Forty-five (45) to 75 Notices of Intent (NOIs) to perform surveys are anticipated, and the Geologic and Engineering Team has estimated that approximately 2,055 new oil wells, 4,345 new gas wells, and 130 new CBNG wells would be drilled during the planning period. The majority of the oil and gas development activity is anticipated to occur in the Monument Butte-Red Wash exploration and development area. Most CBNG activity is expected to occur in the East and West Tavaputs Plateau areas.

3.9.1.1 OIL AND GAS LEASING, AND LOCATABLE AND SALEABLE MINERALS CATEGORIES

The exploration and development of oil and gas resources is accomplished in several stages of activity. The first stage (land categorization) involves determining which public domain lands

should be leased and under what conditions. The second stage is leasing. The third stage includes exploration, development, and production operations.

The BLM has designated four categories that describe the conditions placed upon public domain lands in regard to their availability for fluid hydrocarbon leasing, and the entire VPA has been assigned one of the following leasing categories for oil and gas development:

- Standard Stipulations
- Timing and Controlled Surface Use
- No Surface Occupancy
- Closed to Leasing

Standard Stipulations – This lease category identifies areas, which are open to exploration and development, subject to the terms and conditions of the standard lease form.

Timing and Controlled Surface Use – This category identifies areas that are open to exploration and development, subject to relatively minor constraints such as seasonal restrictions. These areas possess other land uses and/or resource values such as critical big game wildlife range or special status plant and wildlife species, which might conflict with fluid hydrocarbon exploration and development and, therefore, moderately restrictive lease stipulations may be required to mitigate these impacts. The stipulations are utilized where there are resource values, which may require specific protection, but the conflicts with fluid hydrocarbon exploration and development would not be of sufficient magnitude so as to preclude surface occupancy.

No Surface Occupancy – This minerals lease category identifies areas that are open to exploration and development subject to highly restrictive lease stipulations, which includes no surface occupancy (NSO). These areas possess special resource values or land uses such as camping or picnic areas, scenic areas, Recreation and Public Purpose (R&PP) patents and leases, important historical and/or archaeological areas, and buffer zones along the boundaries of special use areas such as wild and scenic river corridors. This category is used for those areas where a number of seasonal or other minor constraints would severely restrict exploration and development.

Closed to Leasing – This lease category identifies areas that are closed to leasing either by discretionary or non-discretionary decisions. These areas have other land uses or resource values, which cannot be adequately protected, even with the most restrictive lease stipulations. Closing these areas to leasing is the only way to ensure their appropriate protection. Discretionary closures involve lands where the BLM has determined that energy and/or mineral leasing, entry, or disposal, even with the most restrictive stipulations or conditions, would not be in the public interest. Non-discretionary closures involve lands that are specifically closed to energy and/or mineral leasing, entry, or disposal by law, regulation, Secretarial decision, or Executive Order. All WSAs are closed to leasing by law.

Locatable and salable minerals areas are generally classified as either Open or Closed. Locatable minerals are usually the base and precious metal ores, ferrous metal ores, and certain classes of

industrial minerals where acquisition is by staking a mining claim (location) over the deposit and then acquiring the necessary permits to explore or mine. Salable minerals are defined as mineral commodities sold by sales contract from the federal government. Salable minerals are generally common varieties of construction materials and aggregates, such as sand, gravel, cinders, roadbed, and ballast material.

3.9.1.1.1 EPCA

The Vernal Field Office Planning Area is located within the western portion of the Uinta/Piceance Basin area which covers a large amount of northeast Utah and northwest Colorado (approximately 18,945,000) acres and is known to have significant occurrences of oil and gas resources which have been depicted in a variety of studies. Based on the known quantities of oil and natural gas resources within the VPA, the Uinta Basin has been designated as an EPCA focus area for oil and gas exploration and development. Most recently, in 2003, a multi-agency effort produced a "Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves and the Extent and Nature of Restrictions or Impediments to their Development." It is BLM policy to consider this information in its planning process. The information, commonly referred to as the EPCA data, portrays two kinds of basic energy related information relevant to the Unita/Piceance Basin, volumetric data and accessibility data (EPCA 2003).

The volumetric data on oil reserve estimates for the entire basin is predicted between 61–296 million barrels of oil with a mean estimate of 149 million barrels of oil (EPCA 2003).

Volumetric data on gas reserve estimates for the entire basin is predicted between 12-35 trillion cubic feet with a mean estimate of 22 trillion cubic feet. Most of the undiscovered natural gas is found widely dispersed in continuous deposits rather than distinct structural traps (EPCA 2003).

Among the five study areas that were subject to the EPCA study, the Uinta/Piceance Basin has the highest percentage of oil (85%) available under standard lease terms (EPCA 2003).

Another kind of data illustrated by EPCA is that of accessibility by industry to the estimated reserves. Accessibility by industry was based on the actual depiction of existing land-use plan stipulations that presently occur in the Vernal Field Office Planning Area. Careful review of this information shows many major inaccuracies of oil and gas stipulations as they presently occur with in the planning area. A more accurate portrayal of existing oil and gas stipulations which affect industry accessibility to oil and gas resources is shown in Chapter 2, Proposed RMP and Alternatives and is located in the Alternative Matrix under Alternative D (No Action) which depicts current leasing stipulations.

In addition to the EPCA data, which is a very large-scale portrayal of energy information, the BLM prepared more site-specific data based on 14 conventional and unconventional oil and gas play areas within the Vernal Field Office. Numerous data sources including USGS, UGS, academic research, UDOGM, industry and government sources, were queried in order to depict specific information that was relevant to the potential for occurrence of oil and gas resources within Duchesne, Uintah and Daggett Counties. This information was then used to compile the

Mineral Potential Report for the Vernal Field Office. The mineral report also depicts the potential for reasonable foreseeable development for six different zones within the VPA. A brief summation of the six oil and gas producing zones is portrayed below.

3.9.1.2 Manila-Clay Basin Exploration and Development Area

Historically, exploration activity for and production of oil and gas in this region have been relatively low, particularly over the last 15 years. All producing wells in the area were drilled prior to 1980. Historic gas well data indicate that only three gas wells have been drilled since 1980, none of which are currently producing wells. New geologic data or an increase in the price of natural gas could create increased interest in this area. It is projected that a maximum of 45 additional gas wells would be drilled in this area in the 5 years following the approval of the ROD for this plan.

3.9.1.3 Tabiona-Ashley Valley Exploration and Development Area

Past exploration for oil and gas resources in this region has been unproductive. Data indicate that there have been no gas wells and only one oil well drilled in this region since 1980, and that the lone well is not producing. It is projected that no more than 30 oil wells would be drilled within this area in the 5 years following the approval of the ROD for this plan.

3.9.1.4 Altamont-Bluebell Exploration and Development Area

This area has had major oil exploration and production in the past, but due to a combination of low oil prices and the depletion of the oil reservoir the number of oil wells drilled annually in this area has decreased since the early 1990s. It is projected that no more than 175 oil wells would be drilled within this area in the 5 years following the approval of the ROD for this plan. Past exploration does not indicate a high potential for gas development, but the presence of deep gas reserves in the southern portion of this area could be explored over the next 15 years.

3.9.1.5 Monument Butte-Red Wash Exploration and Development Area

The Monument Butte-Red Wash exploration and development area has been an area of extensive oil and gas development and production in the past. It is projected that the oil and gas development within Monument Butte-Red Wash will continue to be extensive in the 5 years following the approval of the ROD for this plan with 1,700 oil wells and 3,100 gas wells projected to be drilled in this area.

3.9.1.6 West Tavaputs Plateau Exploration and Development Area

This is not to be confused with the West Tavaputs EIS analysis for full field oil and gas development currently being conducted out of the Price Field Office. The area in the VPA has not been extensively developed for oil and gas resources in the past 15 years. However, based on BLM discussions with oil and gas producers, there is major interest in this area for oil and gas exploration and development. The greatest interest is in gas development on the eastern side of

this area. As many as 75 oil wells, 350 gas wells, and 50 CBNG wells could be drilled in the area in the 5 years following the approval of the ROD for this plan.

3.9.1.7 East Tavaputs Plateau Exploration and Development Area

This area has had slightly more oil and gas exploration and development than the West Tavaputs Plateau area that falls in the VPA, and it is anticipated that major development, particularly within natural gas fields, will occur in the 5 years following the approval of the ROD for this plan. Increased seismic exploration is expected in the area, and a potential land exchange with the State of Utah (subject to congressional approval) is expected to lead to increasing additional drilling in the first five years. It is projected that 75 new oil wells, 600 new gas wells, and 80 new CBNG wells could be drilled in this area in the 5 years following the approval of the ROD for this plan.

3.9.2 Tar Sand

Tar sand contains heavy hydrocarbon residues such as bitumen, tar, or degraded oils that have lost their volatile components. Hydrocarbons can be liberated from tar sands by heating and other processes. Tar sand deposits in the VPA are generally located along the margins of the Uinta Basin.

The bituminous substance in the sandstones of the Basin's geologic formations is tarry residuum of petroleum that fills the pore space in coarse sandstones or forms cement in loose unconsolidated sands (Pruitt 1961). The ore retrieved from tar sands is bitumen. Bitumen is a general name for various solid and semi-solid hydrocarbons that are fusible and are soluble in carbon bisulfide. Petroleum, asphalt, natural mineral wax, and asphaltite are all considered bitumen.

In the early 1980s, certain tar sand deposits in the Uinta Basin were divided into seven Special Tar Sand Areas (STSAs) designated by the U.S. Geological Survey (USGS) under direction from Congress pursuant to the Combined Hydrocarbon Leasing Act of 1981. These STSAs are Pariette, Sunnyside, Argyle Canyon - Willow Creek, Asphalt Ridge - Whiterocks, Hill Creek, P.R. Spring, and Raven Ridge - Rim Rock (BLM 2002). Table 3.9.1 quantifies the estimated amount of bitumen that could potentially be recovered from each of the STSAs in the VPA.

Table 3.9.1. Estimated Number of Barrels of Bitumen Contained within Each STSA

STSA	Geologic Formations	Barrels of Bitumen
Argyle Canyon-Willow Creek	Green River Formation	60–90 million
Asphalt Ridge-Whiterocks	Duchesne River/Uinta, Navajo Sandstone, and Mesa Verde Formations	1.2–1.3 billion
Hill Creek	Green River Formation	1.6 billion
Pariette	Uinta Formation	12–15 million
P.R. Spring	Green River Formation	4–4.5 billion
Raven Ridge-Rim Rock	Green River Formation	100–130 million
Sunnyside	Wasatch Formation	3.5–4 billion

Table 3.9.1. Estimated Number of Barrels of Bitumen Contained within Each STSA

STSA	Geologic Formations	Barrels of Bitumen

Source: Blackett 1996

Other minor tar sand deposits have also been delineated within the VPA. These deposits include Chapita Wells (7.5 to 8 million barrels of bitumen), Cow Wash (1 to 1.2 million barrels of bitumen), Upper Kane Hollow (unestimated), Spring Branch (1.5 to 2 million barrels of bitumen), Tabiona (1.3 million barrels of bitumen), Lake Fork (6.5 to 10 million barrels of bitumen), Split Mountain (unestimated), Nine Mile Canyon (unestimated), Minnie Maude Creek (10 to 15 million barrels of bitumen), Little Water Hills (10 to 12 million barrels of bitumen), and Spring Hollow (unestimated; Blackett 1996).

Because tar sand development associated with a combined hydrocarbon lease could be more disruptive to environmental resources than oil and gas development, all combined hydrocarbon leases issued in STSAs are regulated by an amended leasing category system.

- Open to leasing, with standard stipulations
- Open to leasing, with standard and special stipulations
- Open to leasing, with no right of surface occupancy
- Closed to leasing

As of October 2001, there were four permitted tar sand surface mining operations in the VPA, all located in Uintah County. The potential for development of this resource, other than for asphalt paving, is anticipated to remain low over the next 15 years.

3.9.3 GILSONITE

Gilsonite is the purest solid bitumen found in nature. Gilsonite is the trade name for Uintaite, which is a black, pitch-like substance that occurs in pure form in vein-type deposits in the Tertiary sediments of the Uinta Basin of northeastern Utah. It is a petroleum substance of uniform composition and texture with a distinctive conchoidal fracture. In gilsonite, the surfaces exposed along fractures typically have a bright sheen and reflect bright light, in notable contrast to the jet-black color. A number of important uses for gilsonite have been found since its discovery in the late nineteenth century. These uses include high-grade varnishes, lacquers, paints, acid proofing, insulating plastics, inks, and mastic (Crawford 1960). For commercial purposes, it is graded and marketed by producers into "Selects" and "Standard." There is also a very high-grade variety with high luster and deep black color known as "Jet Black" (Stern 1960).

Gilsonite is allocated by non-competitive and competitive leasing only. Leasing actions may be initiated by public interest or by the BLM. Allocation methods vary to suit different situations.

There is high to moderate potential for gilsonite occurrence within the VPA. It is likely that there will be continued exploration and development of this resource within the next 15 years.

3.9.4 OIL SHALE

Oil shale is a popular term for sedimentary rock (e.g., marlstone) from the Tertiary Green River Formation that contains kerogen. Kerogen is a fossilized organic material that can be converted to conventional oil via retorting or destructive distillation processes (Cashion 1967) characterizes oil shale as a marlstone that, when distilled, will yield 15 gallons or more of oil per ton of rock.

Oil shale occurs within the lower part of the Parachute Creek Member of the Green River Formation. The Mahogany Oil Shale Zone of the Parachute Creek Member is the most notable kerogen-bearing unit of the Green River Formation (Trudell et al. 1983). It outcrops in the southern part of the VPA and dips north towards the synclinal axis of the Uinta Basin. The Mahogany Zone varies in thickness throughout the Uinta Basin, generally thickening and becoming less defined from east to west (Cashion 1967).

There is a high to moderate potential for occurrence of oil shale within the VPA. It is expected that a total of one or two small-scale projects may be active over the next 15 years.

3.9.5 PHOSPHATE

Phosphate deposits exist in the Uinta Basin within the Meade Peak Member of the Permian Park City Formation. Phosphate ore is present in the form of P2O5 (Schillie 2002). Extensive, relatively high-grade deposits occur at or near the surface in the VPA, making phosphate mining in the VPA economical because the ore can be cheaply strip-mined. Deposits in the Flaming Gorge/Manila Field area are less economically attractive because of the area's more complex geologic setting.

There is high to moderate potential for the occurrence of phosphate deposits within the VPA. Phosphate mining on private land is expected to continue over the next 15 years. There is some potential for exploration on BLM lands over the next 15 years.

3.9.6 MINERAL MATERIALS

Other mineral materials include fine sand, gravel, and building stone. Fine sand deposits can be found on the northern edge of Ashley Valley, the portion of the Uinta Basin lying between Asphalt Ridge and the Utah-Colorado state line, Moon Lake Reservoir, and Yellowstone Reservoir. Moon Lake Reservoir and Yellowstone Reservoir are both on U.S. Forest Service (USFS) land in the Uinta Mountains.

Coarse sand and gravel deposits are found along the northern margin of the Uinta Basin, where it abuts the southern flank of the Uinta Mountains. More specifically, these deposits occur in the upper sandstone units of the Tertiary Duchesne River Formation, in the Uinta Piedmont, and in Quaternary terrace/alluvial deposits in streams draining the Uinta Mountains. Green River terrace deposits are a source of sand and gravel, and the Mississippian Madison Limestone that crops out along the south flank of the Uinta Mountains can be crushed and used as an aggregate.

Building stone resources exist in the Parachute Creek Member of the Tertiary Green River Formation. More specifically, the resource occurs as loose rock that has been eroded from outcrops along the south side of Duchesne County through southern Uintah County.

There is a high to moderate potential for the occurrence of mineral materials, including sand, gravel, and building stone in the VPA. It is likely that exploration and development of these resources will continue to occur over the next 15 years.

3.9.7 LOCATABLE MATERIALS

Minor deposits of locatable materials that are associated with hydrothermal alteration and secondary mineral precipitation (e.g., base metals, gold, gypsum, and uranium) are known to exist within the VPA (Johnson 1973). The Precambrian Red Creek Quartzite has yielded some lead, gold, copper, silver, iron, and barium between Mountain Home and the Owiyukuts Plateau. The Mississippian carbonate rocks along the south flank of the Uinta Mountains contain some small iron deposits (Pruitt 1961). The terrace deposits of the Green River also contain some fine-grained placer gold (Pruitt 1961). Uranium is known to exist in some sections of the carboniferous units of the Mesa Verde and Uinta Formations (Chenoweth 1992). Gypsum is known to occur as an evaporative salt in the Jurassic Carmel and Triassic Moenkopi Formations. When mined for chemical-use purposes (e.g., for carbonate scrubber material), the Mississippian Madison Limestone that outcrops along the flanks of the Uinta Mountains may be subject to mining claim locatable mineral regulations, and may be removed pursuant to the Forest Service 36 CFR 228 (A) or the BLM 43 CFR 3715, 3802, and 3809 mining regulations, as appropriate.

There is moderate potential for the occurrence of locatable minerals within the VPA. Very little development activity for locatable minerals is anticipated over the next 15 years.

3.9.8 COAL

Coal mining has not occurred on public lands in the VPA due to lack of demand and the poor quality of the deposits. However, coal of commercial value exists in the coal unit of the Cretaceous Frontier Sandstone and the Mesa Verde Group Formations (Pruitt 1961). The Frontier Sandstone is the most important coal-bearing unit in the VPA. The quality of these coal beds improves in an easterly direction (Doelling and Graham 1972).

There is a moderate potential for the occurrence of economically valuable coal deposits within the VPA, but it is unlikely that coal exploration or development will occur over the next 15 years because of the generally low-grade quality of the coal.

3.10 NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

3.10.1 OVERVIEW

Since wilderness study areas (WSAs) were established in the 1980s, designation of wilderness in Utah has become a prominent national issue. For more than 20 years, the public has debated which lands have wilderness characteristics and should be considered by Congress for wilderness

designation. As a result of the debate (and a significant passage of time since the BLM's original inventories), in 1996 the Secretary of the Interior directed the BLM to take another look at some of the lands in question. In response to the direction of the Secretary, the BLM inventoried these lands, and approximately 2.6 million acres of public land statewide (outside of existing WSAs) were found to have wilderness characteristics (1999 Utah Wilderness Inventory).

Non-WSA lands with wilderness characteristics are areas having 5,000 acres, or areas less than 5,000 acres that are contiguous to designated wilderness, WSAs, or other lands administratively endorsed for wilderness; or in accordance with the Wilderness Act's language, areas "of sufficient size as to make practicable it preservation and use in an unimpaired condition". These are areas in a natural or undisturbed condition and provide outstanding opportunities for solitude or primitive forms of recreation (non-motorized and non-mechanized activities in undeveloped settings). The BLM used the same criteria for determining wilderness characteristics as in the 1979 wilderness inventory. The 5,000 acre value was helpful to the BLM in making preliminary judgments, but it was not considered a limiting factor. Refer to the definition of *Wilderness Characteristics* in the glossary in the Draft RMP/Draft EIS.

In April 2003 the BLM and the State of Utah, the Utah School and Institutional Trust Land Administration (SITLA), and the Utah Association of Counties (collectively "Utah") reached an agreement negotiated to settle a lawsuit originally brought in 1996 by Utah, challenging the BLM's authority to conduct new wilderness inventories. The settlement stipulated that the BLM's authority to designate new WSAs expired no later than October 21, 1993. The BLM, however, does have the authority to conduct inventories for characteristics associated with the concept of wilderness (FLPMA Section 201; 43 U.S.C. §1711) and to consider management of these values in its land-use planning process (FLPMA Section 202; 43 U.S.C. §1712). The BLM's land-use Planning Handbook (H-1601-1) states that decisions on whether or not to protect areas with wilderness characteristics are to be considered during planning.

3.10.2 Planning Area Profile

There are nine areas in the VPA (approximately 102,938 acres) outside of existing WSAs that were determined by the BLM in the 1999 inventory to have the wilderness characteristics of size, naturalness, and outstanding opportunities for solitude or primitive recreation. In addition to the lands found to have wilderness characteristics in the 1999 inventory, other lands in the VPA have been proposed for wilderness as a part of legislation before Congress (America's Red Rocks Wilderness Act). A BLM interdisciplinary team evaluated a variety of sources of information, including information provided by the public about these areas, their on-the-ground knowledge of these areas, information in case files and field notes/files, master title plats, aerial photos, GIS data layers, and field inspections, and the team determined that all or parts of these areas have wilderness characteristics. Of the 34 areas evaluated, a total of 25 areas outside of existing WSAs totaling about 277,596 acres were found to have wilderness characteristics. These areas are identified in the table below (Table 3.10.1; See Figure 26 in the Maps section). These non-WSA lands with wilderness characteristics have been carried through the land-use planning process to assess the impacts of management options on these lands and to determine how their wilderness characteristics will be managed. Many of the inventoried lands were found to lack

wilderness characteristics, and these are also identified in the table below (Table 3.10.1; see Figure 26 in the Maps section).

Detailed information about non-WSA lands with wilderness characteristics is part of the administrative record for the Draft RMP/Draft EIS. The following records are available for public review at the Vernal Field Office: (1) 1999 Utah Wilderness Inventory; (2) 1999 Utah Wilderness Inventory Revision Document for the Vernal Field Office; (3) 1999 Utah Wilderness Inventory case files for the Vernal Field Office; (4) Reasonable Probability Determinations for the Vernal Field Office; and (5) Documentation of Wilderness Characteristics Review for the Vernal Field Office.

Table 3.10.1 Non-WSA Lands with Wilderness Characteristics in the VPA

Name	Acres with Wilderness Characteristics (WC)	Acres with No Wilderness Characteristics (NWC)	Contiguous Lands with Wilderness Characteristics
Beach Draw	898	9	Beach Draw is contiguous to Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
Bitter Creek	33,488	8,816	No contiguous lands with wilderness characteristics.
Bourdette Draw	13,335	2,174	No contiguous lands with wilderness characteristics.
Bull Canyon	2,483	32	Bull Canyon is contiguous to the BLM's Bull Canyon WSA, located in Utah and Colorado.
Cliff Dweller Canyon	0	14,604	No contiguous lands with wilderness characteristics.
Cold Spring Mountain	8,764	4,412	Cold Spring Mountain is contiguous to the BLM's West Cold Spring WSA, located in Utah and Colorado.
Cripple Cowboy	13,603	0	Cripple Cowboy is contiguous to the BLM's 400-acre Book Cliffs Mountain Browse ISA.
Daniels Canyon	3,045	0	Daniels Canyon is contiguous to the BLM's Daniels Canyon WSA and Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
Dead Horse Pass	6,994	1,124	No contiguous lands with wilderness characteristics.

Table 3.10.1 Non-WSA Lands with Wilderness Characteristics in the VPA

Name	Acres with Wilderness Characteristics (WC)	Acres with No Wilderness Characteristics (NWC)	Contiguous Lands with Wilderness Characteristics
Desolation Canyon	63,118	6,993	Desolation Canyon is contiguous to the BLM's Desolation Canyon WSA. The non-WSA lands with wilderness characteristics are located in the BLM's Vernal, Price, and Moab Field Offices. This is the acreage with wilderness characteristics in the Vernal Field Office portion of the area. Total acreage of the non-WSA lands with wilderness characteristics covering all three field offices is 154,767.
Diamond Breaks	4,539	186	Diamond Breaks is contiguous to the BLM's Diamond Breaks WSA, located in Utah and Colorado.
Diamond Mountain	27,238	25	Diamond Mountain is contiguous to Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
Dragon Canyon	0	19,899	No contiguous lands with wilderness characteristics.
Goslin Mountain	0	6,084	No contiguous lands with wilderness characteristics.
Hells Hole Canyon	2,709	0	Hells Hole Canyon includes 7,000 acres in Colorado.
Hideout Canyon	1,113	0	Hideout Canyon includes 11,607 acres of lands with wilderness characteristics in the Moab Field Office.
Lower Bitter Creek	11,417	2,682	No contiguous lands with wilderness characteristics.
Lower Flaming Gorge	17,810	3,360	No contiguous lands with wilderness characteristics.
Mexico Point	1,277	79	Mexico Point includes 12,837 acres of lands with wilderness characteristics in the Moab Field Office.
Moonshine Draw	4,513	0	Moonshine Draw is contiguous to Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
Mountain Home	7,083	2,201	No contiguous lands with wilderness characteristics.

Table 3.10.1 Non-WSA Lands with Wilderness Characteristics in the VPA

Name	Acres with Wilderness Characteristics (WC)	Acres with No Wilderness Characteristics (NWC)	Contiguous Lands with Wilderness Characteristics
Rat Hole Ridge	11,367	0	Rat Hole Ridge includes 1,200 acres of lands with wilderness characteristics in Colorado.
Red Creek Badlands	0	4,656	No contiguous lands with wilderness characteristics.
Seep Canyon	0	20,802	No contiguous lands with wilderness characteristics.
Split Mountain Benches	0	2,164	No contiguous lands with wilderness characteristics.
Split Mountain Benches South	0	355	No contiguous lands with wilderness characteristics.
Stone Bridge Draw	0	3,638	No contiguous lands with wilderness characteristics.
Stuntz Draw	1,992	0	Stuntz Draw is contiguous to Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
Sunday School Canyon	0	18,069	No contiguous lands with wilderness characteristics.
Sweetwater Canyon	6,994	0	No contiguous lands with wilderness characteristics.
Vivas Cake Hill	277	0	Vivas Cake Hill is contiguous to Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
White River	21,210	8,564	No contiguous lands with wilderness characteristics.
Wild Mountain	527	31	Wild Mountain is contiguous to Dinosaur National Monument lands recommended by the Park Service for wilderness designation.
Wolf Point	11,802	2,764	No contiguous lands with wilderness characteristics.
Total (34 areas)	**277,596**	**133,723**	No contiguous lands with wilderness characteristics.

Non-WSA lands with wilderness characteristics analyzed in this document include 277,596 acres of BLM-administered public land. In addition to the acreage currently being managed to protect and preserve their wilderness characteristics, the BLM Utah is considering management options for 2,759,400 (5.3% of lands in Utah) additional acres of non-WSA lands with wilderness characteristics in six ongoing land-use planning efforts. This includes the 277,596 acres in the VPA. There are other federal lands with wilderness characteristics in Utah not administered by

the BLM that are currently being managed to protect those values. These are identified in Table 3.10.2.

Table 3.10.2. Federal Lands with Wilderness Characteristics in Utah that are Currently Being Managed to Protect Those Values

Land Administrator	Administrative Unit	Acres	Percent of Land in Utah*
BLM	Designated Wilderness	127,700	0.24
BLM	Wilderness Study Areas	3,214,740	6.10
National Park Service	Recommended Wilderness	1,467,082	2.79
U.S. Forest Service	Designated Wilderness	773,124	1.47
U.S. Forest Service	Recommended Wilderness	83,390	0.16
Total		**5,666,036**	**10.76**

*The percentage figures shown in this table are based on a total land area of 52,541,440 acres in Utah.

3.11 PALEONTOLOGY

Fossils are the remains, traces, or imprints of ancient organisms preserved in or on the earth's crust that provide information about the history of life on earth. Paleontological resources do not include any materials associated with an archeological resource, which consist of material remains of past human life or activities that are over 100 years old (as defined in section 3(1) of the Archeological Resources Protection Act of 1979, as amended (16 U.S.C. 470bb[1]).

3.11.1 REGIONAL OVERVIEW

At approximately 125 miles in length, the Uinta Mountains are the largest east-west-trending mountain range in the western hemisphere (Hansen 1969). The Uinta Basin is an asymmetrical elongate basin. The Uinta Mountains flank the northern length of the basin and the Book Cliffs/Tavaputs Plateau flank the southern margin. The Uinta Basin, Uinta Mountains, and Book Cliffs/Tavaputs Plateau are the dominant physiographic provinces of northeastern Utah. The Uinta Mountains rise to elevations greater than 13,000 ft (nearly 4000 m). This mountain range includes many of the highest peaks in Utah.

The Uinta Basin is situated in the central portion of the VPA. It has a geologic history of several orogenies (mountain building events) and a series sea level changes evidenced in the various rock formations and in the fossil record. The rock outcrops in the VPA are primarily sedimentary and span more than 2.8 billion years (Ga) of geologic history. These sedimentary deposits include Precambrian marine clastics, Paleozoic shelf deposits, Mesozoic terrestrial deposits, Tertiary basin fill and lake deposits, and Late Tertiary and Quaternary basin fill, glacial deposits, and alluvium (Diamond Mountain RMP 1990). In other words, the sedimentary rocks within the VPA formed and deposited in a variety of ancient environments more than 65 million years ago.

3.11.2 EVALUATION OF PALEONTOLOGICAL RESOURCE AND CONDITIONS

The BLM has identified four objectives for the management of fossil resources on lands it administers. They are: 1) locating, evaluating, managing, and protecting fossil resources; 2) facilitating appropriate scientific, educational and recreational uses of fossils; 3) ensuring that proposed land uses do not inadvertently damage or destroy important fossil resources; and 4) fostering public awareness of the Nation's rich paleontological heritage (BLM 1998:01). The BLM considers vertebrate fossils, as a group, to be scientifically significant; invertebrate and plant fossils may be determined to be significant on a case-by-case basis. Petrified wood is treated as a mineral material and may be collected or purchased under the Material Sales Act of 1947 (as amended), but cannot be obtained under the General Mining Law of 1872.

In 1998, the BLM released H-8270-1, General Procedural Guidance for Paleontological Resource Management. This handbook established a simple tri-level classification system (Condition I, II, and III) for the "ranking of [geographic] areas according to their potential to contain vertebrate fossils, or noteworthy occurrences of invertebrate or plant fossils" (BLM 1998:II-3).

On October 15, 2007, the BLM Washington Office (WO) IM 2008-009 (BLM 2007) replaced the tri-level classification system with the Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands, and H-8270-1 was revised to include this new classification system. The new classification system is meant to provide baseline guidance for predicting, assessing, and mitigating paleontological resources. Table 3.11.1 below (from Attachment 2-2 of the IM) provides a correlation for the old and new classification systems.

Table 3.11.1. Correlation between Condition and PFYC Classification Systems for Paleontological Resources

Condition Classes	PFYC Classes
Condition 1 – Areas known to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils. (Note: this refers to known localities or groups of localities)	PFYC Class 4 (High) or Class 5 (Very High), based on geologic unit.
Condition 2 – Areas with exposures of geologic units or settings that have high potential to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils.	PFYC Class 3 (Moderate), Class 4 (High), or Class 5 (Very High), based on geologic unit.
Condition 3 – Areas are very unlikely to produce vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils.	PFYC Class 1 (Very Low) or Class 2 (Low)

The descriptions for the classes below are written to serve as guidelines rather than as strict definitions:

***Class 1* – Very Low.** Geologic units that are not likely to contain recognizable fossil remains.

- Units that are igneous or metamorphic, excluding reworked volcanic ash units.

- Units that are Precambrian in age or older.

The probability for impacting any fossils is negligible.

***Class 2* – Low.** Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils.

- Vertebrate or significant invertebrate or plant fossils not present or very rare.
- Units that are generally younger than 10,000 years before present.
- Recent aeolian (wind-blown) deposits.
- Sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration).

***Class 3* – Moderate or Unknown.** Fossiliferous sedimentary geologic units where the fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.

- Often marine in origin with sporadic known occurrences of vertebrate fossils.
- Vertebrate fossils and scientifically significant invertebrate or plant fossils known to occur intermittently; predictability known to be low.
- Poorly studied and/or poorly documented. Potential yield cannot be assigned without ground reconnaissance.

***Class 3a* – Moderate Potential.** Units are known to contain vertebrate fossils or scientifically significant non-vertebrate fossils, but these occurrences are widely scattered. Common invertebrate or plant fossils may be found in the area, and opportunities may exist for hobby collecting. The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.

***Class 3b* – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known. This may indicate the unit or area is poorly studied, and field surveys may uncover significant finds. The units in this Class may eventually be placed in another Class when sufficient survey and research is performed. The unknown potential of the units in this Class should be carefully considered when developing any mitigation or management actions.

***Class 4* – High.** Geologic units containing a high occurrence of significant fossils. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. Surface-disturbing activities may adversely affect paleontological resources in many cases.

***Class 4a* –** Unit is exposed with little or no soil or vegetative cover. Outcrop areas are extensive with exposed bedrock areas often larger than two acres. Paleontological resources may be susceptible to adverse impacts from surface-disturbing actions. Illegal collecting activities may impact some areas.

Class 4b – These are areas underlain by geologic units with high potential but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances. The bedrock unit has high potential, but a protective layer of soil, thin alluvial material, or other conditions may lessen or prevent potential impacts to the bedrock resulting from the activity.

- Extensive soil or vegetative cover; bedrock exposures are limited or not expected to be impacted.
- Areas of exposed outcrop are smaller than two contiguous acres.
- Outcrops form cliffs of sufficient height and slope so that impacts are minimized by topographic conditions.
- Other characteristics are present that lower the vulnerability of both known and unidentified paleontological resources.

Class 4 and Class 5 units may be combined as Class 5 for broad applications, such as planning efforts or preliminary assessments, when geologic mapping at an appropriate scale is not available.

***Class 5 –* Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils, and that are at risk of human-caused adverse impacts or natural degradation.

Class 5a – Unit is exposed with little or no soil or vegetative cover. Outcrop areas are extensive with exposed bedrock areas often larger than two contiguous acres. Paleontological resources are highly susceptible to adverse impacts from surface-disturbing actions. Unit is frequently the focus of illegal collecting activities.

Class 5b – These are areas underlain by geologic units with very high potential but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances. The bedrock unit has very high potential, but a protective layer of soil, thin alluvial material, or other conditions may lessen or prevent potential impacts to the bedrock resulting from the activity.

- Extensive soil or vegetative cover; bedrock exposures are limited or not expected to be impacted.
- Areas of exposed outcrop are smaller than two contiguous acres.
- Outcrops form cliffs of sufficient height and slope so that impacts are minimized by topographic conditions.
- Other characteristics are present that lower the vulnerability of both known and unidentified paleontological resources.

Using data gathered from the Utah Geological Survey, this section identifies areas according to their potential to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils.

3.11.2.1 CLASS 4 AND 5 AREAS

For the purpose of this management plan, all vertebrate fossil localities were identified as to section, township, and range. Any section that contained one or more (maximum of 36) vertebrate fossil localities was identified as a Class 4 and 5 area. The total area (the sum of all sections containing one or more vertebrate or trace fossil locality) for Class 4 and 5 areas is approximately 147,062 acres. Fossil localities that lack specific geographic information were not considered.

3.11.2.2 CLASS 3 AREAS

Areas where geological units that yield vertebrate fossils or significant invertebrate or plant fossils elsewhere are identified as Class 3 areas for the purposes of this management plan. Outcrops of units such as the Morrison, Mesa Verde, Mancos, Moenkopi, Green River, Uintah, Wasatch, Chinle, and Navajo/Nugget Formations should be considered as Class 3 areas in the VPA. All of these units contain vertebrate fossils in other locations and may require further assessment where they are exposed in the VPA. Areas where these units are covered or obscured are not Class 3 areas. The total acreage included in sections in which vertebrate or other scientifically significant fossils may be expected to occur is approximately 1,173,741 acres. Although significant fossils have not yet been found in these areas, there is a high potential for their discovery. Fossil localities that lack specific geographic information were not considered.

3.11.2.3 CLASS 1 AND 2 AREAS

Class 1 and Class 2 areas are not known to contain any paleontological localities and do not appear (at this time) to have geological units likely to produce vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils. Classes1 and 2 areas make up approximately 446,946 acres of the VPA.[2]

3.12 RECREATION

3.12.1 REGIONAL OVERVIEW

The vast and varied landforms within the VPA accommodate many recreational uses. With two major rivers and several small mountain ranges, this area attracts recreational users from the Uinta Basin, as well as from western Colorado, Wyoming, Idaho, and Utah's heavily populated Wasatch Front. The VPA is valued for its wide range of outdoor activities including hunting and fishing, rafting and canoeing, hiking and camping, OHV use, horseback riding and mountain biking, and general recreation. The rise in recreation's popularity has presented challenges to managing outdoor recreation to accommodate demand, while ensuring the health of the resources that are essential to its existence.

The basic units of recreation management are the Special Recreation Management Area (SRMA) and the Extensive Recreation Management Area (ERMA). An SRMA is a designated area where

[2] Calculations for condition areas acreages do not include State, Tribal, or Private lands.

recreation is emphasized. Extensive Recreation Management Areas are areas where recreation is unstructured and dispersed, where minimal recreation-related investments are required, and have minimal regulatory constraints.

3.12.1.1 Special Recreation Management Areas (SRMAs)

3.12.1.1.1 Browns Park SRMA

The Browns Park SRMA encompasses the Green River below Flaming Gorge Dam (from the Ashley National Forest boundary to the Utah-Colorado state line) and is approximately 23 miles in length and one mile wide, with line-of-sight up to one-quarter mile of the river centerline. River recreation, camping, fishing, and sightseeing are the primary recreational opportunities in Browns Park. There is an increasing interest in OHV, hiking, cycling, and equestrian use. The John Jarvie Historic Ranch is located within the Browns Park SRMA and provides a historic recreation resource for the area. The ranch accommodates approximately 15,000 visitors each year and is considered a major attraction within the Diamond Mountain ERMA.

3.12.1.1.2 Pelican Lake SRMA

Unlike many of the more remote recreation resources in the Diamond Mountain ERMA, Pelican Lake is in close proximity to Vernal and is heavily used by the semi-urban population of the Uinta Basin. The most popular activities on Pelican Lake are boating and fishing. Management of the SRMA has become more challenging as the population in Vernal continues to increase, bringing with it greater numbers of users and more conflicts between different recreational activities.

3.12.1.1.3 Red Mountain-Dry Fork

The Red Mountain-Dry Fork SRMA lies approximately 12 miles northwest of Vernal and is open year-round. Access to the area is by paved road. The area is primarily used by OHV recreationists, hunters, campers, mountain bikers, and for general day use. Rock art is also present in the area.

3.12.1.1.4 Nine Mile Canyon

The Nine Mile Canyon SRMA is located at the southwest boundary of the VPA, and is a popular tourist destination. Noted as having the highest concentration of rock art sites in the U.S., services are available, but limited, within the canyon and camping is not allowed. Travel through the canyon is along a narrow, unpaved road suitable for most passenger and small recreational vehicles. Nine Mile Canyon is protected by the Antiquities Act, which prohibits excavations or acts that may injure or destroy any historic or prehistoric ruins, dwellings, or other structures.

3.12.1.2 Extensive Recreation Management (ERMAs)

The ERMAs are areas where dispersed recreation is encouraged and where visitors have recreational freedom-of-choice with minimal regulatory constraint. They are usually areas that

receive very little recreation use. These areas could include developed and primitive recreation sites with minimal facilities. Public recreation issues or management concerns are limited, and minimal management suffices in these areas. Detailed planning is not usually required for these areas. All areas within the VPA that are not part of a SRMA are included within the ERMA.

3.12.2 RECREATION TYPES

3.12.2.1 TRAILS

In November 2001, the Institute of Outdoor Recreation and Tourism at Utah State University (USU) prepared an analysis of public sentiment towards trails with a statewide telephone survey. Results were compiled for the Uinta Basin sub-area. Results of the survey indicated the following:

- Hiking was the most mentioned activity.
- OHV riding was mentioned second.
- Horseback riding was mentioned third.
- Only 47% of trail users indicated they would support the use of additional public funds for motorized trails.
- Over 79% of trail users support the use of additional public funds for non-motorized trails.
- A clear majority of the general population believes that trails provide economic benefit for local communities.

Using the data collected through USU, the Governor's Initiative on Trails established a goal to increase trail facilities throughout Utah. A working group to help establish priority areas for trail development focused on three major trails in the Uinta Basin:

- Dry Fork Flume, a non-motorized trail approximately 19 miles long.
- Outlaw Adventure OHV Trail, a motorized trail approximately 47 miles long.
- Vernal Canals – several non-motorized trails constituting 47 miles of total trail length.

3.12.2.2 OFF-HIGHWAY VEHICLES (OHVS)

The number of OHVs used in the VPA has grown in the last 10 years. According to Utah State Parks and Recreation, the number of statewide permits issued between 1988 and 1998 has grown from 20,000 to 70,000. There has been a 294% increase in registration since 1997, and annually, 30% have been first-time buyers. As identified by the National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands, the growth of OHV use can be attributed to the following:

- Greater public interest in unconfined outdoor recreation opportunities.
- Rising disposable income, fostered by a healthy domestic economy, for use on recreational pursuits.

- Advances in vehicle technology that enabled motorized OHV users to reach previously inaccessible areas.
- The rapid growth of the West's cities and suburbs, whose expansion and population growth has brought Westerners closer to once-remote public lands.
- A population with an increasing median age with changing outdoor recreational interests.

Extensive research has been conducted over the last several years to attempt to designate certain areas as appropriate for OHV use. This process is a long-term, ongoing effort to ensure resource protection while allowing a variety of recreation opportunities.

Areas that receive the most OHV use within the VPA are day-use areas accessible by the Vernal population. Presently, the areas of highest OHV use are: 1) Buckskin Hills, north of the town of Vernal; 2) Jensen Hills; 3) the Raven Ridge area, which is south of the east Highway 40 and east of the old Bonanza Highway; and 4) the Glen Bench ATV area north of Fantasy Canyon (an unofficial designated site, where people are directed to go to minimize intensive use of other more sensitive areas). Major visual, soils/watershed, and vegetation degradation is occurring in some areas.

3.12.2.3 Hunting and Wildlife Viewing

Hunting and wildlife viewing are widespread throughout the VPA. Concentrated areas occur in the Book Cliffs ERMA and Pariette Wetlands . Big game hunting in the Book Cliffs and on Diamond Mountain is generally an extended recreational activity (5-12 days) because of the limited number of tags and the excellent hunting opportunities that the area provides. Public access to the Diamond Mountain public lands is limited because of private ownership.

3.12.2.4 Scenic Drives

Four popular scenic drives, including Scenic Byways and Backways and one Federal Highway Administration National Scenic Byway, are within the VPA, typically promoted by the Dinosaurland Travel Board. The four routes are Nine Mile, Jones Hole, and Browns Park Backways and the Flaming Gorge Drive through the Ages National Scenic Byway. Other scenic routes would include the Dinosaur National Monument Park Highway, the state park roads into both Red Fleet and Steinaker Reservoirs, the Book Cliff Divide Road, and the day-use area accessing the Ashley National Forest up Dry Fork Canyon.

3.12.2.5 River Recreation

Two major rivers provide the resource for river recreation- the Green River, and the White River. Since the last BLM planning efforts (in 1985 for the Book Cliffs, and 1994 for Diamond Mountain), commercial river recreation clients and river user days have remained relatively constant, while casual use has been increasing by approximately 5% annually.

3.12.2.5.1 THE GREEN RIVER

Along the Green River, the BLM administers and collects fees for all of the commercial river permits in three major river sections: the Flaming Gorge Dam to Little Hole (Section A), Little Hole to Indian Crossing (Section B), and Indian Crossing to the Utah/Colorado state line (Section C). Permits are required for commercial boating, while boating for personal use from the Flaming Gorge Dam to the Dinosaur National Monument at Lodore Canyon does not require a permit. The bulk of commercial use, approximately 75 boats per day, occurs between the Flaming Gorge Dam and Little Hole (all of which is administered by the Ashley National Forest).

The most apparent conflict on the Green is between different recreational activities. It is not uncommon to have commercial and private rafts, single kayaks, and drift boats on the same stretch of river simultaneously floating past shore fisherman. The noise from larger groups on the rafts can interfere with the peace and solitude sought by the fishermen. Use along the shore is primarily by fishermen.

3.12.2.5.2 THE WHITE RIVER

The White River is also a major resource for commercial and non-commercial boating. Approximately 2,000 people visit this stretch of the White River each year. The most popular section of the White River is from the Bonanza Bridge to the Enron take-out, a distance of 32 river miles.

Several visual resources exist in this section of the White River, providing additional recreation opportunities. One of the recreational and visual resources along the river is the Goblin City Overlook, a lookout point approximately 800 feet above the White River. The view is primarily eastward through a series of high ridges, which have features resembling towers, spires, and turrets.

The confluence of the Green River and White River occurs within the boundary of the Uintah and Ouray Indian Reservation. The Reservation requires a permit for river use and for take-out through any of their property.

3.12.2.6 BOATING/SWIMMING

Although most reservoir recreation occurs on the state park facilities of Steinaker and Red Fleet Reservoirs, Pelican Lake also receives heavy use from boaters. Activities on Pelican Lake include motorized and non-motorized boating and picnicking. There is intense fishing for bluegill and bass, especially on spring weekends, and up to 70 boats may use the BLM boat ramp daily. Swimming in Pelican Lake is strongly discouraged due to the threat of bacterial and parasitic skin infections.

3.12.3 MANAGEMENT STRATEGIES

Within the VPA, and nationally, OHV areas are designated as open, limited, or closed. An open designation allows intensive OHV use where there are no compelling resource protection needs, user conflicts, or public safety issues. An area designated as limited restricts OHV use to meet specific resource management objectives. Limitations may occur on number or type of vehicles, time and season of use, or specific roads. An area is designated as closed to protect resources, ensure visitor safety, or reduce user conflicts. Within the VPA there are 787,859 acres open to OHV use, 887,275 acres that are limited, and 50,388 acres that are closed (see Figure 37 in the Maps section).

3.13 RIPARIAN AND WETLAND RESOURCES

Riparian areas and wetlands are considered some of the most diverse and productive portions of the VPA, but on the landscape level riparian areas and wetlands typically compose less than 1% of the total land area. Benefits from these areas are essential to both human and wildlife values. The lifecycles of most mammals, birds, amphibians, and fishes rely partially or wholly on riparian and wetland areas. Sensitive species such as the Ute ladies'-tresses, Bald Eagles, and Western Yellow-billed Cuckoos have their primary habitat in riparian areas. Additionally, these areas provide recreational, scenic, livestock production, and hunting areas for humans. Often, riparian and wetland resources are among the first landscape features to show impacts from management activities and often reflect overall watershed condition.

3.13.1 REGIONAL OVERVIEW

Approximately 16,000 acres of riparian zones are found along the Green and White Rivers and Bitter, Evacuation, Sweetwater, and Willow Creeks in the Book Cliffs portion of the VPA. As of 1982, 470 acres of riparian zones in the Book Cliffs portion of the VPA were identified as being in poor ecological condition (BLM 1984). However, current riparian conditions within the Book Cliffs are being assessed, and riparian conditions could have changed since the 1984 riparian/wetland assessment (see 3.11.2 below). The Diamond Mountain portion of the VPA contains 60,300 acres of riparian lands (2% of the inventoried lands), with 15,650 acres of the 60,300 acres in public lands. There are 540 miles of perennial and intermittent streams in the VPA (BLM 1993b). The BLM manages its riparian zones for multiple uses, including recreation, grazing, wildlife habitat, and other uses.

Wetlands in the study area are primarily adjacent to riparian zones and reservoirs. Additionally, several constructed water impoundments, the Pariette Wetlands, Bitter Creek Marsh, and springs are found in the VPA. The Pariette Wetlands have the largest contiguous area of wetlands in the VPA, and they are the largest waterfowl management area managed by the BLM in Utah. Specifically, the Pariette Wetlands area encompasses approximately 9,033 acres, 2,529 acres of which have riparian-wetland characteristics. The Pariette Wetlands riparian areas are situated along 7 miles of Pariette Draw, approximately 24 miles southwest of Vernal. Wetlands are divided between 20 ponds and impoundments that are regulated for waterfowl and migratory bird habitat. Bitter Creek contains vital riparian zones with box elders, aspens, willows, and sedges which support a variety of life including reptiles, amphibians, and waterfowl. The streams

and adjacent cliffs provide habitat for birds including Peregrine Falcons and Golden Eagles and provide prime calving grounds for elk and habitat for deer.

3.13.2 RIPARIAN AND WETLAND INVENTORY

The Vernal Field Office has prepared a preliminary inventory of riparian and wetland resources within the VPA, although, as of October 2003, a comprehensive assessment of riparian condition has yet to be conducted by a full ID Team. As identified in the preliminary riparian inventory there are 295 miles and 3,674 acres of riparian areas currently in proper functioning condition, 133 miles and 1,452 acres functioning at risk, and 79 miles and 1,213 acres that are not in properly functioning condition. These are preliminary numbers and they may change as the inventory is completed. Figure 5 Forage (see Maps section) displays the coverage of riparian and wetland inventory data within the VPA. Functioning condition is divided into three classes: properly functioning condition (PFC), functioning at risk (FAR), and non-functioning (NF). (See Glossary for definitions).

3.14 SOCIOECONOMICS

3.14.1 REGIONAL OVERVIEW

This section describes the current social and economic setting, trends, conditions, and characteristics for Uintah, Duchesne, and Daggett Counties in northeastern Utah (Table 3.14.1). It will serve as a baseline for future resource management by the Vernal Field Office.

Along with much of the rest of Utah, Daggett, Duchesne, and Uintah Counties have grown in population and economic vitality over the years. These counties are populated by citizens who place a high value on living in rural and small-town environments and want to keep that identity. However, they also want to be prosperous and to live in prosperous communities. As prosperity is a common desire among members of each community, it is predicted that the economies and populations of these three counties will continue to grow indefinitely.

There are a number of similarities between Daggett, Duchesne, and Uintah Counties. The driving time from each of the three county seats to the political and economic capital of the state, Salt Lake City, is approximately 2-3 hours. Each of the counties has a distinctly rural culture and strong attitudes regarding the importance of farming and ranching in their culture. Each of the counties has an abundance of topographic scenic beauty that draws large numbers of visitors. All three counties have vast expanses of BLM and USFS land within them.

State and federal land (including the Uintah and Ouray Indian Reservation) in the three counties, managed by state and federal officials and Reservation authorities, ranges from 72% in Duchesne to 81% in Uintah to 89% in Daggett. The leadership of all three counties regards most of this land as part of their economic base.

Although the political leadership in each of the three counties knows and trusts the others, they are each highly independent. "One size" responses to the three counties from any government or

private entity seeking to engage in a region-wide project will not necessarily "fit all." There is only one all-weather road (SR 44 and US 191) from the Daggett County seat, Manila, to anywhere in Uintah and Duchesne Counties. (It is a 1.5-hour drive to Vernal and a 2.5-hour drive to the City of Duchesne.) In the winter, because that road goes over the Uinta Mountains, travel time and hazard can be increased considerably. Because of the road's location on the north slope of the Uinta Mountains and its limited access, in some ways, Daggett County residents feel more socially and economically connected to the Rock Springs, Wyoming area than they do to any area of Utah.

Uintah and Duchesne Counties have large portions of the Uintah and Ouray Indian Reservation within their boundaries, and they both work collaboratively with Reservation authorities on matters of mutual interest. Oil and natural gas is a significant portion of the economy in these two counties, particularly in Uintah County. Although Daggett County has no Native American lands and produces less oil and gas, it is the site for transportation and pipeline corridors that deliver gas and electricity to markets. Thus, the energy sector plays a different but equally important role. Daggett County also has the single largest tourist/recreation attraction of the three counties: Flaming Gorge National Recreation Area, which draws more than a million visitors a year. Uintah County is much larger in population (25,224) and economy ($229.5 million total non-farm wages annually) than either Duchesne County (population 14,371; $113.3 million total non-farm wages annually) or Daggett County (population 921; $10.8 million total non-farm wages). Daggett County's tax base is so small that it has difficulty meeting all the responsibilities and expectations of a contemporary county.

Table 3.14.1. County Comparisons

County	Population 2000	Land Area	Percent BLM Land	Largest Industry
Daggett	921	459,553 acres	80.6	Government Services/Tourism
Duchesne	14,371	2.1 million acres	46.6	Government Services/Retail Trade
Uintah	25,224	2.9 million acres	46.1	Oil Gas and Mining/Government Services

To best understand the relationship between socioeconomics and planning for the Vernal Field Office, the social, economic, and governmental settings are discussed for each county. From these specific discussions, region-wide conclusions about the socioeconomic factors in the VPA can be drawn.

A statewide social survey was conducted by Utah State University (USU) in 2007 to assess the ways in which Utah residents use and value public land resources and their views about public lands management. A complete analysis of the results had not been finished as of February, 2008. "Public lands," as described in the study, consist of all federal and state managed lands, and not only BLM lands. Surveys were mailed to a random sample of residents of all 29 Utah counties. According to the authors, the study and sample sizes are designed to produce results generalizable at the state-wide level, with generalization increasingly risky as the sample area diminishes. The areas sampled do not necessarily coincide with field office planning area boundaries, as that was not the focus of the study. Nonetheless, the study provides current and

interesting results not available elsewhere, and shows the dependence of local communities on public lands for a variety of economic and recreational pursuits. Appendix XX (USU Public Lands Study) contains initial summary results for Uintah, Duchesne and Daggett Counties lying within the Vernal Field office. Where appropriate, study results are incorporated within the discussion of individual resources in Chapter 4. There is nothing in the preliminary USU results that affect the formulation of alternatives in Chapter 2 or the analysis of impacts in Chapter 4.

3.14.2 UINTAH COUNTY

3.14.2.1 SOCIAL CHARACTERISTICS

Uintah County has experienced continuous population growth since the early 1900s (Table 3.14.2). Moderate growth is anticipated to continue into the next decade, as shown in the table below. The major communities include the county seat Vernal, Naples, and Ballard. Approximately 7,700 (or 31%) of Uintah County residents live in Vernal and 1,300 (or 5%) live in Naples. The largest number 15,644 (or 62%) live in unincorporated areas of the county. Most Uintah County residents live on farms, ranches, and unincorporated communities, many of which are tribal communities.

Table 3.14.2. Population Growth by Area, Past, Present, and Projected

Area	1990	2000	2020
Ballard Town	644	566	1,017
Naples City	1,334	1,300	1,718
Uintah County	22,211	25,224	29,058
Unincorporated Uintah County	13,589	15,644	18,495
Vernal City	6,644	7,714	8,341

Source: Utah Governor's Office of Planning and Budget (GOPB), 2000 Census, U.S. Census Bureau

Uintah County covers a land area of 4,477 square miles and, at 5.6 residents per square mile, is one of the least densely populated counties in the state. Approximately 10.3% of Uintah County residents are American Indian. Eighty percent of the households in Uintah County are family households, and 44.5% have children less than 18 years of age. Average household size in Uintah County, at 3.05 persons per household, is slightly smaller than the state average, at 3.13 persons per household. Approximately 65% of Uintah County residents are 18 years of age or older and 10% are 65 years plus (U.S. Census 2000).

Schools are an important component of the social setting in a community, indicating trends of the youthful population. Approximately 5,940 children are in the Uintah School District, and enrollment in Uintah schools has been steadily declining. Between 1997 and 2002, student population dropped from 6,445 to 5,938. The Vernal campus of Utah State University and the Uintah Basin Applied Technology College provide higher education opportunities to Vernal and Uintah County.

The residents of Uintah County value the rural character and quiet lifestyle that comprises their communities. The historical land-use practices including farming, ranching, and natural resource development that shaped the culture of the area serve as the foundation for today's rural community. While the initial Uinta Basin settlements were founded primarily upon agricultural practices, mining also helped establish communities in the basin. By the mid-1850s farmers and ranchers were growing wheat, vegetables, and fruit and grazing cattle in the basin and miners were extracting gold, copper, and gilsonite (Burton 1996). The agricultural and mining industries assisted in the formation of the local communities within the Uinta Basin and the historical practices still occur on the land today.

Many local residents are intimately connected to the traditional land-use practices that shaped the culture of the Uinta Basin. Today, citizens identify with the rural, small town sense-of–place that has been present in their communities for over a century. While residents of the County support growth and development, it must complement the current quality of life and values held by the citizens. According to the Uintah County General Plan Update, residents value the County's progressive, diverse, friendly, safe, rural and comfortable atmosphere.

3.14.2.2 Economic Characteristics

3.14.2.2.1 Employment

Uintah County has experienced significant changes in its employment base in the past 50 years (Table 3.14.3). Initially, agriculture-related activities such as ranching and farming dominated the economy. Then, during the second half of the twentieth century, the development of oil and gas reserves provided a major contribution to growth. Now, retail trade, private services, and government services together provide a significant contribution to the county's economy. This evolution in employment base demonstrates Uintah County's shift from an agrarian economy to that of oil and gas, services to support oil and gas, and the boom in public land industries.

Service-based employment contributes to the job base in the area. Almost two-thirds of Uintah County employees work in retail trade, private services, or government services. While the table below shows a high number of retail, service and government jobs, it should be noted that many of these jobs are in support of the oil, gas, and mining industry. A recent University of Utah Study commissioned by the Governor's Office concluded that 49.5% of all employment in the Uinta Basin (Uintah and Duchesne Counties) was directly or indirectly attributable to the oil and gas industry (page 21). This effect is presumably greater in Uintah than in Duchesne or Daggett Counties (State of Utah 2007).

The average annual non-farm wage in Uintah County was $28,392 in 2003. Out of the top 35 employers in Uintah County, 13 are related to oil, gas and mining, 10 are government service employers, and 7 are retail employers. Unemployment in Uintah County was 6.1% in 2003, slightly higher than the state rate (approximately 5.6%).

Table 3.14.3. Uintah County Labor Force Statistics

	2000	2001	2002	2003
Construction	414	414	503	551
Ed/Health/Soc Svs	654	678	763	821
Financial Activities	283	274	309	323
Government	2,526	2,531	2,587	2,590
Information	104	115	120	133
Labor Force	11,029	11,707	12,563	13,013
Leisure/Hospitality	833	902	956	970
Manufacturing	253	199	194	189
Mining – Inc. oil & gas empl.	1,490	1,814	1,612	1,845
Non Farm Jobs	9,261	9,868	9,957	10,323
Other Services	240	269	258	282
Profess/Business Svcs	504	508	483	466
Trade/Trans/Utilities	2,010	2,182	2,172	2,190

Source: Utah Department of Workforce Services

Per capita annual income in Uintah County was $ 19,396 in 2003, lower than the state average of $24,639. The median household income in Uintah County was $42,422 in 2003. The national threshold for poverty in 2000 was an annual household income of $14,269. Nationally, 11.3% of the population fell below the poverty line in 2000 (U.S. Census Bureau 2001). Approximately 14.5% of all residents of Uintah County fall below the federal poverty line; only San Juan County (26.4%) and Duchesne County (15%) have a higher percentage of the population below the poverty line. The average for the state of Utah is 8% (Utah Department of Workforce Services - Workforce Information, May 2001).

3.14.2.2.2 AGRICULTURE

Agriculture has historically been a big part of the identity of the people of Uintah County. The Utah Department of Agriculture reports 908 farms in Uintah County in 2002. Livestock is the county's largest source of cash receipts, with $26.2 million in 2002 for livestock and livestock products. Crops produced $3.3 million in cash receipts. The total amount of land used for agriculture includes 33,136 acres of harvested cropland and 60,838 acres of irrigated land (Utah Agricultural Statistics 2002). Uintah County officials indicate that although agriculture is a major part of the economy, to survive, many farmers and ranchers have full-time jobs and use agriculture only to supplement their livelihood and to maintain a close family tradition. Agriculture is very dependant upon BLM land access for grazing rights and other use. Grazing is discussed in detail in the VPA Analysis of Management Situation and in numerous sections of the VPA RMP.

3.14.2.2.3 MINERAL RESOURCES

The Department of the Interior's Mineral Management Service identifies fluid and non-fluid mineral resources in Uintah County. The non-fluid mineral resources explored in Uintah County include phosphate, gilsonite, oil shale, and other minerals. Fluid mineral resource activities include oil production, natural gas exploration and related mineral exploration. Among the resources, the highest revenue generator in the county is natural gas; the industry in Uintah County generated over $30 million in federal Royalties in 2001. The most significant fluid mineral resource relative to contribution to state totals is oil production. Oil and gas production in 2001 represented 21% and 32% of the state totals, respectively. Table 3.14.4 shows the federal royalty values generated in 1998 and 2001 by Uintah County, and the following figure shows the amount of oil and gas production in Uintah County from 1991 to 2001. Note that number in parenthesis may reflect adjustments from the prior fiscal year.

It is also important to note that the amount of revenue generated in Uintah and Duchesne Counties does not remain in the counties. The total revenue is allocated to the federal government (Minerals Management Service). Of the total 10% pays administrative fees, 45% is allocated to the federal government (into Reclamation and General Funds), 45% is paid to the state, and the state then redistributes 40% of the royalty back to the county of origin (BLM 2005). The majority of the balance is used to fund other local projects, such as water projects of recreation facilities. Based on this formula, approximately $16 million of the total amount of royalties in 2001 was redistributed to the Uintah County (BLM 2005).

Table 3.14.4. Federal Royalty Values Generated, 1998 and 2001

	1998	2001
Bonus	$741,035.25	$132,170.00
Gas	10,904,135.48	30,314,562.60
Gas Plant Products	(13,007.10)	15,561.81
Gilsonite	179,696.71	254,742.99
Oil	2,451,527.92	2,847,820.40
Other Revenues	561,542.36	1,178,669.68
Rent	722,936.93	854,674.40
Total	15,547,867.55	35,598,183.88

Source: Minerals Management Revenue Service, 2001

Oil and gas production in the state of Utah is impacted by the U.S. and world prices of oil and gas. As those prices rise and fall, oil and gas production in Utah also rises and falls. According to the Energy Information Administration, the average wellhead price for gas in Utah was approximately $7.28 per MCF (thousand cubic feet). The average wellhead price for oil was $60.78 per barrel (Energy Information Administration 2006).

In 2003 Uintah County Collected approximately $19.5 million in total, local, centrally assessed and fee in lieu property taxes and approximately $4.3 million or 22% of the total was oil and gas extraction property taxes (BLM 2005)

Population growth rates in Uintah County have fluctuated with the boom and bust cycle of fluid and non-fluid mineral resources. For example, the population of the county grew by 64% between 1970 and 1980, following a boom in the industry. The growth rate fell to approximately 9% between 1980 and 1990, as the industry declined. The boom and bust cycle is also evident in other sectors of the local economy. Typically during a boom cycle, retail trade and service industries are strong. These industries suffer when production is low.

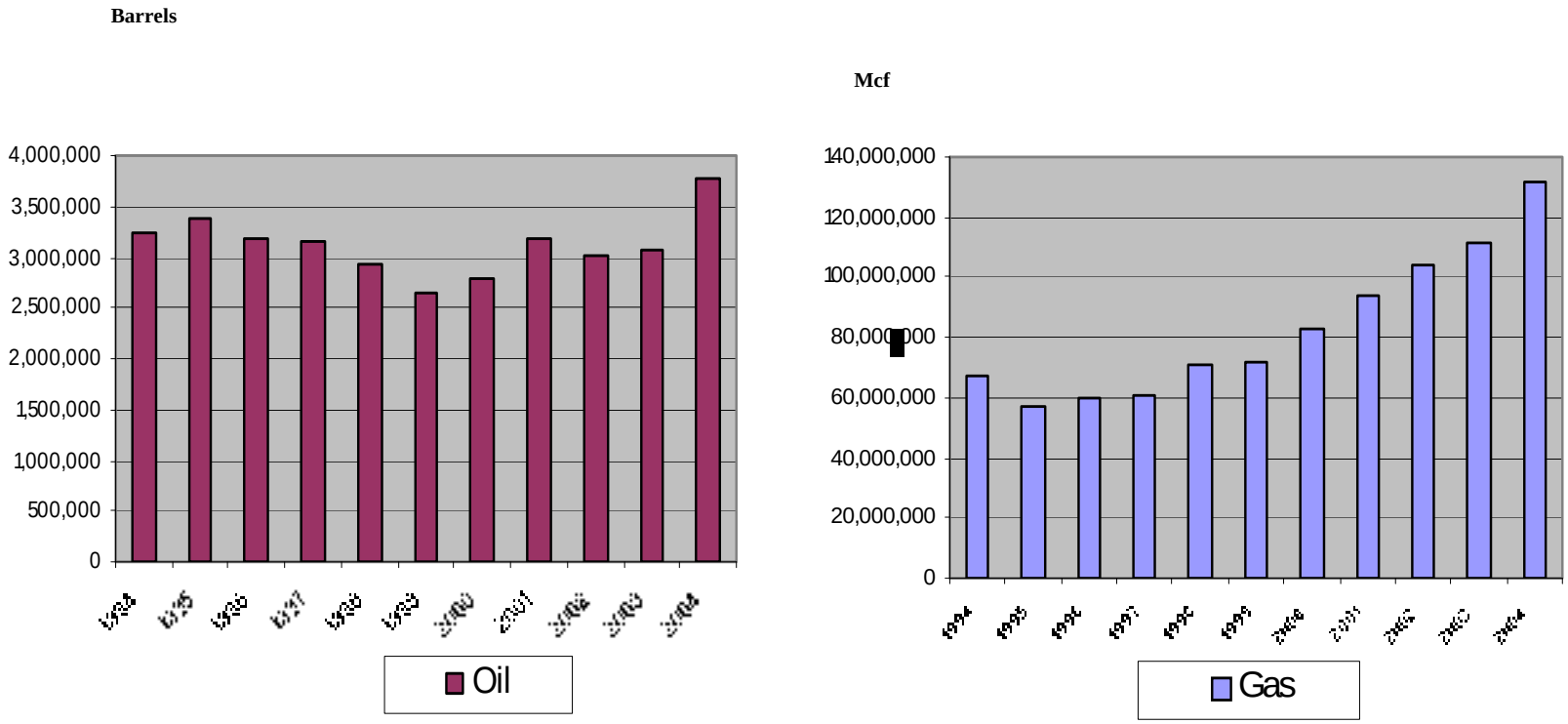

Figure 3.14.1. Uintah County Oil and Gas Production, 1999–2004. Source: Utah State Division of Oil, Gas and Mining, Department of Natural Resources 2004.

3.14.2.2.4 TOURISM AND RECREATION

Recreation is an important component in the quality of life for Uinta Basin residents. In addition to providing recreation opportunity in close proximity to their homes, these residents enjoy a healthy tax base drawn from tourism. Visitors to the Uinta Basin participate in a variety of recreational opportunities including sightseeing, camping, hiking, hunting, mountain biking, fishing, boating, and OHV use. While some of these activities can be engaged in year-round, the busiest months for recreation in the Uinta Basin are the summer months.

Several indicators help detect and explain the impact of the tourism and recreation industries on the local area: job base provided by the tourism industry, traveler spending, and regional visitation. According to the Utah Division of Travel Development, travel and tourism related jobs in Uintah County decreased 2.0% in 2003, down from 1,661 in 2002 to 1,628. Traveler spending in Uintah County was estimated to be $72.6 million per in 2003; a 40.7% increase from 2002 (Table 3.14.5). Traveler spending grew steadily from the early 1990s to 2002 and then surged to over $72 million in 2003. The significant jump in travel-related spending is anticipated to be the result of increased oil and gas development in the Uinta Basin (Johnson 2006). This inference could be drawn from the fact that regional visitation counts to popular tourist destinations in the area did not show comparable increases. For example, visitation to Dinosaur National Monument, for which Vernal serves as a gateway has declined from over 360,000 visits in 2005 to approximately 230,000 visits in 2007. The 36% drop in visitation over a two year period could be partially attributed to the closing of the quarry within the Monument. In addition, visitation trends to the Flaming Gorge Area have also decreased in recent years (1999 - 2003) by 29%. This data supports that the recent increases in "traveler spending" are less likely attributed to recreation and tourism and more likely to be from services related to the oil and gas industry.

Estimated local tax revenues from traveler spending also increased significantly in 2003. Uintah County experienced a 40.7% increase in local tax revenues from traveler spending in comparison to 2002, up from $1.08 million to $1.5 million. In 2003, Uintah County also ranked eighth in the state from local tax revenues from traveler spending. The State of Utah saw a 19.4% increase in state and local tax revenues from traveler spending at $444 million up from $372 million in 2002. However, local tax revenues decreased 1.0% in 2003. Spending by travelers for the State of Utah was $4.6 billion, down 1.3% from 2002 (Utah Division of Travel Development 2004).

Table 3.14.5. Uintah County Travel-related Spending in 2003

	Traveler Spending	% Change from 2002	Tax Revenue in Traveler Spending	% Change from 2002
State of Utah	$4,631,000,000	-1.3	$444,000,000*	19.4
Uintah County	$72,600,000	40.7	$1,519,500	40.7

*Represents state and local tax revenues from the entire state
Source: Utah Division of Travel Development 2004

Traveler spending and tax revenue includes all visits to the area, whether for recreation, business, or other purposes. While it is a valuable measure for visitation to Uintah County, it does not only

reflect tourism visits. It should be noted that a portion of the tourism related tax dollars, such as transient room tax and restaurant tax, comes from oil and gas development related services (lodging, food, and other services for mining sector employees). While it is nearly impossible to extract whether a tourist dollar was generated from a tourist or a temporary mining employee, both are beneficial to the retail and service sectors of the local economy. A decrease in temporary oil and gas-related jobs may lead to a decrease in "tourism-related" revenue for the county. On the other hand, a decrease in oil and gas-related jobs could lead to an increase in actual tourism-related revenue.

While travel related employment, spending, and local tax revenue do bring increased revenue to Uintah County, the county has indicated additional stress on infrastructure because of growing travelers. Visitors to the area may recreate on BLM property but also depend on the cities and counties for the provision of basic services, such as law enforcement and emergency fire and health services. The county has stated that the burden of infrastructure improvements should be shared with the BLM.

3.14.2.3 GOVERNMENT SETTING

A community's ability to support and pay for necessary public services is based on both the tax base within the community and the portion of that tax base that may be subject to economic change. This analysis of county finance is intended to be used to evaluate public policy decisions as well as the county's future ability to support and pay for necessary public services. Public services are the single largest expense of the county (35%), with public welfare the second large expense (18%; Uintah County 2000).

Uintah County draws its revenues from a wide range of sources, which would seem to protect it against a downturn in any one or a few areas. Because by law mineral lease payments cannot be reflected as county revenue, it is important to note the structure of these lease payments. These funds are not paid to the County directly and therefore do not show up in the general fund. Instead, a special service district administers these funds for use for transportation, roads, recreation and parks, and other items in Uintah County. This income is vital to the local economy.

Local governments such as Uintah County are normally supported by taxes. However, when a local government (such as Uintah County) contains vast expanses of federally owned land, taxes are not collected on that land. The Payments in Lieu of Taxes Act (PILT) provides for payments to local units of government containing certain federally owned lands (such as Uintah County) to assist in financing operations of that local government. Payments may be used by the counties for any governmental purpose. The total PILT payment to Uintah County in 2000 was $685,850. In 2003, this value rose to a high of just under $1.2 million. (www.blm.gov/PILT).

3.14.3 DUCHESNE COUNTY

3.14.3.1 SOCIAL CHARACTERISTICS

From 1995 to the present, the population of Duchesne County has grown steadily, along with the growth of Utah, to peak at 14,371. Moderate growth is anticipated to continue into the next decade. The Census Bureau predicts approximately 2,383 new residents by 2020 (U.S. Census 2000).

Approximately 4,300 (or 30%) of Duchesne County residents live in Roosevelt; 1,408 (or 10%) live in Duchesne; 539 live in Myton; 178 live in Altamont; and 149 live in Tabiona. The balance (54%) live in the unincorporated areas of the county (U.S. Census 2000). The majority of residents of Duchesne County live on farms and ranches and in unincorporated communities, many of which are Tribal communities on the Uintah and Ouray Reservation.

Table 3.14.6. Duchesne County Population, Past, Present, and Projected

	1990	2000	2020
Altamont	178	197	247
Duchesne	1,408	1,497	1,878
Myton	539	525	659
Roosevelt	4,299	4,325	5,427
Tabiona	149	138	174
Unincorporated Duchesne County	6,027	7,831	9,832
Total	**12,600**	**14,518**	**18,216**

Source: 2000 Census, U.S. Census Bureau

Average household size, at 3.11 persons per household, is virtually the same as the average for the state, at 3.13 persons per household. Only 7.3% of households have individuals aged 65 years and over, suggesting that the population of Duchesne County is young in comparison to the rest of Utah (U.S. Census 2000).

Of the 6,988 housing units, 4,559, or 65.2%, are occupied. Over one quarter (26.4%) of the housing stock in Duchesne County is for seasonal, recreational, or occasional use, which is defined by the owners having a primary residence elsewhere. Most (81%) of occupied housing is owner occupied (U.S. 2000).

The Duchesne County School District is a small rural school district with 4,100 students in thirteen schools, which are in six rural communities of the county. There are six elementary schools, three high schools, one junior high school, one K-12 school, and two special schools.

The residents of Duchesne County value the rural character and quiet lifestyle that comprises their communities. The historical land-use practices including farming, ranching, and natural resource development that shaped the culture of the area serve as the foundation for today's rural

community. The practices still occur on the land today and many residents are intimately connected to the traditional agricultural lifestyle. County citizens identify with the rural, small town sense-of–place that has been ever-present throughout the area. While residents of the County support growth and development, it must complement the current quality of life and values held by the citizens. According to the Duchesne County General Plan, residents value the County's "small town" qualities, exiting moral climate, low crime rates, and "neighborly" atmosphere.

3.14.3.1.1 UINTAH AND OURAY RESERVATION

The Uintah and Ouray Reservation is located within the Uinta Basin, covering a large portion of western Uintah and eastern Duchesne Counties. Ownership is a mixture of federal lands, fee lands, Indian Trust lands, and state of Utah lands. The Ute tribe has ownership of almost 1/4 of the total land area of the Uinta Basin. Oil and gas production from this land represents 1/4 of the oil and gas produced in Uintah County.

According to the Tribe's Department of Vital Statistics, the enrolled membership in the Ute Tribe is 3,120 members, up from 2,500 members in 1980. The population is projected to reach approximately 4,600 by 2010. Approximately 85% of the members of the Ute Tribe live within the boundaries of the Reservation (Bureau of Indian Affairs 2002). The median household income within the Reservation is significantly lower than in the national, state, or county median household income.

Table 3.14.7. Median Household Income

Region	Median Income
Duchesne County	26,491
State of Utah	31,417
United States	35,989
Ute Indian Tribe	14,500

Source: U.S. Bureau of Indian Affairs, 2002

Over 30% of the Ute population falls into the very low-income category. The Housing Authority indicates that many families are awaiting affordable housing (Bureau of Indian Affairs 2002).

3.14.3.2 ECONOMIC CHARACTERISTICS

3.14.3.2.1 EMPLOYMENT

Duchesne County has experienced significant changes in its employment base in the past 50 years. Instead of the dominance of the traditional agrarian economy, trade, public employment, and private services together represent 55% of the jobs. The average annual non-farm wage in Duchesne County is $23,769. The average annual non-farm wage in Duchesne County is $28,392 in 2003. The table below shows the distribution of jobs in the county.

Table 3.14.8. Duchesne County Labor Force Statistics

	2000	2001	2002	2003
Construction	311	383	367	374
Ed/Health/Soc. Services	304	421	423	460
Finance/Ins./Real Estate	120	132	129	138
Government	1,538	1,533	1,585	1,658
Information	111	141	166	170
Labor Force	5,881	6,280	6,381	6,381
Leisure /Hospitality	322	293	330	310
Manufacturing	130	128	124	116
Mining – Includes oil and gas employment	517	633	616	451
Non Farm Jobs	4,764	5,126	5,192	5,049
Other Services	120	134	159	150
Prof./ Business Services	138	146	134	142
Trade/Trans./Utilities	1,159	1,182	1,159	1,080

Source: Department of Workforce Services

Unemployment in Duchesne County is consistently higher than the state's, at 6.8% in 2003. Almost one third of Duchesne County employees receive unemployment compensation. This can be attributed to the high Native American population and the very low median income of this population. Although per capita annual income in Duchesne County has grown from $8,197 to $12,326 in the past ten years, it is still considerably less than that of the state ($18,185). The median household income for Duchesne County in 2000 was $21,298 (U.S. Census 2000).

Poverty is determined as households below an annual income of $14,269 (U.S. Census 2000). Duchesne County has the second highest percentage of persons below the poverty line (the highest being San Juan County). Of the total Duchesne County population in 1999 (14,381), 2,178 households (or 15%) reported an income below the poverty line. Nationally, only 11.3% of the population falls below the poverty line.

3.14.3.2.2 AGRICULTURE

The Utah Department of Agriculture reports 932 farms in Duchesne County, with 1,304,716 acres of land being farmed. Livestock is the county's largest source of cash receipts, with a contribution of $32.5 million for livestock and livestock products and $7.7 million for crops. Duchesne County has 50,093 acres of harvested cropland and 94,723 acres of irrigated land (Utah Agricultural Statistics 2001).

3.14.3.2.3 MINERAL RESOURCES

The Department of the Interior's Mineral Management Service identifies gas and oil as mineral resources in Duchesne County. Fluid mineral resource activities include oil production, natural gas exploration, and related mineral exploration. The highest revenue-generator in the county of the resources is oil, generating over 2.8 million in federal royalties in 2001. Both oil and natural gas combined for 90% of the federal Royalty Values generated by Duchesne County in 2001.The following table shows the federal royalty values generated for 1998 and 2001 in Duchesne County. Note that numbers in parenthesis may represent prior fiscal year adjustments, or deductions from net receipts sharing. See Figure 3.14.2 for production amounts of oil and gas development in Duchesne County. The amount of royalty revenue redistributed to Duchesne County in 2001 was approximately $2 million (BLM, 2005).

Table 3.14.9. Federal Royalty Values Generated, 1998 and 2001

	1998	2001
Bonus	$196,264.25	$51,899.50
Gas	890,672.63	1,290,578.68
Oil	2,040,988.31	2,863,660.72
Other Revenues	(34,556.54)	46,386.40
Rent	193,291.90	323,018.46
Total	3,288,834.46	4,575,543.76

Source: Minerals Management Revenue Service, 2001

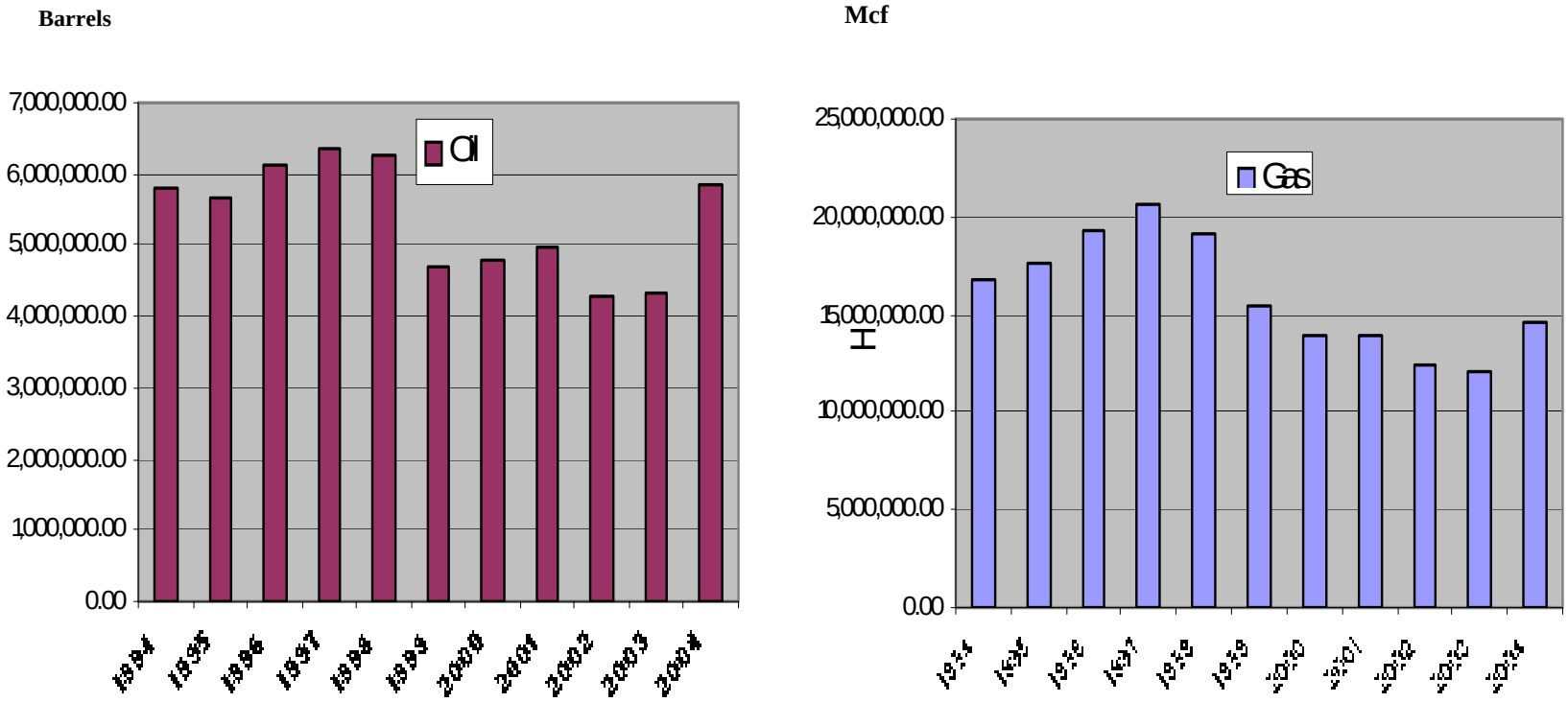

Figure 3.14.2 Duchesne County Oil and Gas Production 1994-2004. Source: Utah State Division of Oil, Gas and Mining, Department of Natural Resources 2004.

Oil and gas production in the state of Utah is impacted by the U.S. and world prices of oil and gas. As those prices rise and fall, oil and gas production in Utah also rises and falls. According to the Energy Information Administration, the average wellhead price for gas in Utah was approximately $7.28 per MCF (thousand cubic feet). The average wellhead price for oil was $60.78 per barrel (Energy Information Administration 2006). In 2001, wells in Duchesne County produced approximately 5 million barrels of oil and approximately 14 million MCF (cubic thousand feet) of gas. These numbers were lower than in 1990, when approximately 7 million barrels of oil and 20 million MCF of gas were produced. Oil and gas production in 2001 represented 32.65% and 4.60% of the state totals, respectively.

3.14.3.2.4 Tourism and Recreation

Recreation is an important component in the quality of life for Uinta Basin residents. In addition to providing recreation opportunity in close proximity to their homes, these residents enjoy a healthy tax base drawn from tourism. Visitors to the Uinta Basin participate in a variety of recreational opportunities including sightseeing, camping, hiking, hunting, mountain biking, fishing, boating, and OHV use. While some of these activities can be engaged in year-round, the busiest months for recreation in the Uinta Basin are the summer months.

Several indicators help detect and explain the impact of the tourism and recreation industries on the local area: job base provided by the tourism industry, traveler spending, and regional visitation. According to the Utah Division of Travel Development, travel and tourism related jobs in Duchesne County decreased 3.1% in 2003 down from 717 in 2002 to 695. Traveler spending in Duchesne County was estimated to be $21.8 million per in 2003; a 0.9% decrease from 2002 (Table 3.14.10). Traveler spending has grown steadily since the early 1990s to 2000 where it peaked at $26.3. Dollars spent by travelers in the County has since decreased to $21.8 in 2003. In 2003, Duchesne County ranked 19th in the state for travel related spending and contributed 0.5% to statewide tourism spending.

Estimated local tax revenues from traveler spending decreased slightly in 2003. Duchesne County experienced a 1.1% decrease in local tax revenues from traveler spending in comparison to 2002, down from $461,400 to $456,200. In 2003, Duchesne County also ranked 19th in the state from local tax revenues from traveler spending. The State of Utah saw a 19.4% increase in state and local tax revenues from traveler spending at $444 million up from $372 million in 2002. However, local tax revenues decreased 1.0% in 2003. Spending by travelers for the State of Utah was $4.6 billion, down 1.3% from 2002 (Utah Division of Travel Development 2004).

Although not traditionally an indicator of overall traveler spending, data on restaurant sales have been gathered for purposes of understanding cumulative effects of tourism spending. Restaurant sales are estimated at $6.0 million per year in Duchesne County.

Table 3.14.10. Duchesne County Travel-related Spending in 2003

	Traveler Spending	% Change from 2002	Tax Revenue in Traveler Spending	% Change from 2002
Duchesne County	$21,800,000	-0.9	$456,200	-1.1
State of Utah	$4,631,000,000	-1.3	$444,000,000*	19.4

*Represents state and local tax revenues from the entire state

Source: Utah Division of Travel Development 2004

Traveler spending includes all visits to the area, whether for recreation, business, or other purposes. While it is a valuable measure for visitation to Daggett County, it does not only reflect tourism visits. It should be noted that a portion of the tourism related tax dollars, such as transient room tax and restaurant tax, could come from oil and gas development related services (lodging, food, and other services for mining sector employees). While it is nearly impossible to extract whether a tourist dollar was generated from a tourist or a temporary mining employee, both are beneficial to the retail and service sectors of the local economy. A decrease in temporary oil and gas-related jobs may lead to a decrease in "tourism-related" revenue for the county. On the other hand, a decrease in oil and gas-related jobs could lead to an increase in actual tourism-related revenue.

While travel related employment, spending, and local tax revenue do bring increased revenue to Duchesne County, the county has indicated additional stress on infrastructure because of growing travelers. Visitors to the area may recreate on BLM property but also depend on the cities and counties for the provision of basic services, such as law enforcement and emergency fire and health services. The county has stated that the burden of infrastructure improvements should be shared with the BLM.

3.14.3.3 GOVERNMENT SETTING

The majority of revenue for Duchesne County comes from charges for services (26%), property taxes (21%) and intergovernmental agreements (18%). The remainder comes from federal and state grants (11%), general sales (9%), fee in lieu (7%), and interest (5%). Duchesne County spends the majority of its income on public safety (35%), streets and highways (22%), and general government (15%). Other expenses include land purchases (9%), community development (6%), and parks, recreation, and culture (3%). The total PILT payment to Duchesne County in 2000 was $425,557. This number rose to approximately $750,000 in 2003 (www.blm.gov/PILT).

3.14.4 DAGGETT COUNTY

3.14.4.1 SOCIAL CHARACTERISTICS

Daggett County is the third smallest county in the state of Utah, with a land area of 698 square miles, or 459,553 acres. Of this land area, 88.8% is owned and managed by the federal and state governments.

Daggett County is one of the least densely populated counties in the state, at 1.32 people per square mile. The Daggett County population in 2000 was 921. This is an increase of 231 persons over the 1990 population of 690 (or a 33.5% increase). Daggett County's population has fluctuated over the years but has shown overall growth from the time it was organized in a split from Uintah County in 1918. Its population varied from 400 in 1920 to a peak of 1,164 in 1960 (related to dam construction). From 1970 to 1990 it was stable, at 600-700 persons. Although population spiked by 33% in 2000 due to construction, moderate growth is anticipated to continue into the next decade, as Daggett County adds approximately 170 new residents by 2020. Births have generally equaled deaths in the county, and all historic growth has come from net in-migration (U.S. Census 2000).

Manila, the county seat and the only incorporated community in the county, has a residential population of 308 persons (or 33% of the county's population). The balance, well over half of all the residents of Daggett County, live on farms and ranches or in unincorporated communities. The 2000 Decennial Census divided Daggett County into two census districts, east and west. The East Census District had a residential population of 149 persons, including the recreational areas around Flaming Gorge and the newly privatized community of Dutch John (U.S. Census 2000). The West Census District, which includes Manila and its surrounds, had a residential population of 722.

Seventy% of the households in Daggett County are family households, but only 27% have children younger than 18 years of age. Average household size in Daggett County, at 2.48 persons per household (less than the state of Utah average of 3.13 persons and less than Wyoming and Colorado) is small and getting smaller. This means that fewer families are having children in Daggett County that will need to be educated and will be seeking jobs. It may also mean that more secondary wage earners will be or are entering the labor market.

An unusually high number of Daggett County residents (60%) are in one- or two-person households. In the state of Utah, only 46.7% of households have two or fewer persons. In this respect, Daggett County households are more similar to Colorado and Wyoming households, at 60.4% and 62.1%, respectively (U.S. Census 2000).

The 2000 Census provides the following information about housing in Daggett County. Unlike Uintah and Duchesne Counties, in which 70-80% of housing units are occupied, only 31.4% of Daggett County's housing units are occupied. One explanation for this difference is that almost two-thirds (63.8%) of the housing stock in Daggett County is for seasonal, recreational, or occasional use, which means that the property owner's primary residence is elsewhere. Approximately 71% of the occupied housing units in Daggett County are owner-occupied (U.S. Census 2000).

With a total of 150 students, the Daggett County School District is the smallest in the state. Enrollment is declining, which is consistent with the declining population and small average household size. The county's three schools include Manila Elementary, Flaming Gorge Elementary and Manila Junior-Senior High School. These schools also serve students from McKinnon and Washam, Wyoming, areas north of the state line.

The residents of Daggett County value the rural character and quiet lifestyle that comprises their communities. The historical land-use practices including farming, ranching, and timber harvesting that shaped the culture of the area serve as the foundation for today's rural community. Today, County citizens identify with the rural, small town sense-of–place that has been ever-present throughout the area. While residents of the County support growth and development, it must complement the current quality of life and values held by the citizens.

3.14.4.2 ECONOMIC CHARACTERISTICS

Daggett County has experienced significant changes in its employment base in the past 50 years (Table 3.14.11). Initially, agriculture-related activities, such as ranching and farming, dominated the economy. The construction of the huge, hydroelectric, Flaming Gorge Dam and Reservoir in the 1960s, as well as the construction of an all-weather highway through the county, changed the local economy forever. Now, the Daggett County economy is dominated by government services associated with the operation of the dam and management of the National Recreation Area and Ashley National Forest. Service-based employment also has become a major contributor to economic vitality, as a result of the growth of tourism and recreational activities. Government services, primarily associated with the operation of Flaming Gorge and Ashley National Forest, provide 47% of Daggett County jobs (UDWS 2001).

Table 3.14.11. Daggett County Labor Force Statistics

	2000	2001	2002	2003
Construction	46	17	14	16
Government	213	223	244	253
Labor Force	474	439	467	470
Leisure Hospitality	164	148	151	136
Mining	0	0	0	0
Non-farm Jobs	467	427	461	445
Trade/Trans/Utilities	30	25	22	25

In 1995, the unemployment rate in Daggett County was significantly higher than the state's, but since then, the county's rates have closely mirrored those of the state. The 2003 unemployment rate in Daggett County was 5.0%, one of the lowest rates in the state. Almost 50% of Daggett County employees receive government subsidy (U.S. Census 2000). From 2000 to 2003, the per capita annual income in Daggett County has grown from $15,201 to $18,161(UDWFS 2003). Median household income in 2000 was $30,833 (U.S. Census 2000).

Approximately 11.7% of the population of Daggett County is below the poverty level (annual household income being less than $14,269), which compares to the national rate of 11.3% (U.S. Census 2000). Daggett County's poverty rate is the sixth highest in the state, and among the counties without significant tribal populations, Daggett County's rate is the second highest in the state (second to Carbon County).

3.14.4.2.1 AGRICULTURE

The Utah Department of Agriculture reports 28 farms in Daggett County in 2003., Livestock and the related ranch operations are the county's largest source of cash receipts, with a contribution of $1.6 million for livestock and livestock products and $500,000 for crops. Daggett County has 3,979 acres of harvested cropland and 8,182 acres of irrigated land, which produce 12,000 tons of hay and alfalfa (Utah Agricultural Statistics 2001).

3.14.4.2.2 MINERAL RESOURCES

Oil and gas production in Daggett County is not a significant contributor to the local economy. Oil and gas production in 2001 represented 0.01% and 0.4% of the state totals, respectively (Utah Division of Oil, Gas and Mining 2002).

3.14.4.2.3 TOURISM AND RECREATION

Recreation is an important component in the quality of life for Uinta Basin residents. In addition to providing recreation opportunity in close proximity to their homes, these residents enjoy a healthy tax base drawn from tourism. Visitors to the Uinta Basin participate in a variety of recreational opportunities including sightseeing, camping, hiking, hunting, mountain biking, fishing, boating, and OHV use. While some of these activities can be engaged in year-round, the busiest months for recreation in the Uinta Basin are the summer months.

Several indicators help detect and explain the impact of the tourism and recreation industries on the local area: job base provided by the tourism industry, traveler spending, and regional visitation. According to the Utah Division of Travel Development, travel and tourism related jobs in Daggett County decreased 0.4% in 2003 down from 258 in 2002 to 257. Daggett County ranks number one in the state for percent of total employment dependant on tourism related jobs. With a total of 443 non-agricultural related jobs reported in 2003, 257 jobs or 58% of total jobs are related to recreation and tourism. Traveler spending in Daggett County was estimated to be $5.1 million per in 2003; a 23.9% decrease from $6.7 million in 2002 (Table 3.14.12). Traveler spending remained fairly steady throughout the 1990s and peaked at $11.7 million in 2000.Traveler spending a decreased continuously since 2000.

The Flaming Gorge National Recreational Area (NRA) is the sixth most popular Utah tourist attraction, generating over one million visitors each year. Flaming Gorge NRA was the only one of Utah's national monuments or recreation areas not to report visitor declines during 2000. Despite these visitation rates and the significance of the recreation economy to Daggett County, the county's tourism represents only 0.1% of traveler spending in the state of Utah and ranks twenty-eighth among counties in Utah. Tourism spending in Daggett County has been growing at less than one half the rate of the state.

Estimated local tax revenues from traveler spending also decreased in 2003. Daggett County experienced a 23.6% decrease in local tax revenues from traveler spending in comparison to 2002, down from $136,600 to $106,700. In 2003, Daggett County also ranked 28th in the state from local tax revenues from traveler spending. The State of Utah saw a 19.4% increase in state

and local tax revenues from traveler spending at $444 million up from $372 million in 2002. However, local tax revenues decreased 1.0% in 2003. Spending by travelers for the State of Utah was $4.6 billion, down 1.3% from 2002.

In contrast to Uintah and Duchesne County where some of the "traveler spending" can be attributed to oil and gas development, it is unlikely that this is the case in Daggett County since less than 0.05% of the State's mineral development occurs here. In Daggett County it is safer to assume that "traveler spending" actually comes from tourists to the area.

Table 3.14.12. Daggett County Travel-related Spending in 2003

	Traveler Spending	% Change from 2002	Tax Revenue from Traveler Spending	% Change from 2002
Daggett County	$5,100,000	-23.9	$106,700	-23.6
State of Utah	$4,631,000,000	-1.3	$444,000,000	19.4

*Represents state and local tax revenues from the entire state
Source: Utah Division of Travel Development 2004

3.14.4.3 GOVERNMENT SETTING

The government setting in Daggett County is different than in Uintah or Duchesne Counties. Parts of the county, specifically Dutch John and the surrounding area, were formerly federal lands associated with Flaming Gorge NRA. Some of those lands have recently been incorporated into the town of Dutch John, and others have been designated as county land.

Charges for public services are an unusually large revenue item in Daggett County, partially due to the large public safety facility in Manila and the county's contracts to house state, federal, and county inmates there. The majority of Daggett County revenues come from charges for services (43%) and sale of property (25%). Federal and state grants, intergovernmental arrangements, transient room taxes, general sales and use, and fee in lieu generate the remainder of the income for the county. The total PILT payment to Daggett County in 2000 was $38,074.

The same public services that generate revenue for the county are also apparently a high expenditure in Daggett County (53%). Other expenditures include general government (12%), streets and highways (10%), and community development (9%).

Another unique characteristic of Daggett County government is the special service districts of the county. The Daggett County Road and Transportation Special Services District is a primary recipient of mineral lease monies administered through the Permanent Community Impact Fund. During 1999, it received $425,000 in mineral lease monies and an additional $166,349 from other state sources, for a total of $591,349. Approximately $373,240 of this was spent for construction, $8,316 was spent on salaries, and $12,750 was spent on debt reduction and interest on that debt. The Daggett County Mosquito Abatement District (MAD) received $18,217 in property taxes or in-lieu fees. Of this, $14,489 was spent on salaries, and $1,126 was spent on an

intergovernmental transfer. Finally, the district called Daggett County Service Area #1 had $1,720 in revenues, $1,000 from property taxes. The only expenses were $136 for salaries.

3.14.5 REGION-WIDE CONCLUSIONS

This study has discussed the social, economic, and governmental settings of the three counties that compose the VPA. In addition to the statistics that help describe each county, conclusions can be drawn about the region's history, geography, and economics.

The first conclusion drawn is that, due to the history and geography of the Uinta Basin, much of the population has a common lifestyle and identity. The fact that each of these counties is at least two hours from any major city sustains a rural/small town lifestyle.

The second regional commonality among the counties is their economic dependency on physical resources within the VPA. From municipality to municipality in the region, lower-than-average wages and higher-than-average poverty rates are common. The economy of the region is based on agriculture, oil and gas exploration, and tourism. Major changes in the management of the land in any one of these sectors of the economy will have an effect an on the socioeconomics of the individual counties and the region overall.

3.15 SOIL AND WATER RESOURCES

3.15.1 REGIONAL OVERVIEW

The VPA lies within portions of nine catalogued USGS 8-Digit Hydrologic Unit Code (HUC) watersheds located within the Upper Colorado hydrologic region (Region 14). The majority of the VPA is contained within seven watersheds in the Lower Green River drainage, although portions also are associated with the Upper Green River and the Lower White River drainage. Watershed acreages are described in Table 3.15.1.

Table 3.15.1. Watersheds Associated with the VPA

8-Digit HUC	Watershed Name	Acres within VPA
14040106	Upper Green-Flaming Gorge Reservoir	543,564
14060001	Lower Green-Diamond	566,835
14060002	Lower Green-Ashley-Brush	420,697
14060003	Lower Green-Duchesne	1,649,897
14060004	Lower Green-Strawberry	394,405
14060005	Lower Green-Desolation Canyon	645,365
14060007	Lower Green-Price	22,542
14060006	Lower Green-Willow	461,197
14050007	Lower White	797,137

Two municipal watersheds, Ashley Creek and Red Fleet, are also located within the VPA. The Ashley Creek municipal watershed occurs almost entirely upon lands administered by the USFS - Ashley National Forest; however, the BLM administers 670 acres, including Ashley Spring, the access point for the municipal supply. The Red Fleet municipal watershed contains 18,660 acres administered by the BLM, including lands surrounding Red Fleet Reservoir, which is the access point for the municipal supply.

3.15.2 TOPOGRAPHY

The topography of the VPA is primarily defined along its northern portion by the Uinta Mountains. The Uinta Mountains are broad and massive and extend approximately 150 miles east to west. The Uinta Mountains consist of extensively glaciated, sedimentary and metamorphic rocks. Glacial deposition features have created numerous natural dams and small lakes on the slopes of the range. A portion of the VPA lies north of the Uinta Mountains and drains to the Green River below Flaming Gorge Reservoir. The Green River exits the VPA approximately 30 miles downstream of Flaming Gorge at the Utah/Colorado state boundary and reenters the VPA near Diamond Mountain, again along the Utah/Colorado state boundary. Portions of the south side of the Uinta Mountains drain to the Green River below Diamond Mountain through major tributaries such as Ashley Creek, Big Brush Creek, and the Whiterocks River.

The western side of the VPA is drained by the Duchesne River and its major tributary, the Strawberry River. The Duchesne River drains a topographic basin composed of Mesozoic and Tertiary sedimentary rocks characterized by a gently rolling, dissected plateau with deeply cut ravines and alluvial valleys. The Duchesne River enters the Green River near Ouray, in the central part of the VPA.

The eastern and southern part of the VPA, primarily consisting of the Book Cliffs portion of the VPA, is drained by Hill Creek, Bitter Creek, Evacuation Creek, Willow Creek, and the White River; these drainages also enter the Green River near Ouray. This area is part of the Tavaputs Plateau, composed of Tertiary sedimentary rocks and characterized by rugged terrain and deeply incised canyons (UDWaR 1999).

3.15.3 SOIL RESOURCES

Soils in the VPA have developed from bedrock, from rocks/minerals deposited by rivers and glacial activity, and from windblown silt and sand. They were derived primarily from the sedimentary, metamorphic quartzite and volcanic rocks of the Uinta Mountains, Diamond Mountain Plateau, Avintaquin Mountains, East Tavaputs Plateau, West Tavaputs Plateau, Roan Cliffs, and Book Cliffs, which form the boundaries of the Uinta Basin and Browns Park.

Soils in the VPA are composed of a wide variety of soil types and characteristics. Certain soil types have chemical features that limit restoration and make reclamation difficult; these include sodium, soluble salts, carbonates, and gypsum. Physical soil characteristics that may limit reclamation include sandy soils, clayey soils, large coarse fragments (e.g., stones and boulders), shallow depth to parent material, and low organic matter content. A shallow depth to

groundwater limits reclamation in hydric soils. Soils in the VPA are composed of a wide variety of soil types and characteristics. Certain soil types have chemical features that limit restoration and make reclamation difficult; these include sodium, soluble salts, carbonates, and gypsum. Physical soil characteristics that may limit activities or reclamation include: low available water holding capacity, excessive drainage, hardpans, high amounts of rock fragments or large stones and boulders, shallow depth to parent material, high water table, and low organic matter content. Soils with these features are referred to as "limiting soils" in this document.

3.15.3.1 Natural Resource Conservation Service (NRCS) Soil Surveys

The Natural Resource Conservation Service (NRCS) has conducted three soil surveys throughout the VPA, with second and third order delineation. The Uintah Area, Utah soil survey includes parts of Daggett, Grand, and Uintah Counties. Portions of Daggett County are also included in the Henrys Fork Area, Utah-Wyoming soil survey. The Duchesne County part of the VPA is covered by the Duchesne Area, Utah soil survey.

3.15.3.1.1 Henrys Fork Area, Utah-Wyoming Soil Survey (USDA 1990)

This soil survey covers the northern parts of Daggett County, as well as parts of Summit County, Utah and parts of Uinta and Sweetwater Counties in Wyoming. The survey, correlated in October 1990, is complete and available in digital and hardcopy formats. Information on soil features and use ratings can be obtained by using either the NRCS Soil Data Viewer or Microsoft Access software. Soil spatial data is available for use with standard GIS software.

3.15.3.1.2 Uintah Area, Utah Soil Survey (USDA 1999)

This soil survey covers Uintah County, part of northern Grand County, and the southern part of Daggett County. The survey, correlated in June 1999, is complete and available in digital format. Information on soil features and use ratings can be obtained by using either the NRCS Soil Data Viewer or Microsoft Access software. Soil spatial data is available for use with standard GIS software.

This soil survey covers the largest portion of the VPA, with 2,477,734 acres of soils surveyed. It ranges from the Diamond Mountain area in the north to the Book Cliffs in the south and from the Duchesne County line in the west to the Colorado state line in the east.

Taxonomic classifications of VPA soils within the boundaries of this survey include a wide variety of soil types. Diagnostic soil features include cryic soils, argillic horizons, mollic epipedons, calcic horizons, petrocalcics, gypsic horizons, psamments, and fluvents. Thirty taxonomic great groups and 151 soil series have been identified in the Uintah Area soil survey.

3.15.3.1.3 Duchesne Area, Utah Soil Survey

This soil survey includes VPA lands in southeastern Duchesne County, Utah. Most of the fieldwork has been completed for this survey, but final correlation has not been completed. Correlation and final publication of the soil survey data by the NRCS began in late 2005 and

expected to be complete by 2010. Draft spatial soil data has been digitized and can be accessed with standard GIS software. Available information on soil features and use ratings can be obtained from official soil series descriptions and interpretation tables or local NRCS offices. Until final correlation and publication, this data is considered draft and is less accessible to the public than the published survey data from either the Henrys Fork or the Uintah Area soil surveys. Draft data is available by contacting the local NRCS office or BLM office.

This soil survey includes VPA lands in southeastern Duchesne County, Utah. Most of the fieldwork has been completed for this survey, but final correlation has not been completed. Correlation and final publication of the soil survey data by the NRCS is began in late 2005 and expected to be complete by 2010. Draft spatial soil data has been digitized and can be accessed with standard GIS software. Available information on soil features and use ratings can be obtained from official soil series descriptions and interpretation tables or local NRCS offices. Until final correlation and publication, this data is considered draft and is less accessible to the public than the published survey data from either the Henrys Fork or the Uintah Area soil surveys. Draft data is available by contacting the local NRCS office or BLM office.

3.15.3.2 Soil Characteristics of Greatest Management Concern

3.15.3.2.1 Presence of Biological Crusts

The presence of biological crusts in arid and semi-arid lands have a very significant influence on reducing soil erosion by both wind and water, fixing atmospheric nitrogen, retaining soil moisture, and providing a living organic surface mulch. "These crusts are a complex mosaic of cyanobacteria, green algae, lichens, mosses, microfungi, and other bacteria" (BLM 2001:1). They can be used as an indicator of rangelands' ecological health. Development of biological crusts is strongly influenced by soil texture, soil chemistry, and successional colonization by crustal organisms. The type and abundance of biological crust can be used by a land manager to determine the ecological history and condition of a site. Biological crusts are generally found where there are openings in the vascular plant cover and protect open areas from wind and water erosion.

Limited data exists for biological crusts specific to the VPA. However there is some baseline information for parts of the VPA from the early 1970’s and more recent information being collected as part of a National Science Foundation-funded project by Brigham Young University (personal communication, Diana Whittington, FWS – or better yet put in the correct and full citations.) There is also a growing body of literature and data, much of it based on the Colorado Plateau region that would be applicable to the soils and ecosystems of the VPA.

3.15.3.2.2 Salinity

Soil salinity can have significant impacts on soil erosion and reclamation potential. Erosion of saline soils can also have significant impacts on the water quality of downstream watersheds. Soils with electrical conductivity levels of 8 dS/m (deciSeimens/meter) or greater were considered saline in all soil surveys. Saline soils occur in more than 365,851 acres, or

approximately 20% of the BLM-administered lands in the VPA. Add soils data for salinity and other soils features are taken from the SSURGO database.

Saline sediments that originate in the VPA eventually flow into the Colorado River. Salinity levels in the Colorado River are a regional, national, and international issue. Control of sediment discharged from public lands is mandated by the Colorado River Basin Salinity Control Act of 1974. Proper land use is the BLM's preferred method of achieving salinity control, with the planning process being the principal mechanism for implementation. Impacts are to be minimized in areas with saline soils, and revegetation of previously disturbed saline soils is to be promoted to the extent possible.

3.15.3.2.3 Sodium Absorption Ratios

Soils with sodium absorption ratios (ratio of sodium salts to other soluble salts) of 13 or greater are considered sodic. Infiltration of precipitation into these soils is reduced by the dispersion of soil particles caused by the higher levels of sodium. Reduced infiltration rates result in greater surface runoff rates and increased soil erosion and sediment yields. Many sodic soils have a thin layer of suitable soil above the sodic horizon, but when this layer is disturbed or removed, the resulting impact can be irreversible. Sodic soils occur in approximately 161,344 acres, or approximately 9% of the BLM-administered lands within the VPA. Management of sodic soils should include minimizing the impacts of grazing and other surface disturbances, such as road construction.

3.15.3.2.4 Gypsum Levels

Soils with gypsum levels equal to or greater than 10% are highly susceptible to water erosion and are difficult to reclaim. Gypsum is very soluble in water, which results in piping and other severe erosion features. Gypsic soils occur in approximately 132,706 acres, or 7% of the BLM administered lands within the VPA. The number of soil map units in the VPA with gypsic soils is relatively small, but nonetheless, these units require careful management to minimize impacts that may cause irreversible damage. Construction of roads and other facilities is difficult in these soils.

3.15.3.2.5 Response to Disturbance

Decisions regarding management of a particular soil resource is dependent on the particular soil type's ability to recover from specific disturbances. Gypsum content, salinity level, and sodium content are soil characteristics that can severely limit recovery from a disturbance. Road construction and operation of OHVs commonly impact the soils in the VPA. Additionally, the presence of surface water or groundwater has an influence on the severity of a disturbance and on when the activity may be allowed. Surface disturbances can cause compaction and increased soil erosion by either wind or water.

Use ratings and soil characteristics listed in the soil surveys are intended to be used as general guidelines for land-use planning, but site-specific investigations should be done to determine the suitability of soils at specific locations.

3.15.3.2.6 EROSION

Water Erosion

There is significant potential for severe soil erosion by water at several locations within the VPA. Erosion potential ratings were not available in the NRCS soil surveys at the time this analysis was conducted. The VPA area has determined the approximate locations of soils with potential for severe erosion by evaluating the k-factor, T factor, percent slope, and hydrologic group rating for each soil map unit. These are designations given to soils by the NRCS, which show the relative erodibility of each soil unit. Site specific and map unit specific determinations for erosion hazard ratings will continue to be developed and utilized within the VPA. Additionally, soil surface texture and the presence of surface or ground water have an influence on the severity of a disturbance and on when the activity may be allowed. Surface disturbances can cause compaction and increased soil erosion by either wind or water.

In the interim, for preliminary delineation of water erodible soils, soil mapping units with a k-factor of 0.32 or greater and slopes greater than 10% were considered susceptible to water erosion. Using these factors, water erodible soils were determined to cover 232,042 acres, or approximately 13% of the VPA. Current management activities are designed to minimize impacts so that erosion and sediment yield are not accelerated. Additional mitigation measures are to be taken, as necessary, to minimize impacts on soils determined to have severe erosion hazard potential.

Wind Erosion

Many of the soils in the VPA are coarse-textured and very susceptible to wind erosion when the vegetative community is disturbed. The NRCS soil surveys classify each soil series into wind erodibility groups (1, 2, 3, 4L, 4, 5, 6, 7, and 8). Soils that are in wind erodibility groups 1, 2, 3, or 4L have erosion potentials ranging from extremely erodible to erodible, respectively. Wind erosion increases when the vegetative community is disturbed by intense grazing, fire, road construction, and other events that reduce the amount of vegetative cover. Disturbance of biological crusts on coarse-textured soils will also increase the potential for wind erosion. Wind-erodible soils cover 1,361,645 acres, or 79% of the VPA. To preserve soil resources in these areas, disturbance of the vegetative community and biological crusts are managed and minimized.

Reclamation of Drastically Disturbed Areas

Many of the soils within the VPA have limiting features that make reclamation and revegetation very difficult. These limiting features include salinity, sodium content, clayey and sandy textures, drought conditions, alkalinity, low organic matter content, shallow depth to bedrock, stones and cobbles, and wind erosion. Sometimes the soil limitations are so severe that areas cannot be reclaimed from disturbance. Preventing disturbance to such limited soil resources is the most effective way to reduce impacts of road construction, grazing, fire, and other activities that drastically disturb the soil surface. Whenever impacts are deemed necessary in an area,

salvaging and stockpiling soil materials to replace the disturbed, limited soils is the most effective management decision regarding soils.

Road Construction and Maintenance

Construction and maintenance of roads within the VPA will continue to be a prominent aspect of management. Soil properties that are limiting to construction of roads within the VPA include soils with high sodium content, high gypsum content, high soluble salts, low strength, shrink-swell potential, and frost action. A soil's large-stone content, its depth to hard bedrock, and its slope are also important physical features that must be considered when determining a soil's suitability for road construction.

Suitability ratings for construction of local roads assume that the roads will have an all-weather surface (commonly of asphalt or concrete) and are expected to carry automobile traffic year-round. Since the majority of roads constructed and maintained within the VPA do not have an all-weather surface, it should be assumed that site-specific evaluations would need to be conducted prior to construction of any new roads. Roads are graded to shed water, and conventional drainage measures are installed properly. With the exception of hard surface all-weather roads, most of roads in the VPA are constructed from the local soils, which may or may not be suitable for road construction.

3.15.4 WATER RESOURCES

3.15.4.1 SURFACE WATER SUPPLY AND USE

Surface water in the VPA is used for agricultural, municipal, industrial, power generation, and recreational purposes. Surface water is stored in several large and small reservoirs, both natural and human-made. The largest use of surface water is for agricultural irrigation, with almost 800,000 acre-feet of water per year being diverted to irrigate more than 200,000 acres of land (UDWaR 1999). Water diversions for municipal and industrial purposes (including residential water use, industrial water use, power production, and irrigation of parks, golf courses, and other outdoor areas) average approximately 14,000 acre-feet per year (UDWaR 1999). The Diamond Mountain portion of the VPA also has 15 hydropower site withdrawals covering approximately 93,900 acres along the Green River (BLM 1993).

The hydrology of the VPA is primarily dominated by spring runoff and from brief, intense storms that generally occur in late summer. The several large reservoirs that have been constructed on the Green and Strawberry Rivers have altered the natural hydrology of these major rivers by reducing the annual spring peak and providing higher minimum flows during the summer and winter months. Water diversions for agricultural, municipal, and industrial uses have also altered the natural hydrology of the VPA by reducing instream flows below diversion points.

Surface water flow supports riparian vegetation along the floodplains of the rivers and streams in the VPA. Approximately 92,226 acres of the VPA occur within the 100-year floodplains of the major drainages in the VPA. While the preliminary status of the functioning condition of riparian

vegetation along major waterways has been documented in preparation for this RMP, the condition of the floodplain and the stability of stream banks have not yet been determined for all areas (Strong 2002b). Surface water flow also supports riparian vegetation associated with other water features such as Stewart Lake, Pelican Lake, and the Pariette Wetlands.

3.15.4.2 GROUNDWATER SUPPLY AND USE

The primary use of groundwater in the VPA is for municipal and industrial purposes. Unconsolidated or alluvial aquifers are relatively limited within the VPA, with major use only in the Duchesne-Myton-Pleasant Valley area and east of Neola. Consolidated or bedrock aquifers form a major component of the groundwater system in the VPA. Major consolidated aquifers include sandstone beds within the Uinta Formation and the Bird's Nest and Douglass Creek aquifers within the Green River Formation. Total water withdrawal from all aquifers for municipal and industrial use is approximately 21,000 acre-feet, which is relatively minor compared to the estimated 350,000 acre-feet naturally discharged to streams and springs and the nearly 250,000 acre-feet lost to evapotranspiration (UDWaR 1999).

3.15.4.3 WATER QUALITY

Surface water quality problems are detailed in Utah's 303(d) list of impaired waters, required under the Clean Water Act (Table 3.15.2). Lower Ashley Creek was listed due to total dissolved solids (TDS) and selenium concentrations, likely the result of irrigation return flows. Portions of the Duchesne River and tributaries were listed primarily due to TDS concentrations, also attributable to irrigation return flows. Several reservoirs within the VPA were also listed, mostly for phosphorous levels, dissolved oxygen (DO) levels, and high temperatures.

Water bodies on Utah's 303(d) List of Impaired Waters are listed below in Table 3.15.2.

Table 3.15.2. Water Bodies on Utah's 303(d) List of Impaired Waters, 2000

HUC Code	Name	Stressor
	Calder Reservoir	DO, Total Phosphorous
14060001	Brough Reservoir	DO, Temperature
14060002	Lower Ashley Creek	TDS, Selenium
	Red Fleet Reservoir	DO, Temperature
	Steinaker Reservoir	Temperature
14060003	Antelope Creek	TDS
	Deep Creek	TDS
	Duchesne River from confluence with Green River to Randlett	TDS
	Duchesne River from Randlett to Myton	TDS
14060005	Pariette Draw	TDS, Boron
	Willow Creek from confluence with Green River to confluence with Meadow Creek	TDS

Source: UDEQ 2002

Excess salinity, the major surface water quality problem in the VPA, is of regional significance under the Colorado River Basin Salinity Control Act of 1974. Salinity contributions come from naturally occurring groundwater during low flow periods and from erosion of saline soils. A large part of the saline soil contribution is attributable to poor road construction practices and management (Strong 2002a). Other factors in water quality are salt-loading from irrigated agriculture, water and land contamination due to oil/gas well drilling, and elevated levels of total phosphorous and TDS in several basin streams (UDEQ 2003). Watersheds of particular concern include the Pariette, Red Creek, and Buckskin Hills watersheds.

The groundwater hydrology in the VPA is primarily dependent on rock structure. Concentrations of dissolved solids range from 19 to 112,000 mg/L and depend on changes in rock type and physical environments.

Locally, the groundwater salinity in the VPA is caused by natural geologic sources. The Tertiary Green River, Wasatch, and Uinta Formations and the Mesozoic Mancos Shale range from very saline to briny at depth (>500 ft.) and generally less saline at shallow depths (<500 ft.). High selenium and boron concentrations are of particular concern and have been studied at Stewart Lake, Lower Ashley Creek, and the Pariette Wetlands. The salinity of water produced in oil, gas, and CBNG development may change significantly within a few months or years particularly if vertical movement of water in faults and fractures is induced by the production of hydrocarbons and water from oil and gas wells (USGS 1987).

3.16 Special Designations

3.16.1 Areas of Critical Environmental Concern (ACEC)

3.16.1.1 Currently Designated ACECs

The VFO manages seven ACECs (165,944 total acres) that were designated in 1994 in the record of decision (ROD) for the Diamond Mountain RMP (BLM 1994a). They are, in order of decreasing size, Browns Park, Nine Mile Canyon, Red Mountain-Dry Fork, Red Creek Watershed, Pariette Wetlands, Lower Green River Corridor, and Lears Canyon. Existing ACECs are subject to reconsideration when RMPs are revised. Based on a current analysis of the areas, the present designations have been effective in protecting the relevant values they exhibit, and these will, again, be considered as ACECs in the Vernal RMP.

Table 3.16.1 provides a summary of the relevance and importance criteria for each currently designated ACEC. The management prescriptions for these areas are detailed in Chapter 3 of Diamond Mountain RMP and ROD (BLM 1994a).

Table 3.16.1. Relevance and Importance Criteria of Currently Designated ACECs

Relevance	Importance
Browns Park (52,721 acres) Significant diversity and density of cultural and historical sites, a nationally recognized Class I fishery; has special status plant and animal species habitat, cultural values, crucial deer winter habitat, high quality scenic values.	Has qualities that make it fragile, sensitive, rare, irreplaceable, unique, endangered, and threatened.
Lears Canyon (1,375 acres) Contains a natural system, specifically relict plant and plant communities, serves as a scientific reference area.	Has qualities that make it fragile, sensitive, rare, irreplaceable, unique, endangered, and threatened. Has been recognized as warranting protection in order to carry out the mandates of the Federal Land Policy and Management Act.
Lower Green River Corridor (8,470 acres – lower) Riparian habitat, special status animal species habitat, and high-quality scenic values.	Has more than locally significant qualities, which give it special worth, and distinctiveness.
Nine Mile Canyon (44,181 acres) Nationally significant Fremont, Ute, and Archaic rock art and structures; regionally significant populations of special status plant species, and high quality scenery.	Has more than locally significant qualities, which give it special worth, and distinctiveness.
Pariette Wetlands (10,437 acres) Special status bird and plant species habitat, a wetlands ecosystem, significant population of the federally threatened plant species *Sclerocactus glaucus.*	Has qualities that make it fragile, sensitive, rare, irreplaceable, unique, endangered, and threatened.
Red Creek Watershed (24,475 acres) Regionally significant critical watershed; part of Green River drainage system and its Class I fishery values.	Has more than locally significant qualities, which give it special worth, and distinctiveness.
Red Mountain-Dry Fork (24,285 acres) Significant diversity and density of cultural sites, quality paleontological finds, and two relic vegetation communities.	Has qualities that make it fragile, sensitive, rare, irreplaceable, unique and distinctive.

3.16.1.2 POTENTIAL ACECS

The eight potential ACECs and the expansion of two existing ACECs being considered for possible ACEC designation through this planning process are discussed below. Only those nominated areas determined to meet specific relevance and importance criteria are identified as potential ACECs. The following descriptions generally define the maximum acreage proposed in the alternatives although in some instances variations in the size and location of the proposed ACECs are described for clarification. See Table 4.16.1 in Chapter 4 for a description of the various acreage proposals, Figures 29–32 (in the Maps section) for geographic locations, and Appendix G for more information on ACEC evaluations.

Table 3.16.2. Relevance and Importance Criteria of Potential ACECs

Relevance	Importance
Bitter Creek (68,384 acres) Existence of an old growth forest, significant cultural and historic resources, important watershed, and critical ecosystem for wildlife and migratory birds.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. Ancient (over 1,200 years) pinyon forest; irreplaceable. Ancestral home of the Northern Ute Tribe after relocation in the late 1800s. Many features, including graves, but specific locations are not known. The most extensive wetland in the multi-state Book Cliffs due to uniquely perched water table; a critical ecosystem for migratory birds and a wide variety of wildlife.
Bitter Creek-P.R. Springs (147,425 acres) Same as Bitter Creek.	Same as Bitter Creek.
Coyote Basin ACEC (87,743 acres) Important white-tailed prairie dog complex. Essential habitat for maintaining species diversity and includes one of the largest populations of white-tailed prairie dogs. The white-tailed prairie dog is essential to the survival of the endangered black-footed ferret in this area.	A critical ecosystem for the white-tailed prairie dog, one of 25 complexes nominated for ACEC status in the western states. Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. This species occupies only an estimated 8% of the area it once occupied, and most of this is on public lands. The white-tailed prairie dog is particularly vulnerable to adverse change from a variety of current causes. The U.S. Fish and Wildlife Service has been petitioned to list species.
Coyote Basin Complex (124,161 acres) Same as Coyote Basin.	Same as Coyote Basin.
Four Mile Wash (50,280 acres) Existence of high value scenery, important riparian ecosystem, and special status fish.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. Spectacular scenery viewed by increasing numbers of visitors from many states and countries. Lush riparian vegetation is rare in this desert ecosystem. Critical habitat for four endangered fish - Colorado pikeminnow (Ptychochelius lucius), Bonytail (Gila elegans), Humpbacked chub (Gila cypha), and the Razorback sucker (Xyrauchen texanus).
Lower Green River Expansion (1,700 acres) Existence of significant riparian habitat and outstanding scenic values.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. An extension of the Lower Green River Corridor ACEC, where the significance of these important resources has been recognized. See Table 3.16.1 above.

Table 3.16.2. Relevance and Importance Criteria of Potential ACECs

Relevance	Importance
Main Canyon (100,915 acres) Existence of important cultural and historic resources, and natural systems.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. Numerous sites associated with the historic Northern Ute migration route along Main Canyon. Historic inscription from early French fur trade era. Focus of past proposals to manage for exemplary natural systems. Part of the cooperative BLM/Utah Division of Wildlife Resources Book Cliffs Conservation Initiative. Most of ACEC within the Winter Ridge WSA.
Middle Green (6,768 acres) Existence of an important riparian ecosystem and high value scenery.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. River and adjacent landscape provide spectacular scenery, viewed by increasing numbers of visitors from many states and countries. Lush riparian vegetation rare in this desert ecosystem.
Nine Mile Canyon Expansion (36,987 acres) Existence of significant cultural resources, special status plant species, and high quality scenery.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. An extension of the existing Nine Mile Canyon ACEC, where the significance of these important resources has been recognized. See Table 3.16.1 above.
White River (47,130 acres) Existence of unique geological formations, high value scenery, significant historical events, and riparian ecosystem.	Has significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. Unique, spectacular rock spires, named "Goblin City" by the John Wesley Powell 1869 expedition. A popular cottonwood grove campsite; place where the Powell Expedition camped and explored the nearby geological formations. Spectacular scenery viewed by increasing numbers of visitors from several states. Lush riparian vegetation is rare in this desert ecosystem.

3.16.2 Wild and Scenic Rivers

3.16.2.1 Regional Overview

The Wild and Scenic Rivers Act established a National Wild and Scenic Rivers System (NWSRS) to protect and preserve designated rivers throughout the nation in their free-flowing condition, as well as their immediate environments. It contains policy for managing designated rivers and created processes for designating additional rivers into the NWSRS. Section 5(d) of the Act directs federal agencies to consider the potential for national wild, scenic, and

recreational river areas in all planning, for the use and development of water and related land resources. Wild and scenic river considerations are being made in the Vernal RMP revision.

To determine eligibility, the VFO inventoried all potentially eligible rivers. All rivers nominated during scoping or that appeared on national river lists were automatically considered. In addition, all rivers within the VPA were mapped and reviewed by agency and non-agency subject matter specialists and members of the interested public to identify any additional rivers that could be potentially eligible.

All rivers determined to be eligible for congressional designation into the NWSRS are considered further for suitability in the planning process. Those determined suitable for congressional designation into the NWSRS are recommended to Congress for such designation.

The Upper Green and Lower Green segments of the Green River were found suitable for congressional designation in the ROD for the Diamond Mountain RMP, and are currently managed to protect their free-flowing nature, outstandingly remarkable values, and tentative classifications.

3.16.2.2 River Segments Determined Eligible for Wild and Scenic River Designation

Of the 89 streams segments identified by the VFO as potentially eligible and inventoried, 11 segments involving approximately 112 BLM shoreline miles and 216 total river miles were determined to be eligible for Congressional designation into the NWSRS (Table 3.16.3). Appendix C provides additional information regarding the eligibility review. It is BLM policy (8351 Manual, Section .32C) to manage eligible segments to protect their free-flowing nature, outstandingly remarkable values, and tentative classifications to the extent that the BLM has the authority to do so through FLPMA, the Wild and Scenic Rivers Act, and BLM policy. It should be noted that the BLM does not manage all lands through which the proposed wild and scenic river stretches pass, and thus cannot impose restrictions on other land owners and land managers in these areas. Until the ROD for the Vernal RMP is signed, such protection involves case-by-case review and mitigation of any actions proposed that might affect the eligible river. Protective management will continue for any segments determined suitable in the ROD for the Vernal RMP. For each suitable river, the ROD will identify specific management conditions that are in keeping with a suitability decision. Management that would apply, should any rivers be designated by Congress, is identified in the BLM's 8351 Manual, Section .51.

Table 3.16.3. Summary Information for Eligible Rivers in the VPA

Segment Name	Segment Description	Outstandingly Remarkable Values	Tentative Classification	BLM Shoreline Miles	Total Miles
Argyle Creek	Headwaters to Carbon County line	Scenic	Recreational	4.0	22.0

Table 3.16.3. Summary Information for Eligible Rivers in the VPA

Segment Name	Segment Description	Outstandingly Remarkable Values	Tentative Classification	BLM Shoreline Miles	Total Miles
Bitter Creek	Utah state line to where it enters private property	Fish, Wildlife/habitat, Cultural, Historic, Recreational	Scenic	7.0	22.0
Evacuation Creek	Utah state line to confluence with White River	Historic	Recreational	7.0	21.0
Lower Green River	Between public land boundary south of Ouray and the Carbon County line	Recreational, Fish	Scenic	27.0	30.0
Middle Green River	Between Dinosaur National Monument and the public land boundary north or Ouray	Fish	Recreational	20.0	36.0
Nine Mile Creek (A)	Within Duchesne County between the Carbon County line and the confluence with Gate Canyon	Scenic, Cultural	Recreational	7.0	13.0
Nine Mile Creek (B)	Within Duchesne County between Gate Canyon and the Green River	Scenic, Cultural	Scenic	0.0	6.0
Upper Green River	Between Little Hole and Utah state line	Scenic, Recreational, Fish, Wildlife/habitat, Cultural	Scenic	12.0	22.0
White River (A)	Between the Colorado state line and its confluence with Asphalt Wash	Scenic, Fish, Wildlife/habitat Recreational, Historic	Scenic	8.0	24.0
White River (B)	Between Asphalt Wash to where the river leaves Section 18, T10S. R23 E., SLBM	Scenic, Fish, Wildlife/habitat Recreational, Historic	Wild	10.0	10.0

Table 3.16.3. Summary Information for Eligible Rivers in the VPA

Segment Name	Segment Description	Outstandingly Remarkable Values	Tentative Classification	BLM Shoreline Miles	Total Miles
White River (C)	From where the river leaves Section 18, T10S. R23 E., SLBM to the Indian Trust Land boundary	Scenic, Fish, Wildlife/habitat Recreational, Historic	Scenic	10.0	10.0

Note: River mileage is approximate.

3.16.3 WILDERNESS STUDY AREAS

3.16.3.1 OVERVIEW

In 1964, Congress passed the Wilderness Act, establishing a national system of lands for the purpose of preserving a representative sample of ecosystems in their natural condition for benefit of future generations. The Forest Service, National Park Service, and Fish and Wildlife Service managed most of the land designated as wilderness prior to 1976. With the passage of the Federal Land Policy and Management Act (FLPMA) in 1976, Congress directed the BLM to inventory, study, and recommend which public lands under its administration should be designated wilderness.

In 1979, the BLM began a wilderness inventory of 22 million acres of public land in Utah. By 1985, the BLM established 95 wilderness study areas (WSAs), totaling about 3.3 million acres, which have wilderness character. For the next several years, these areas were studied to determine which would be recommended to Congress for designation as wilderness. In October 1991, the Secretary of the Interior provided the BLM's recommendation to the President. The President recommended that 69 areas, totaling approximately 1.9 million acres in Utah, be designated as part of the National Wilderness Preservation System by Congress. To date, with few exceptions, Congress has not acted on that recommendation.

There is no designated wilderness on public lands in the VFO.

3.16.3.2 PLANNING AREA PROFILE

WSAs are roadless, natural, provide outstanding opportunities for solitude or primitive and unconfined recreation, and may have supplemental values (such as ecological, geological, or other features of scientific, educational, scenic, or historical value).

There are six WSAs in the VFO (Table 3.16.4) (Figure 29 in the Maps section). The WSAs, established and protected under the authority of Section 603 of FLPMA, are managed according to the *Interim Management Policy and Guidelines for Lands under Wilderness Review* (IMP, BLM Manual Handbook H-8550-1), to preserve their wilderness values until Congress either designates them wilderness or releases them for other uses. Only Congress can designate a WSA

as wilderness or release it from the protective mandate of FLPMA. The status of WSAs will not change as a result of this resource management planning process. In October 1991, the Secretary of Interior provided BLM's recommendations to the President. The President recommended that 69 WSAs, totaling approximately 1.9 million acres in Utah be designated as part of the National Wilderness Preservation System by Congress.

Table 3.16.4. Wilderness Study Areas

Name	Acreage
Book Cliffs Mountain Browse ISA	400 acres
Bull Canyon	600 acres
Daniels Canyon	2,496 acres
Diamond Breaks	3,900 acres
West Cold Springs	3,200 acres
Winter Ridge	42,462 acres
Total: 6 areas	**53,058 acres**

3.17 SPECIAL STATUS SPECIES

3.17.1 REGIONAL OVERVIEW

3.17.1.1 FEDERALLY LISTED SPECIES

Special status species include those plant and animal species federally listed as threatened, endangered, proposed and/or candidate, as well as BLM and State of Utah sensitive plant and animal species. The Federal Endangered Species Act (ESA) of 1973 (Public Law 93 - 205, as amended), provides protection to federally listed threatened, endangered, and candidate species from actions that may jeopardize their existence. This could occur through direct harm, activities resulting in increased stress during critical life history stages such as nesting, migration or wintering, loss or degradation of critical habitat, or loss or degradation of occupied or potential habitat.

Table 3.17.1 identifies all threatened, endangered, and candidate species occurring within the VPA area of influence which includes Daggett, Duchesne, Uintah, and the northern portion of Grand County, Utah as of February 26, 2004.[3] The information regarding the status and habitats of federally listed species in Table 3.17.1 is from data provided by the BLM and FWS status data current as of February 26, 2004. Definitions of terms used in Table 3.17.1 are provided below.

Endangered Species – Any species that is in danger of extinction throughout all or a significant portion of its range.

Threatened Species – Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

[3] Only those species that have a known occurrence in the small portion of Grand County within the VPA are represented.

Candidate Species – Any species for which substantial biological information exists to support the biological appropriateness of proposing to list the species as endangered or threatened.

Critical Habitat – Specific areas that contain physical or biological features essential for the conservation of a listed species and that may require special management considerations or protection.

Experimental Population – A population that has been reintroduced outside of its current range but within its historical range.

Recovery Plan – A plan prepared by the US Fish and Wildlife Service for threatened and endangered species that establishes objectives and methods to ensure the survival of the species and recover it sufficiently so that the species can be delisted or removed from the threatened and endangered species list.

There are 13 listed and 2 candidate species within the VPA. All of these species are both known to occur and have additional potential habitat in the VPA. Of these 15 species, there are 4 wildlife, 4 fish, and 7 plant species. Slightly more than half of the species are upland species, dependent on specific soil or geologic formations for suitable habitat, such as white calcareous shale or steep rocky canyons. These species include the Mexican spotted owl, horseshoe milkvetch, Barneby ridge-cress, White River beardtongue, clay reed-mustard, shrubby reed-mustard, Pariette cactus and Uinta Basin hookless cactus. The black-footed ferret is an upland species that requires large contiguous blocks of active prairie dog colonies. The ferret is an endangered species that has been reintroduced to northeast Utah as an experimental population. The ferret reintroduction site was Coyote Basin, in Uintah County, a BLM-managed area within the VPA, but the FWS considers all of Uintah and Duchesne Counties to be within the experimental population area. The Canada lynx is an upland species that is dependent on a montane coniferous forest link in the Diamond Mountain area between lynx habitat in the Uinta Mountains to that in the Colorado Rockies.

The remaining six listed species are species that rely predominantly on the Green River, its tributaries, and the associated riparian habitats up to 100-year floodplain limit. These species include the yellow-billed cuckoo, bonytail, Colorado pikeminnow, humpback chub, razorback sucker, and the Ute ladies'-tresses.

Draft or final recovery plans have been prepared for all threatened and endangered species except the Canada lynx.

Critical habitat has been designated for the four Colorado River fish species (bonytail, Colorado pikeminnow, humpback chub, razorback sucker) and the Mexican spotted owl. Critical habitat for the Colorado River fish species occurs along portions of the Green River downstream of its junction with the Yampa River to the Colorado River, and including sections of the Green River in the VPA within Uintah and Grand Counties. Critical habitat has also been established along the lower portion of the Duchesne River. The critical habitat designation includes the 100-year floodplain.

Critical habitat for the Mexican Spotted Owl has been designated in portions of Carbon and Grand Counties, immediately adjacent to, but just outside of the VPA. Substantial suitable canyon habitat occurs in the adjacent Books Cliffs area.

There are numerous activities (generally referred to as "threats") that have resulted in the listing of these species. These include grazing, oil and gas development, loss of prey bases, habitat fragmentation, agricultural development, forestry practices, changes in natural flow and sediment transport regimes as a result of dam operations, flow depletions from irrigation, loss of riparian and wetland habitat, introduction of non-native species, and loss of habitat within specific soil and geologic formation types. The potential continued threats to these species and how the alternative management strategies for the RMP could change these threats are described in Section 4.17.

3.17.1.2 Federally Endangered, Threatened, Candidate, and Proposed Species

Table 3.17.1. Federally Listed Threatened, Endangered, and Candidate Species Potentially Occurring in the VPA

Common Name Scientific Name	Protection (Federal/State)	Preferred Habitat	Potential for Occurring on BLM Lands
Black-footed ferret *Mustela nigripes*	Endangered/ Experimental	Grasslands with active prairie dog towns.	Two hundred and fifteen (215) ferrets have been successfully reintroduced into the Coyote Basin since 1999. All active prairie dog towns, or a complex of towns large enough to support ferrets (at least 100 acres) within Duchesne and Uintah Counties, are considered potential black-footed ferret habitat.
Canada lynx *Lynx Canadensis*	Threatened	Montane coniferous forest.	The range of the Canada lynx extends from Canada and Alaska south to Maine, the Rocky Mountains, and the Great Lakes region. Although sightings of the Canada lynx in Utah over the past twenty years have been very rare, the Diamond Mountain area provides a linkage area between lynx habitat in the Uinta Mountains to that in the Colorado Rockies.
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened	Steep rocky canyons; substantial suitable habitat is present, though no critical habitat is present.	The Mexican Spotted Owl (MSO) ranges from southern Utah and Colorado through the mountains of Arizona, New Mexico, and West Texas into the mountains of Central Mexico. They typically prefer old growth mixed conifer ponderosa pine, or evergreen oak forest, and associated deciduous riparian forests. In Utah, MSOs are a permanent resident that nest in the deep, sheer-walled, sandstone or rocky canyons of the Green and Colorado River basins. Forested habitats (old growth mixed conifer ponderosa pine, or evergreen oak forest, and associated deciduous riparian forests) are suitable for foraging and dispersal. There have been two reports of MSOs in the Book Cliffs.
Yellow-billed Cuckoo *Coccyzus americanus occidentalis*	Candidate (State-listed threatened)	Dense lowland riparian habitat at 2,500 to 6,000 feet elevation; usually found within 300 feet of water.	The Yellow-billed Cuckoo is a neotropical migrant that nests in localized riparian valleys throughout Utah. The Ouray Wildlife Refuge and other locations along the Green River sustain the largest breeding population of Yellow-billed Cuckoo in the State of Utah with an estimated 10 to 20 pairs.

Table 3.17.1. Federally Listed Threatened, Endangered, and Candidate Species Potentially Occurring in the VPA

Common Name Scientific Name	Protection (Federal/State)	Preferred Habitat	Potential for Occurring on BLM Lands
Bonytail *Gila elegans*	Endangered	The habitat requirements of the bonytail are not well known because the species was extirpated from most of its historic range prior to extensive fishery surveys. Critical habitat has been designated along the Green River in Uintah and Grand Counties.	The bonytail was historically common to abundant in warm-water reaches of larger rivers in the Colorado River Basin from Mexico to Wyoming. It is currently a very rare species in the Colorado River Basin, with only a few individuals having been found in the last decade. Very low numbers of bonytail still occur in the Upper Colorado River basin in Gray Canyon of the Green River and at Black Rocks on the Colorado River and at the confluences of the Green and Yampa rivers and the Green and Colorado rivers. The majority of bonytail are being held in culture facilities and reintroduction efforts are under way. Several thousand hatchery-reared bonytails have recently been reintroduced in the Colorado River near Moab and in the Green River at the confluence with the Yampa River.
Colorado pikeminnow *Ptychocheilus lucius*	Endangered	Adult Colorado pikeminnow use a variety of habitat types, depending on time of year, but primarily use shoreline runs, eddies, backwater habitats, seasonally flooded bottoms, and side canyons. Critical habitat has been designated for Colorado pikeminnow along the Green River in Uintah, Carbon, Emery, and Grand counties. This critical habitat includes the 100-year floodplain.	This species' range is restricted to the Upper Colorado River basin, upstream of Glen Canyon Dam. They are most abundant in the Upper Green River (between the mouth of the Yampa River and head of Desolation Canyon) and Lower Green River (between the Price and San Rafael rivers). Other concentration areas include the Yampa River, the lower 21 miles of the White River, the Ruby and Horsethief Canyon area between Westwater, Utah and Loma, Colorado, and in the San Juan River between Lake Powell and Shiprock, New Mexico.

Table 3.17.1. Federally Listed Threatened, Endangered, and Candidate Species Potentially Occurring in the VPA

Common Name Scientific Name	Protection (Federal/State)	Preferred Habitat	Potential for Occurring on BLM Lands
Humpback chub *Gila cypha*	Endangered	Suitable habitat for this species is characterized by a wide variety of riverine habitats, especially canyon areas with fast currents, deep pools, and boulder habitat. Adults require eddies and sheltered shoreline habitats maintained by high spring flows. Young require low-velocity shoreline habitats, including eddies and backwaters, that are more prevalent under base-flow conditions.	This species originally inhabited the mainstem of the Colorado River from what is now Lake Mead to the canyon areas of the Green and Yampa River basins. Currently, it appears restricted in the Upper Basin to the Colorado River at Black Rocks and at Westwater and Cataract Canyons, in the Yampa River at Yampa Canyon, and in the Green River at Desolation/Gray Canyons. In the Lower Basin, humpback chub are only found in the mainstem Colorado River in Marble and Grand Canyons and in the Little Colorado River. Critical habitat has been designated along the Green River in Uintah and Grand counties.
Razorback sucker *Xyrauchen texanus*	Endangered	Habitats required by adults include rivers with deep runs, eddies, backwaters, and flooded off-channel environments in the spring; runs and pools often in shallow water associated with submerged sandbars in summer; and low-velocity runs, pools, and eddies in winter. Young require nursery environments with quiet, warm, shallow water such as tributary mouths, backwaters, or inundated floodplain habitats in rivers, and coves or shorelines in reservoirs. Critical habitat for this species is the same as that of the Colorado pikeminnow.	Historically, the razorback sucker were widely distributed in warm-water reaches of larger rivers of the Colorado River Basin from Mexico to Wyoming, but is currently found in small numbers in the Green River, upper Colorado River, and San Juan River subbasins; lower Colorado River between Lake Havasu and Davis Dam; reservoirs of Lakes Mead and Mohave; in small tributaries of the Gila River Subbasin (Verde River, Salt River, and Fossil Creek); and in local areas under intensive management such as Cibola High Levee Pond, Achii Hanyo Native Fish Facility, and Parker Strip. The largest population of razorback sucker in the Upper Basin is found in the low-gradient, flat-water reaches of the middle Green River between the Duchesne River and Yampa River. Known spawning sites are located in the lower Yampa River and in the Green River near Escalante Ranch between river km 492 and 501.

Table 3.17.1. Federally Listed Threatened, Endangered, and Candidate Species Potentially Occurring in the VPA

Common Name Scientific Name	Protection (Federal/State)	Preferred Habitat	Potential for Occurring on BLM Lands
Barneby ridge-cress *Lepidium barnebyanum*	Endangered/NA	This species requires shallow, fine-textured soils intermixed with rock fragments. The Barneby ridge-cress is found along semi-barren ridges in piñon-juniper woodlands, at elevations ranging from 6,100 ft to 6,550 ft (1,860 m to 1,965 m).	There may be suitable habitat for this species on BLM lands, but there are no known populations (UDWR 2002b). The Barneby ridge-cress is located on the Uintah and Ouray Reservation, Utah. The VPA encompasses the total population, located on either side of Indian Creek south of Starvation Reservoir and the town of Duchesne. Three separate stands make up the total population, ranging across approximately five miles (8 km) (USFWS 1993).
White River beardtongue *Penstemon scariosus* var. *albifluvis*	Candidate/ NA	Occurs in pinyon-juniper, desert shrub, and mixed desert shrub communities at elevations ranging 4,600 to 6,800 feet elevation. Found at the lower members of the Green River Formation, growing on sparsely vegetated shale slopes.	White River beardtongue is currently known to occur on surficial outcrops of oil shale on 714 acres in southern Uintah County and southeast Duchesne County, Utah.
Clay reed-mustard *Schoenocrambe argillacea*	Threatened/ NA	Found on the contact zone between the upper Uinta and lower Green River Formations, typically at elevations ranging from 4,800 to 5,800 feet elevation. It inhabits mixed desert shrub communities of Indian ricegrass and pygmy sagebrush on the shale slopes of the Evacuation Creek Member of the Green River Formation. Plants may be found growing on protected north-facing slopes.	Three clay-reed-mustard populations of fewer than 10,000 individuals each are currently known to occur in the Book Cliffs, Uintah County, Utah. The species is known to occur on steep slopes and cliffs overlooking the Green River, Hill Creek and Willow Creek. Currently known populations occur within a 15 mi x 8 mi area (24 km x 12 km; 1,541 acres) along the Green River from Willow Creek to Sand Wash. Populations may also occur above Sand Wash and Nine Mile Canyon on steep slopes that are problematic for population counts and surveys.
Shrubby reed-mustard *Schoenocrambe suffrutescens*	Endangered/ NA	Found on the Evacuation Creek Member of the Green River Shale Formation on calcareous shales in pygmy sagebrush, mountain mahogany, juniper, and mixed desert shrub communities (5,400–6,000 feet).	The shrubby reed-mustard is currently known to occur on 3,150 acres in oil shale lenses in the Hill Creek drainage, Willow Creek drainage, and Badland Cliffs.

Table 3.17.1. Federally Listed Threatened, Endangered, and Candidate Species Potentially Occurring in the VPA

Common Name Scientific Name	Protection (Federal/State)	Preferred Habitat	Potential for Occurring on BLM Lands
Pariette cactus *Sclerocactus brevispinus*	Threatened/ NA (USFWS 2007)	Occurs on fine soils forming desert pavement in clay badlands derived from the Uinta Formation in sparse salt desert shrubland from 4,600 to 4,900 feet elevation	Occurs as a single population of approximately 8,000 individuals within a 50 square-mile (18,000 acre) area from the Pariette Drainage south of Myton, Utah to the mouth of Pariette Draw south or Ouray, Utah (USFWS 2006). The total area of potential habitat includes an estimated 15,000 acres of the VFO (USFWS 2007).
Uinta Basin hookless cactus *Sclerocactus wetlandicus*	Threatened/ NA (USFWS 2007)	Occurs on Quaternary and Tertiary alluvium soils overlain with cobbles and pebbles in cold desert shrub and pinyon-juniper communities on alluvial river terraces, valley slopes, and rolling hills of the Duchesne River, Green River, and Mancos Formations from 4,300 to 6,560 feet elevation.	The current population is estimated at 13,000-26,000 plants that are patchily to densely distributed from the confluence of the Green, White, and Duchesne Rivers near Ouray, Utah south along the Green River to the vicinity of Sand Wash, including concentrations near the mouth of Pariette Draw and along the base of the Badlands Cliffs (USFWS 1990, 2005; SWCA 2006, 2007; Glisson 2007; UDWR 2007).
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened/ NA	Wet meadow and other riparian habitats that are subject to fluvial erosion and deposition. May also be found near springs, seeps, and lakeshores where there is sufficient ground water. This plant can be found on various substrates in riparian habitats between 4,265 and 6,800 feet elevation.	Ute ladies'-tresses is found in sporadic locations throughout the interior western United States. Within the Uinta Basin, the Ute ladies'-tresses occurs along the Green River in Brown's Park (UT), Browns' Park (CO), Dinosaur National Monument, and near the confluence with the Yampa River. The species also occurs on Ashley Creek, within Ashley Valley, along Big Brush Creek, the upper Duchesne River, and tributaries to the Duchesne River.

3.17.1.3 STATE-LISTED WILDLIFE SPECIES AND BLM-LISTED SENSITIVE PLANT SPECIES

Both the BLM and State of Utah maintain lists of sensitive plant and animal species. The restricted distributions, specialized habitat requirements, and population pressures (human induced and natural) facing special status species contribute to a high potential for federal listing, thus, their populations are of conservation interest. The BLM Manual 6840 specifies that they will manage State-listed plants and animals "to the extent that they are consistent with other Federal laws". BLM policy for BLM-listed sensitive species is to manage the species as if they were candidate species for federal listing so that they do not become listed, while also fulfilling other federal law mandates. The BLM has a policy of entering into conservation agreements and other conservations measures to protect both State- and BLM-listed species.

There are 28 other special status species in the VPA that are listed in Table 3.17.2. This includes 14 wildlife, 4 fish, and 14 plant species. Of the 14 plant species, 13 species are soil endemics, which means that they are restricted to specific soil types. The dependence of these species on locally unique geological formations and soil parent materials make them particularly susceptible to habitat loss.

There are four bird, four fish, and one plant species that are dependent upon streams, rivers and associated wetlands. The remaining species are primarily upland species that have a variety of habitat requirements including grasslands, desert shrub, woodland, mature forest, and caves within forested areas.

Threats to sensitive species that could result in their listing as federally threatened or endangered species are similar to the threats experienced by listed species. These threats include sensitivity to human disturbance, poisoning, changes in flow regimes, loss of riparian wetlands, timber harvesting, restriction to unique soil or geologic formations, competition from non-native species, overgrazing, and habitat degradation or loss due to agricultural practices, oil and gas development, and/or urban encroachment.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
State-listed and BLM-listed Special Status Mammal Species			
Townsend's big-eared bat *Corynorhinus townsendii*	SP/SD	Forested areas; roosts and hibernates in caves, mines, and buildings.	The Townsend's big-eared bat is found throughout much of western North America including areas in the Uinta Mountains and the Book Cliffs. It is a cave-roosting species that move into man-made caves such as mines and buildings. Unlike many other bats, they are unable to crawl into crevices and usually roost in enclosed areas where they are vulnerable to disturbance. The Townsend's big-eared bat is quite sensitive to human disturbance, and this appears to be the primary cause of population decline for this species. This bat is colonial during the maternity season, when compact clusters of up to 200 individuals might be found. Maternity roosts form in the spring and remain intact during the summer. Site fidelity is high, and if undisturbed, the bats will use the same roost for many generations.
White-tailed prairie dog *Cynomys leucurus*	SP	Grasslands	White-tailed prairie dogs form colonies in parts of northeastern Utah, Colorado, Wyoming, and Montana. The white-tailed prairie dog is the main food source of the Utah population of the endangered black-footed ferret that were reintroduced to northeastern Utah. Major threats to the white-tailed prairie dog include habitat loss, poisoning, and disease.
State-listed and BLM-listed Special Status Bird Species			
American White Pelican *Pelecanus erythrorhynchos*	SD	Marshes, lakes, and rivers.	American White Pelicans summer in the interior of North America around major water bodies and winter along the shore of the Gulf Coast and Baja California. The species is extremely sensitive to human disturbance on its nesting grounds and is adversely impacted by loss of foraging habitat, environmental contaminants, and water level fluctuations. As many as 200 American white pelicans can be found between Pariette, Pelican Lake, and the Ouray National Wildlife Refuge during the spring and summer.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Bald Eagle *Haliaeetus leucocephalus*	CS	Riparian areas with tall trees.	Migratory Bald Eagles winter throughout the state in riparian, low-elevation forest, and desert habitats. There are several winter roosts along the Duchesne, Green and White Rivers and one nest on the White River a few miles upstream of the Colorado/Utah border. The species is recovering across its range, and it was recently proposed that the species be delisted. However, the number of nesting pairs in Utah has remained extremely low.
Bobolink *Dolichonyx oryzivorus*	SP/SD	Wet meadow, wet grassland, and irrigated agricultural areas.	The Bobolink was historically common but is now a rare nester in flooded grasslands and wet meadows of northern Utah. It summers in the northern regions of North America and winters in South America. Most of the birds migrate east of the Great Plains. The range of the Bobolink has decreased in Utah and across its entire range, because of habitat loss from drought and agricultural practices such as early season hay cutting, grassland conversion, and overgrazing. Habitat for the Bobolink occurs in the mid elevations of the VPA in the Uinta Mountains and the Book Cliffs and has been observed at the Pariette Wetlands.
Burrowing Owl *Athene cunicularia*	SP	Open grassland and prairies.	Burrowing Owls are neotropical migrants, nest underground in burrows, and are typically found in open desert grassland and shrubland areas that are level and well drained. They depend on burrowing mammals for nest sites and are often associated with prairie dog colonies. The decline of the owl's population across its range appears to be due primarily to agricultural practices, use of pesticides, and the decline of prairie dog colonies. Habitat for burrowing owls occurs throughout the lower elevations of the Uinta Basin. Many of the areas where Burrowing Owls are nesting have been identified and mapped by VFO personnel.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Ferruginous Hawk *Buteo regalis*	Threatened	Grasslands, agriculture lands, sagebrush/saltbush/greasewood shrub lands, and at the periphery of pinyon-juniper forests. Nests in juniper trees, cliffs, buttes, and creek banks.	The Ferruginous Hawk is a neotropical migrant breeding from southwestern Canada to central Arizona, New Mexico, and northern Texas, and wintering in California to northern Mexico. It is a year-round resident from Nevada through western and southern Utah, northern Arizona, and New Mexico, to eastern Colorado and South Dakota. In Utah, the Ferruginous Hawk nests at the edge of juniper habitats and open, desert, and grassland habitats in the western, northeastern, and southeastern portions of the state. Ferruginous Hawks are highly sensitive to human disturbance and are also threatened by habitat loss from oil and gas development, agricultural practices, and urban encroachment. They have experienced a decline across much of their range and have been extirpated from some of their former breeding grounds in Utah. Habitat for Ferruginous Hawk occurs in the lower and mid elevations of the VPA in the Uinta Mountains and the Book Cliffs and many of the active nest sites in the VPA have been identified and mapped. There are 271 known nesting sites in the VPA, 34 of which are currently active. Eighty-eight percent of these active and inactive nest sites have roads and pipelines within the ½-mile buffer established for these nest sites meant to limit surface-disturbing activities in close proximity to these nests.
Grasshopper Sparrow *Ammodramus savannarum*	SP/SD	Dry grasslands; characterized by short to mid-height clumps of grass with few to no shrubs.	The Grasshopper Sparrow is a neotropical migrant was considered to be historically abundant in the State of Utah; however, there are currently only a few known breeding sites in the grasslands of northern Utah. The Grasshopper Sparrow ranges over most of the United States during the summer and in the south and in Mexico during the winter. Much of this species' former habitat has been lost to agricultural and urban encroachment and overgrazing. These birds nest in semi-colonial groups in dry grasslands, characterized by short to mid-height clumps of grass with few to no shrubs. Habitat for Grasshopper Sparrow occurs in the grasslands of the Uinta Basin although there has been no documented occurrences in the VPA.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Greater Sage-grouse *Centrocercus urophasianus*	SP/SD	Sagebrush plains, foothills, and mountain valleys.	Greater Sage-grouse are found in the sagebrush foothills and plains of the Intermountain Region. Since 1967, the abundance of male grouse on known breeding grounds in Utah has declined approximately 50%. Brood counts and harvest data show a similar downward trend. Habitat loss and fragmentation from agricultural encroachment, urbanization, and overgrazing are the primary threats to the Greater Sage-grouse. Habitat for Greater Sage-grouse occurs in the mid elevations of the VPA in the Uinta Basin and the Book Cliffs. Many studies have been conducted on Sage-grouse in Utah and in the Uinta Basin. One of the strongest populations in the State of Utah has been shown to occur on Diamond Mountain. Many of the active leks and nesting areas in the VPA have been identified and mapped.
Lewis' Woodpecker *Melanerpes lewis*	SP/SD	Burned-over Douglas fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands, but is also found in the fringes of pine and juniper stands, and deciduous (cottonwood) forests. Dead trees and stumps are required for nesting. Wintering grounds are over a wide range of habitats, but oak woodlands are preferred.	The Lewis' Woodpecker is a year-round resident to western North America and, in Utah, is occasionally found in the riparian habitats of the Uinta Basin and along the Duchesne and Green Rivers. They breed in open Ponderosa Pine forests and cottonwood dominated riparian bottoms and winter primarily along low-elevation cottonwood dominated riparian bottoms. Nests have been found on the Green River, Lake Fork River, and in Ponderosa Pine forests on the Uinta Mountains. Formerly common in several areas of the state, the species distribution is currently reduced, and the species is experiencing a range-wide decline. This woodpecker usually feeds on flying insects in open areas interspersed with trees in the spring and summer. It feeds primarily on fruits and nuts in the fall and winter. It is adversely affected by loss of habitat from water development and agricultural practices and may be increasingly affected by competition for nest cavities from non-native bird species.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Long-billed Curlew *Numenius americanus*	SP/SD	Uncultivated rangelands and pastures near water.	The Long-billed Curlew is a neotropical migrant that summers in the upland meadows and rangelands of western North America. It forages in moist meadow wetlands and upland habitats. The curlew is adversely affected by human disturbance and habitat loss from agricultural practices. Habitat for long-billed curlew occurs in the mid elevations of the Uinta Mountains and the Book Cliffs and it has been observed in the VPA.
Northern Goshawk *Accipiter gentilis*	CS	Mature mountain forest and riparian zone habitats.	The Northern Goshawk is a neotropical migrant that occurs across the northern regions of North America in scattered populations primarily in mature mountain forest and valley cottonwood habitats. The species is adversely affected by loss of habitat from timber harvest and development in riparian areas. Because Goshawks occur in low-density populations, they are particularly susceptible to population loss. Goshawk populations appear to have declined across their range, particularly in the Colorado Plateau ecoregion. Areas of potentially suitable nesting habitat for Northern Goshawk consist of coniferous forest and mixed-aspen forest types, dominated by spruce, fir, pine, and aspen. Populations of Northern Goshawk have been identified in the mid elevations of the VPA in the Uinta Mountains and the Book Cliffs.
Three-toed Woodpecker *Picoides tridactylus*	SD	Coniferous forests, generally above 7,800 feet elevation.	The Three-toed Woodpecker nests and winters in northern coniferous forest and mixed-aspen forest types dominated by spruce, fir, pine, and aspen, usually above 7,800 feet elevation, in the northern regions of North America and the Rocky Mountains. Small populations have been located along the highest elevations of the Book Cliffs and possibly Diamond Mountain. The species is negatively affected by forest management practices such as clear cutting and fire suppression.
State-listed and BLM-listed Special Status Reptile Species			
Smooth greensnake *Opheodrys vernalis*	SP/SD	Moist grassy areas and meadows.	The smooth greensnake typically inhabits meadows, grassy marshes, and moist grassy fields along forest edges. Its distribution ranges from northeastern Utah into central Colorado and northern New Mexico, and into the Northern Plains from the Canadian border south to Kansas and Missouri.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
State-listed and BLM-listed Special Status Fish Species			
Bluehead sucker *Catostomus discobolus*	SP	Fast flowing water in high gradient reaches of mountain rivers.	The bluehead sucker are typically associated with fast flowing rocky riffles in higher gradient reaches of small to large rivers in the Colorado River drainage including the Green, White, and Duchesne rivers and their tributaries as well as in the Bonneville and Snake River basins. Flow alteration, habitat loss/alteration, and the introduction of non-native fish species have been identified as significant causes of the decline of this species.
Colorado River cutthroat trout *Oncorhynchus clarki pleuriticus*	CS	Cool, clear water of high-elevation streams and lakes.	There are 20 known populations of purestrain Colorado River cutthroat trout in northeastern Utah. Most existing populations of this species are restricted to areas above 7,000 feet elevation. These populations are being managed by the State of Utah under a multiagency conservation agreement aimed a reducing or eliminating the threats to this species (CRCT Task Force 2001). Habitat alteration and the introduction of non-native fish species have been identified as the primary threats to this species. UDWR currently has plans to reestablish Colorado River cutthroat trout in the Bitter Creek and Upper Willow Creek areas of the Book Cliffs. Habitat restoration activities have been ongoing and these areas will be chemically treated prior to reintroduction of Colorado River cutthroat trout to remove non-native fish species. The only existing population of Colorado River cutthroat trout on BLM lands in the VPA is found in Sears Creek (water code: II BQ).
Flannelmouth sucker *Catostomus latipinnis*	SP	Large rivers, where they are often found in deep pools of slow-flowing, low-gradient reaches.	Flannelmouth sucker are typically associated with rocky pools and slow flowing, low-gradient reaches in the large rivers of the Colorado River drainage including the Green, White, and Duchesne rivers. Flow alteration, habitat loss/alteration, and the introduction of non-native fish species have been identified as significant causes of the decline of this species.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Roundtail chub *Gila robusta*	Threatened	Large rivers, and is most often found in murky pools near strong currents.	Roundtail chub are found in moderate-sized rivers in the Colorado River drainage including the Green and Duchesne rivers. Adults are generally associated with pools and eddies with overhead cover, often congregating below rapids while juveniles generally inhabit shallower habitats than adults. Roundtail chubs are also found in large reservoirs in the drainage. They are carnivorous, opportunistic feeders, taking terrestrial and aquatic insects, especially midges, mayflies, and caddis flies, as well as snails, crustaceans, fish, and sometimes-filamentous algae. This fish was once much more common throughout the Colorado River system than it is today. Habitat modification (e.g., stream channelization, damming, removal of riparian vegetation) and establishment of non-native predators are probably the primary factors contributing to the decline of this species.
State-listed and BLM-listed Special Status Plant Species			
Park rockcress *Arabis vivariensis*	Sensitive	Occurs on the Weber Formation sandstone and limestone outcrops in mixed desert shrub and pinyon-juniper communities at 5,000 to 6,000 feet elevation.	The park rockcress is found in Dinosaur National Monument and on 30 acres on Diamond Mountain and Cliff Ridge.
Hamilton milkvetch *Astragalus hamiltonii*	Sensitive	Occurs on Asphalt Ridge, Mowry, Dakota and Wasatch Formations and Lapoint and Dry Gulch Members of the Duchesne Formation in pinyon-juniper and desert shrub communities at 5,240 to 5,800 feet elevation.	The Hamilton milkvetch is currently known from only 19 sites (329 acres) between Lapoint and Vernal, Utah.
Owenby's thistle *Cirsium owenbyii*	Sensitive	Occurs on the east flank of the Uinta Mountains in the sagebrush, juniper, and riparian communities at 5,500 to 6,200 feet elevation.	The Owenby's thistle is currently known from only a few sites in Brown's Park (53 acres), Diamond Mountain and Cliff RIdge.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Goodrich stinkweed (Cleomella palmeriana var. goodrichii)	Sensitive	Typically occurs in heavy clay soils on eroded clay and shale slopes of the Mancos, Tropic and Morrison Formations in salt desert shrub communities from 4,000 to 6,000 feet elevation.	Goodrich stinkweed is known only from Rainbow Draw in Uintah County, Utah and from the Salmon-Baker area in Lemhi County, Idaho. The size and distribution of extant populations is not known.
Untermann daisy *Erigeron untermanii*	Sensitive	Occurs in the pinyon-juniper communities on calcareous shales and sandstones of the Uinta and Green River formations at 7,000 to 7,800 feet elevation.	The Untermann daisy is an endemic to the West Tavaputs Plateau in Duchesne County, Utah.
Alcove bog-orchard *Habenaria zothecina*	Sensitive	Occurs on moist stream banks, seeps, and hanging gardens of the Weber Sandstone Formation in mixed-desert shrub, pinyon-juniper, and oakbrush vegetation communities from 4,000 to 8,690 feet elevation.	Potential alcove bog-orchid habitat occurs in Dinosaur National Monument and elsewhere in Uintah County. There are currently no confirmed populations within the VFO (personal communication between J. H. Hornbeck, SWCA, and Clayton Newberry, BLM, June 30, 2008).
Rock hymenoxys *Hymenoxys lapidicola*	Sensitive	Occurs on rock crevices in the pinyon-juniper woodland or ponderosa pine-manzanita woodland communities from 5,700 to 8,100 feet elevation.	The rock hymenoxys is endemic to Cliff Ridge in Uintah County, Utah and adjacent regions of Dinosaur National Monument.
Huber's pepperweed *Lepidium huberi*	Sensitive	Rock crevices, eroding parent material and alluvial soils of the Chinle, Park City and Weber Formations in the Uinta and Green River Formation in the Book Cliffs. 5,000-8,000 ft.	Huber's pepperweed is known to occur in Big Brush Creek Gorge in the Uinta Mountains and has the potential to occur on the Utah side of the East Tavaputs Plateau.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Goodrich blazingstar (Mentzelia goodrichii)	Sensitive	Occurs on steep, highly erosive, marly-calciferous shale escarpments of the Parachute Creek Member of the Green River Formation from 8,100 to 8,800 feet elevation.	Goodrich blazingstar is a narrow endemic of the West Tavaputs Plateau in southern Duchesne County, Utah. It is known from the escarpments of Argyle, Indian, Sowers and Willow Canyons, the margin of Avintaquin Canyon and Gray Head Peak, and adjacent regions in the Badlands Cliffs. The size and distribution of extant populations is not known.
Stemless penstemon *Penstemon acaulis*	Sensitive	Occurs on semi-barren substrates in pinyon-juniper and sagebrush-grass communities at 5,840 to 7,285 feet elevation.	The stemless penstemon is currently known from nine sites in Brown's Park, Daggett County, Utah.
Gibbens penstemon (Gibbens beardtongue) *Penstemon gibbensii*	Sensitive	Occurs on sandy and shaley (Green River Shale) bluffs and slopes with juniper, thistle, Eriogonum, Elymus, serviceberry, rabbitbrush, and Thermopsis at 5,500 to 6,400 feet elevation.	Gibbons penstemon is currently known at only one site (6 acres) in Brown's Park, Daggett County, Utah.
Goodrich penstemon (Goodrich beardtongue) *Penstemon goodrichii*	Sensitive	Occurs on the Duchesne River Formation on blue-gray to reddish bands of clay badlands at 5,590 to 6,215 feet elevation.	Goodrich penstemon is currently known from 24 sites in the Lapoint-Tridell-Whiterocks area.
Graham's beardtongue *Penstemon grahamii*	Sensitive	Occurs on gravelly clay soils in pinyon-juniper woodlands on semi-barren knolls of white calcareous shale in sparsely vegetated desert shrub and pinyon-juniper communities from 4,691 to 6,758 feet elevation.	Graham's Beardtongue is currently known to occur on 1,287 acres in East Duchesne and Uintah Counties, Utah.

Table 3.17.2. State-listed and BLM-listed Special Status Species Potentially Occurring in the VPA.

Common Name Scientific Name	Protection*	Preferred Habitat	Potential for Occurring on BLM Lands
Uinta greenthread (*Thelesperma caespitosum*)	Sensitive	Occurs on dry, poorly developed soils on shale or marl slopes and benches and multicolored clay hills of the Parachute Creek Member of the Green River Formation or the Uinta Formation in mountain shrub/pinyon-juniper woodland communities from 5,900 to 8,860 feet elevation.	Endemic to Sweetwater County, Wyoming and the West Tavaputs Plateau of the Uinta Basin, Duchesne County, Utah. The size and distribution of extant populations is not known.

*Protection:

CS: A species of concern being managed under a multi agency conservation agreement with the goal to keep the species from being federally listed.

Sensitive: Listed by the State of Utah, or BLM for plants, as a species sensitive to disturbance.

SD: Listed by the State of Utah as a species of special concern due to its limited distribution within the state.

SP: Listed by the State of Utah as a species of special concern due to declining population sizes within the state.

Threatened: Listed by the State of Utah as a species faced with substantial risk of extinction.

3.18 VEGETATION

3.18.1 DOMINANT VEGETATION COMMUNITIES

The vegetation on lands administered by the BLM within the VPA was mapped in conjunction with the Natural Resources Conservation Service (NRCS). Lands within the VPA under other jurisdictions were not analyzed. Because the soil associations were mapped to a minimum size of 50 acres, the designated vegetation associations only show changes in community types of a minimum of 50 acres as well, making the complex mosaic of natural vegetation not visible at this level of detail. The vegetation associations within the VPA were then classified using vegetation categories defined by the BLM and by GAP analysis (Edwards et al. 1996).

Vegetation across the VPA ranges from desert shrub to boreal forest. The following seven vegetation types are identified in the VPA: plains grassland/herbaceous, desert shrub, sagebrush/perennial grass, pinyon-juniper, mountain shrub, and conifer, which includes aspen/forb. Other minor vegetation/cover types are riparian areas and wetlands, and badlands. Descriptions of the identified vegetation types, including their associated plant species and general locations within the VPA, are provided below. The following associations occur intermixed throughout the VPA.

3.18.1.1 PLAINS GRASSLAND/HERBACEOUS

This vegetation type is dominated by herbaceous species and includes a few solitary shrubs. The plains grassland/herbaceous type is found in only a small portion of the VPA, but many of the species that compose it are found in the understory of the other associations. Most wildlife species use this area at some time during the year.

3.18.1.2 DESERT SHRUB

Vegetation of the desert shrub type typifies the cold desert environment. It composes approximately 20% of the VPA, mainly in the center of the planning area (e.g., Antelope Flat, Clay Basin, and half of the Myton Bench Area), and is located at the lower elevations from 4,800 to 6,000 feet. This type is characterized by shrubs such as shadscale, winterfat, Mormon tea, Gardner's saltbush, mat saltbush, four-winged saltbush, rabbitbrush, and greasewood (Table 3.18.1). The understory is sparse and may contain Indian ricegrass, galletta, scarlet globemallow, bud sagebrush, spring parsley, and textile onion. Soil salinity is relatively high.

Vegetation treatments or manipulations are not very successful in this type of community, due to the shallow soils and low moisture availability.

Table 3.18.1. Common Plants in the Desert Shrub Community in the VPA*

Scientific Name	Common Name
Shrubs	
Atriplex canescens	Four-winged saltbush
Atriplex confertifolia	Shadscale
Atriplex corrugata	Mat saltbush
Atriplex gardneri	Gardner's saltbush
Artemisia spinescens	Bud sage
Ceratoides lanata	Winterfat
Chrysothamnus spp.	Rabbitbrush species
Ephedra nevadensis	Mormon tea
Sarcobatus vermiculatus	Greasewood
Grasses and Forbs	
Agropyron dasystachyum var. *dasystachyum*	Thickspike wheatgrass
Allium textile	Textile onion
Arenaria spp.	Sandwort
Cymopterus spp.	Spring parsley
Eriogonum spp.	Buckwheat
Descurainia pinnata	Tansy mustard
Hilaria jamesii	Galleta
Phlox spp.	Phlox
Poa sandbergii	Sandberg bluegrass
Poa spp.	Bluegrasses
Sitanion hystrix	Squirreltail
Sphaeralcea spp.	Globemallow
Sporobolus airoides	Alkali sacaton
Stipa hymenoides	Indian ricegrass

*Plant names follow A Utah Flora (Welsh et al. 1993).

3.18.1.3 SAGEBRUSH/PERENNIAL GRASS

The sagebrush association covers approximately 57% of the VPA. This association is composed mainly of black sagebrush, basin big sagebrush, Wyoming big sagebrush, and mountain big sagebrush (Table 3.18.2). Other important shrubs are rabbitbrush, Mormon tea, and bitterbrush. Basin big sagebrush and Wyoming big sagebrush dominate the zone between 5,000 and 7,000 feet. Typically, the basin big sagebrush is found in areas of well-drained soils that receive 10-16 inches of annual precipitation, and Wyoming big sagebrush occupies drier, shallow soils that receive 8-12 inches of annual precipitation. Mountain big sagebrush is dominant in areas over 7,000 feet in elevation that receive 14-20 inches of annual precipitation (Welsh et al. 1993).

The herbaceous understory is typically composed of bluebunch wheatgrass, Idaho fescue, western wheatgrass, Junegrass, Indian ricegrass, and many needlegrasses. Many forbs also occur in this area and are an important resource for Sage-grouse. Common forb species include balsamroot, mules ears, Indian paintbrush, sego lily, larkspur, phlox, and mustards (Edwards et al. 1994).

Wyoming and mountain big sagebrush are declining throughout the VPA, as evidenced by the existing, decadent, even-aged stands. Beginning in the late 1990s, drought accelerated the decline, which resulted in a sage die off and die back. Some areas had sagebrush mortality while others had re-growth of sagebrush in subsequent years. Where sagebrush died and the understory was cheat grass, the density of cheat grass increased. The native perennial grassland understory has also been invaded by annual species such as cheatgrass; some invasions cover thousands of acres. Prescribed burning may be used to treat these areas, which would also benefit wildlife habitat and the wildland urban interface. The sagebrush association provides important wildlife habitat in the form of crucial winter range for deer and elk and essential habitat and forage for Sage-grouse. Domestic livestock grazing occurs in this association, as does recreation.

Table 3.18.2. Species Commonly Associated with Sagebrush/ Perennial Grassland Communities in the VPA*

Scientific Name	Common Name
Shrubs	
Artemisia nova	Black sagebrush
Artemisia tridentata ssp. *tridentata*	Basin big sagebrush
Artemisia tridentata ssp. *vaseyana*	Mountain big sagebrush
Artemisia tridentata ssp. *wyomingensis*	Wyoming big Sagebrush
Chrysothamnus viscidiflorus	Douglas rabbitbrush
Ceratoides lanata	Winterfat
Ephedra nevadensis	Mormon tea
Purshia tridentata	Antelope bitterbrush
Grasses and Forbs	
Astragalus spp.	Milkvetch
Balsamorhiza spp.	Balsamroot species
Brassica spp.	Mustards species
Calochortus nuttallii	Sego lily
Delphinium spp.	Larkspur species
Erigeron spp.	Fleabane species
Elymus cinereus var. *cinereus*	Great Basin wildrye
Elymus smithii	Western wheatgrass
Elymus spicatus	Bluebunch wheatgrass
Erysimum asperum	Wallflower
Festuca spp.	Fescue species
Koeleria macrantha	Junegrass

Table 3.18.2. Species Commonly Associated with Sagebrush/ Perennial Grassland Communities in the VPA*

Scientific Name	Common Name
Lupinus spp.	Lupine species
Phlox spp.	Phlox species
Stipa spp.	Needlegrass species
Stipa hymenoides	Indian ricegrass
Wyethia amplexicaulis	Mules ears

*Plant names follow A Utah Flora (Welsh et al. 1993).

3.18.1.4 PINYON-JUNIPER

This association occurs at slightly higher elevations than the sagebrush. Typically, there is a wide transition zone from juniper-sagebrush to juniper, so the boundaries between these associations are indistinct.

In the juniper-dominated areas, the understory's percent cover generally decreases. Therefore, this association has many management challenges. Vegetation manipulation, in the form of chaining and prescribed burns, has been used in the past. (In the 1960s and 1970s, 11,600 acres in the VPA were chained and reseeded successfully, and in the 1980s, chaining occurred in Wood Canyon in the Nine Mile area and in Browns Park.) Through vegetation manipulation, openings that are beneficial to wildlife and ecosystem health can be created. Dense stands of juniper provide high-quality nesting habitat and thermal cover, but little forage value. Many more animal species can use this association if the juniper stands have a varied age class and structure. Common plant species in this association are shown in Table 3.18.3.

Table 3.18.3. Species Commonly Associated with Pinyon-Juniper Communities in the VPA*

Scientific Name	Common Name
Trees	
Pinus edulis	Pinyon pine
Juniperus osteosperma	Juniper
Shrubs	
Artemisia tridentata ssp. *tridentata*	Basin big sagebrush
Chrysothamnus spp.	Rabbitbrush species
Ceratoides lanata	Winterfat
Ephedra nevadensis	Mormon tea
Grasses and Forbs	
Astragalus spp.	Milkvetch species
Erigeron spp.	Fleabane species
Elymus cinereus var. *cinereus*	Great Basin wildrye

Table 3.18.3. Species Commonly Associated with Pinyon-Juniper Communities in the VPA*

Scientific Name	Common Name
Elymus smithii	Western wheatgrass
Erysimum asperum	Wallflower
Festuca spp.	Fescue species
Koeleria macrantha	Junegrass
Lupinus spp.	Lupine species
Phlox spp.	Phlox species
Stipa hymenoides	Indian ricegrass

*Plant names follow A Utah Flora (Welsh et al. 1993).

3.18.1.5 MOUNTAIN SHRUB

This association is sometimes called browse, because a large proportion of the species in this association are of high forage and cover value for wildlife. Dominant shrub species include serviceberry, gamble oak, mountain mahogany, snowberry, squaw apple, antelope bitterbrush, and sagebrush (Table 3.18.4). The sagebrush may occasionally grow densely in areas, but generally, it is less than 50% of the overall composition in this association. Common herbaceous species include showy goldeneye, whorled buckwheat, hoary aster, sticky geranium, and a variety of native grasses. Mountain shrub occurs in more sheltered microclimates within the VPA than the sagebrush/perennial grass association.

Table 3.18.4. Species Commonly Associated with Mountain Shrub Communities in the VPA*

Scientific Name	Common Name
Shrubs	
Artemisia tridentata	Sagebrush
Ceanothus spp.	Buckbrush species
Cercocarpus montanus	Mountain mahogany
Amelanchier spp.	Serviceberry species
Purshia tridentata	Antelope bitterbrush
Quercus gambelii	Gamble oak
Ribes cereum	Wax currant
Symphoricarpos oreophilus	Mountain snowberry
Grasses and Forbs	
Agastache urticifolia	Hyssop
Delphinium spp.	Larkspur species
Elymus glaucus	Blue wildrye
Elymus trachycaulus	Slender wheatgrass
Eriogonum heracleoides	Whorled buckwheat

Table 3.18.4. Species Commonly Associated with Mountain Shrub Communities in the VPA*

Scientific Name	Common Name
Eriogonum spp.	Buckwheat species
Erigeron spp.	Fleabane species
Festuca spp.	Fescue species
Geranium viscosissimum	Sticky geranium
Viguiera multiflora	Showy goldeneye
Mahonia repens	Oregon grape
Machaeranthera canescens	Hoary aster
Lupinus spp.	Lupine species
Phlox spp.	Phlox species
Poa spp.	Bluegrass species
Penstemon spp.	Penstemon species
Senecio spp.	Groundsel species
Stipa spp.	Needlegrass species
Trifolium spp.	Clover species

*Plant names follow A Utah Flora (Welsh et al. 1993)

3.18.1.6 Conifer Forest: Conifer/Aspen, Aspen/Forb, and Spruce/Fir

These three smaller vegetation associations combine to form the conifer forest association. The conifer forest association occurs at the highest elevations, mostly at the outer fringes of the VPA, covering approximately 4% of the total land area within the VPA. Douglas fir, spruce, ponderosa pine, and aspen communities are scattered throughout the higher elevations (7,500–10,500 feet). Because of the elevation, cheatgrass is not a significant threat. Elk, deer, and grouse frequently use this association in the summer. Domestic livestock also use this association for its forage and cover resources. Common species are shown in Table 3.18.5.

Table 3.18.5. Species Commonly Associated with Conifer Forest Community in the VPA*

Scientific Name	Common Name
Trees	
Pseudotsuga menziesii	Douglas fir
Abies spp.	Fir species
Picea spp.	Spruce species
Pinus ponderosa	Ponderosa pine
Pinus spp.	Pine species
Populous tremuloides	Quaking aspen
Shrubs	
Ribes spp.	Currant species

Table 3.18.5. Species Commonly Associated with Conifer Forest Community in the VPA*

Scientific Name	Common Name
Rosa woodsii	Wood rose
Salix spp.	Willow species
Sambucus pubens	Elderberry
Symphoricarpos oreophilus	Snowberry
Grasses and Forbs	
Achillea millefolium	Western yarrow
Aquilegia coerulea	Columbine
Delphinium occidentale	Tall larkspur
Elymus trachycaulus	Slender wheatgrass
Frasera speciosa	Green gentian
Festuca spp.	Fescue species
Geranium spp.	Geranium species
Heracleum lanatum	Cow parsnip
Melica bulbosa	Oniongrass
Lupinus spp.	Lupine species
Mertensia spp.	Bluebell species
Phleum alpinum	Alpine timothy
Stipa spp.	Needlegrass species

*Plant names follow A Utah Flora (Welsh et al. 1993).

3.18.1.7 Riparian Areas and Wetlands

Approximately 16,000 acres of floodplains are found along the Green and White Rivers and Bitter, Evacuation, Sweetwater, and Willow Creeks in the Book Cliffs portion of the VPA. The Diamond Mountain portion of the VPA contains 15,650 acres of riparian areas as well as perennial and intermittent streams (BLM 1993b).

The ecological condition of the wetland and riparian areas in the VPA is considered to be threatened by flow alterations, non-native plant species, and grazing. Whitetop and tall whitetop are firmly established in the Green River watershed and in moist places that receive high pressure from recreation. Tamarisk is also well established along the river corridors, and *Phragmites* stands are increasing in size and distribution.

3.18.1.8 Badlands

In the Uinta Basin, badlands are characterized by Mancos shales, which occur as red and gray banded, eroded mudstones and sandstones and shale layers of the Uinta Formation. Mancos shales are high in selenium, and sometimes they have a sandstone cap layer. The badlands association is scattered throughout the resource area, but it comprises only 3% of the total area.

Vegetation on the badlands is very sparse; extensive areas of bare ground occur. Vegetation generally grows in areas where water can collect and at the base of slopes. A few annuals are tolerant of the side slopes in wet years, but such seasons are short. Gardner's saltbush and mat saltbush are the dominant species.

Antelope use these areas for forage and bedding, especially in the winter. Domestic sheep use the shrubs on the base slopes and in transition zones with other vegetation types. Some steeper, vertical slopes and knobs are used by raptors for nest sites. Wildlife use of this community is low in comparison to other communities, but it is relatively important to the wildlife that do use it.

3.18.2 Invasive Species and Noxious Weeds

At least 23,000 acres of noxious and undesirable weeds are a management concern, spreading and becoming a common threat to many areas, within the VPA (BLM 2001). Many large infestations in the area also occur on private and Tribal lands adjacent to or near BLM lands. Of particular management concern are potential and existing populations of invasive species in the oil and gas fields that are receiving increased activity and interest. Human activities, OHV use and vehicles, construction activities, soil disturbance, wind, wildlife movement, and domestic livestock grazing activities can increase the spread and establishment of noxious weeds.

Noxious weeds are identified and recognized by the federal government, the state, and local counties. Within the VPA, the BLM office would control all weeds designated as noxious, as per regulations. For a list of the noxious weeds for the VPA, refer to Table 3.18.6.

The Upper Green River Cooperative Weed Management Area, which includes Daggett County in Utah and Sweetwater County in Wyoming, was formed to manage weeds across lands under various jurisdictions and to pool resources for weed control activities and education. The Uinta Basin Cooperative Weed Management Area was organized in 2003 to meet similar objectives. Current collaborative weed management agencies include the NPS, BLM, USFS, UDWR, Ute Tribe, and SITLA. One result of collaborative efforts is the Red Creek Tamarisk Project. The tamarisk is being controlled both in Wyoming and Utah on the Red Creek watershed.

Russian knapweed, spotted knapweed, Canada thistle, tall whitetop, whitetop, musk thistle, Scotch thistle, and leafy spurge have been singled out as the most invasive species and have become the priority for management and control due to their expanding populations on BLM lands in the VPA. Russian knapweed occurs from Myton to Browns Park with large infestations on private and Tribal lands in the Roosevelt area and the Green River corridor. Also of concern are the increasing populations of Russian knapweed in the oil and gas fields. So far, two populations of spotted knapweed are known: one is located on Diamond Mountain, the other on Blue Mountain. An infestation of diffuse knapweed was located on Blue Mountain, resulting in a special emphasis area for control. One infestation of leafy spurge occurs on BLM lands; however, there are also populations on nearby private land. Canada thistle is a problem in moist areas, especially where livestock use is prevalent. Scotch thistle is coming in as patches scattered throughout the VPA. Whitetop is a problem scattered across the VPA and is increasing in the oil and gas fields. Tall whitetop has major infestations on all land ownerships in all three counties, especially in the Green River corridor.

Henbane and houndstongue are undesirable plants that are targeted by the BLM for control on the VPA due to the increased infestations on native rangelands. These species are prevalent in the Argyle Ridge area, and Nine Mile Canyon. In the Book Cliff portion of the VPA they are prevalent on Seep Ridge and in the Willow Creek watershed. Henbane is a threat in the Browns Park area due to heavy infestations in Wyoming, where it is not controlled.

Russian thistle, halogeton, and cheatgrass are undesirable weed species that occur throughout the Uinta Basin, Clay Basin, and Browns Park. These three plants are already heavily established along the roadsides, and the populations increase with oil field development. Cheatgrass has become so widespread that control efforts are focused on reducing its density through large-scale habitat manipulation programs, and not by individual sprayings. In 1992, a cheatgrass inventory identified 55,700 acres as having greater than 60% cheatgrass cover, and 162,000 acres were identified as having 10-60% cheatgrass cover. The cheatgrass infestation in the VPA has increased and is a major management concern.

Tamarisk has effectively established itself along all the riparian ecosystems, as well as in patches where moisture accumulates in the desert shrub and sagebrush/grass communities. Some control has been gained over the tamarisk infestations via herbicide use in Red Creek and Browns Park. Some areas of tamarisk within Utah are currently protected as designated critical habitat for the federally endangered southwestern willow flycatcher, which further complicates its management. However, it should be noted that the VPA does not contain designated critical habitat for the southwestern willow flycatcher. Tamarisk was listed as a county noxious weed in Uintah County as of 2003.

Table 3.18.6. Noxious Weeds and Undesired Plant Species

Common Name	Scientific Name	Status	Known Distribution
Bermudagrass	*Cynodon dactylon*	State Noxious Weed	No populations known at this time
Dyer's woad	*Isatis tinctoria*	State Noxious Weed	Found on private land in Duchesne and Uintah Counties
Field bindweed (wild morning glory)	*Convolvulus arvensis*	State Noxious Weed	Occasional. Heavy infestations in farm and city lands
Johnsongrass	*Sorghum halepense*	State Noxious Weed	No populations known at this time
Knapweed, diffuse	*Centaurea diffusa*	State Noxious Weed	One population on Blue Mountain
Knapweed, Russian	*Centaurea repens*	State Noxious Weed	Heavy infestations especially in Pelican Lake area, Green River, Browns Park and adjacent lands to Myton, to Roosevelt. Increasing in the oil and gas fields
Knapweed, spotted	*Centaurea maculosa*	State Noxious Weed	Known populations on Diamond Mountain and Blue Mountain

Table 3.18.6. Noxious Weeds and Undesired Plant Species

Common Name	Scientific Name	Status	Known Distribution
Knapweed, squarrose	*Centaurea squarrosa* or *Centaurea virgata*	State Noxious Weed	No populations known at this time
Leafy spurge	*Euphorbia esula*	State Noxious Weed	Small population on ditch area, some on private lands
Medusahead	*Taeniatherum caput-medusae*	State Noxious Weed	No populations known at this time
Purple loosestrife	*Lythrum salicaria*	State Noxious Weed	Coming into east Duchesne County. No populations known on BLM lands at this time
Quackgrass	*Agropyron repens* or *Elytrigia repens*	State Noxious Weed	Occasional
Tall whitetop (perennial pepperweed)	*Lepidium latifolium*	State Noxious Weed	Very prevalent along all riparian areas and moist patches
Canada thistle	*Cirsium arvense*	State Noxious Weed	Scattered along riparian areas
Musk thistle	*Carduus nutans*	State Noxious Weed	Scattered
Scotch thistle (cotton thistle)	*Onopordum acanthium*	State Noxious Weed	Scattered
Whitetop (hoary cress)	*Cardaria draba*	State Noxious Weed	Very prevalent along all riparian areas and moist patches
Yellow starthistle	*Centaurea solstitialis*	State Noxious Weed	No populations known at this time
Russian olive	*Elaeagnus angustifolia*	Duchesne and Uintah County Noxious Weed	Scattered along riparian areas
Salt cedar	*Tamarix ramosissima*	State Noxious Weed	Riparian areas, seeps, springs, wetlands, wash beds & wash banks, roadsides, stock ponds, occasionally in open areas with high water table
Other Undesirable Plant Species			
Black henbane	*Hyoscyamus niger*	Undesired Plant Species	Very prevalent in Book Cliffs, Nine Mile Canyon, and Argyle
Bull thistle	*Cirsium vulgare*	Undesired Plant Species	Occasional
Buffalobur	Solanum *rostratum*	Undesired Plant Species	No populations known at this time
Camelthorn	*Alhagi camelorum*	Undesired Plant Species	Occasional
Common cocklebur	*Xanthium strumarium*	Undesired Plant Species	Occasional

Table 3.18.6. Noxious Weeds and Undesired Plant Species

Common Name	Scientific Name	Status	Known Distribution
Common crupina	*Crupina vulgaris*	Undesired Plant Species	No populations known at this time
Goat's rue	*Galega officinalis*	Undesired Plant Species	No populations known at this time
Jointed goatgrass	*Aegilops cylindrica*	Undesired Plant Species	No populations known at this time
Low larkspur	*Delphinium nuttallianum*	Undesired Plant Species	No populations identified for control. Common native plant
Poison hemlock	*Conium maculatum*	Undesired Plant Species	No populations known at this time
Poverty weed	*Iva axillaris*	Undesired Plant Species	Occasional
Purple starthistle	*Centaurea calcitrapa*	Undesired Plant Species	No populations known at this time
Silverleaf nightshade	*Solanum elaeagnifolium*	Undesired Plant Species	No populations known at this time
St. John's wort	*Hypericum perforatum*	Undesired Plant Species	No populations known at this time
Velvetleaf	*Abutilon theophrasti*	Undesired Plant Species	No populations known at this time
Water hemlock	*Cicuta douglasii*	Undesired Plant Species	No populations identified for control. Common native plant
Wild proso millet	*Panicum miliaceum*	Undesired Plant Species	No populations known at this time
Yellow nutsedge	*Cyperus esculentus*	Undesired Plant Species	No populations known at this time
Toadflax, Dalmatian	*Linaria dalmatica*	Undesired Plant Species	No populations known at this time
Toadflax, yellow	*Linaria vulgaris*	Undesired Plant Species	One population known in Chipita
Whorled or poison milkweed	*Asclepias subverticillata*	Undesired Plant Species	Occasional
Halogeton	*Halogeton glomeratus*	Undesired Plant Species	Numerous infestations
Cheatgrass	*Bromus tectorum*	Undesired Plant Species	Numerous major infestations
Houndstongue	*Cynoglossum officinale*	Undesired Plant Species	Very prevalent in Book Cliffs, Nine Mile Canyon, and Argyle
Common teasel	*Dipsacus fullonum*	Undesired Plant Species	Becoming common along Upper Green River

3.19 VISUAL RESOURCES

The current management objective for visual resources is to manage the public lands in such a way as to preserve those scenic vistas that are deemed most important and to design or mitigate all visual intrusions so that the intrusions do not exceed the established Visual Resource Management (VRM) class objectives. Activities within the VPA that could potentially cause visual intrusions and have an impact on scenic quality are primarily surface-disturbing activities, including minerals exploration and development, OHV use, trail and/or road development, and fire management.

3.19.1 VISUAL RESOURCE MANAGEMENT (VRM) CLASSES

The BLM uses the VRM system to inventory, manage, and set objectives for visual resources. The VRM system uses visual management classes (Class I through IV, Class I and Class II being the most protective) to designate permissible levels of landscape alteration, with the broad goal of protecting the visual quality of public lands. The assignment of VRM classes is based on the management decisions made in the RMP. All actions proposed during the RMP process that would result in surface disturbance must consider the importance of the visual values and the impacts that proposed actions could have on these values. The VRM class objectives are described in Appendix J. However, a brief summary of the VRM classes objectives are: VRM Class I: preserve the existing character of the landscape; VRM Class II: retain the existing character of the landscape with a low level of landscape change; VRM Class III: partially retain the existing character of the landscape with only moderate change to the landscape: VRM Class IV: major modifications are allowed to the existing character of the landscape, and the level of change can be high.

An area is assigned a VRM class objective based on its scenic quality, the level of visual sensitivity of the area, and the viewing distance of the area. Once an area has been assigned a VRM class, the area classification can be used to determine the impacts of proposed activities on visual resources and to analyze the level of disturbance that an area can tolerate before the proposed activity exceeds the VRM objectives for the area (BLM 1992).

3.19.2 REGIONAL OVERVIEW

The entire VPA has been visually inventoried and classified according to the VRM classification system. As the VPA is located in the Uinta Basin, its visual quality is diverse, ranging from areas that are visually homogeneous to areas with unique and spectacular visual quality. The areas of highest scenic quality are found along the Book Cliffs, in the Bitter Creek Drainage, along portions of the White and Green River corridors, within the Browns Park ACEC, in the vicinities of Red Mountain and Diamond Mountain, and areas that border Dinosaur National Monument (Bartel 2002; see Figure 32 in the Maps section).

Areas being managed as VRM Class I include: Winter Ridge, Bull Canyon, West Cold Springs, Diamond Breaks, and Daniels Canyon WSAs, and the Book Cliffs Mountain Browse Natural Area/Instant Study Area (ISA).

Areas being managed as VRM Class II are: Nine Mile Canyon, the Upper Book Cliffs, the White River Corridor, the Upper Green River and the Green River Corridor from Dinosaur National Monument to State Highway 40, and Red Mountain-Dry Fork ACEC.

The remainder of the VPA is being managed as either VRM Class III or VRM Class IV.

Throughout the VPA, unmanaged OHV use is visually evident which, although localized, is long-term. New roads and trails are being created by OHV use, and OHVs are cutting trails across and over highly visible ridgelines. At present, the only area managed for OHV use is near Fantasy Canyon (including Devils Playground). The areas of highest OHV use (and corresponding visual degradation) are:

1. in the vicinity of Buckskin Hills, north of the town of Vernal;
2. an area to the north of Red Wash, in the vicinity of Bourdette Draw; and
3. an area south of the Bonanza Power Plant and north of the White River corridor.

Throughout the VPA, the rapid increase of petroleum and natural gas exploration and extraction are also visually evident. However, through visual mitigation and careful placement of drilling well pads, this development is not presently exceeding VRM class objectives.

The proximity of intense exploration and development near areas of high scenic quality and the increasing number of people seeking recreation in the VPA are creating resource-use conflicts, particularly in the White River corridor and the Book Cliffs Divide.

3.20 Wild Horses

This section describes the affected environment concerning wild horses in the Bonanza Herd Area (HA), the Hill Creek HMA, and the Winter Ridge Herd Area (HA). Approximately 2,340 animal unit months (AUMs) are currently allocated to support 195 horses in the Hill Creek Herd Area. No forage has been allocated for horses in the Bonanza Herd Area and the Winter Ridge Herd Area.

3.20.1 Bonanza Herd Management Area

In 1984, the wild horse population in the Bonanza Herd Area was estimated at approximately 40 horses (BLM 1985a). Prior to completion of the 1985 Book Cliffs RMP, plans were discussed to limit the herd to approximately 50 horses. However, the final decision was to remove all wild horses because of management conflicts. The rationale for the decision was based on unresolved conflicts associated with the manageability and protection of the horses. There was a perception that the horses could not be managed to achieve and maintain a thriving natural ecological balance, as required by the Wild Horse and Burro Act (BLM 2001).

In 1986, the BLM conducted a wild horse gather within the Bonanza HA. The Ute Tribe filed a complaint alleging ownership of the gathered horses. A national organization, Wild Horse Organized Assistance (WHOA), notified the BLM that if all of the horses were removed they

would bring suit against the BLM, citing as precedent an Interior Board of Land Appeals decision disallowing total removal from a herd area in Nevada. Consequently, the horses removed during the 1986 gather were returned to the Ute Tribe, based on Consent Decree 86-C-0821G issued by the United States District Court, Central Division. In turn, the Ute Tribe relinquished all claims on 13 wild horses within the herd area that had not been gathered. As part of the court order, and at the intercession of WHOA, the Ute Tribe agreed to deliver 26 unbranded wild horses to the BLM from the Pyramid Lake Paiute Reservation in Nevada. These horses were subsequently released into the Bonanza HA.

In 1998, as a result of detection of equine infectious anemia (EIA) disease in horses gathered by the Ute Tribe from lands adjacent to the HA, the BLM, the Animal Plant Health Inspection Service (APHIS), the Utah Department of Agriculture and Food, and the Ute Tribe entered into an agreement to gather and test all horses in the Uinta Basin, including the Bonanza horses, for EIA. In 1999, the BLM gathered the Bonanza wild horses and tested them for EIA. Some wild horses tested positive for EIA, were subsequently disposed of, and in June 2000, 72 disease-free horses were returned to the HA.

As mentioned above, in July 2001 the Book Cliffs RMP decision regarding the Bonanza HA was amended. The amended plan established the herd area as a herd management area (HMA) and provided guidelines for the long-term management of wild horses at an appropriate management level (AML) of 85 horses. However, the Bonanza herd (at a population of 92 individuals) was gathered in November 2001 to comply with a court order, which required the BLM to remove all of the wild horses from the HMA. The horses were placed either in the BLM's Adopt-A-Horse program or in sanctuaries.

Approximately 16 miles of the western boundary of the Bonanza HA (fenced) abuts the Uintah and Ouray Indian Reservation.

3.20.2 WINTER RIDGE HERD AREA

According to the 1985 Book Cliffs RMP, the Winter Ridge wild horses were to be gathered and removed; however, the decision has not been implemented. The rationale for the 1985 decision to remove this herd was that the area might not be suitable habitat for wild horses. Because of the high elevation of the area, deep snow (24-40 inches annually) can accumulate during the winter months, putting a wild horse herd in this area at risk. In 2003, 40 wild horses were gathered and removed from the Winter Ridge Herd Area to ease stress on native rangelands caused by grazing and to maintain the well-being of the wild horses remaining in the area.

This herd area is bordered by state grazing allotments that permit domestic horses to graze. Currently, there is little or no fencing between the state and federal allotments. Should Winter Ridge be designated as an HMA, a fenceline agreement may need to be negotiated between the state, the permittee, and the BLM to minimize possible trespass situations between wild and domestic horses, or the BLM may need to negotiate with the state of Utah to eliminate domestic horses from those adjacent state allotments.

3.20.3 HILL CREEK HERD MANAGEMENT AREA

The Hill Creek Extension of the Uintah and Ouray Indian Reservation separates the Hill Creek HMA into two parts: the northwestern and the southeastern.

In 2001, lands within the northwestern part, known as Naval Oil Shale Reserve Number 2 (NOSR-2) lands, were transferred to the Ute Tribe. Until the date of transfer, the BLM managed the surface resources on these lands, including wild horses, but the transfer allowed the Ute Tribe to manage, protect, and assert control over any horse located or found within the boundary of this parcel. The northern boundary of the transferred parcel is unfenced, so wild horses and Tribal horses, particularly those on either side of the unfenced boundary have been intermingling. Tribal and wild horses can potentially intermingle even in areas where fences exist: most existing fences are in need of maintenance or replacement.

As a result of the transfer of the NOSR-2 lands, the Hill Creek HMA can no longer be managed as one unit without greatly impacting Tribal lands. Thus, for the purposes of analysis in the VPA, the Hill Creek HMA will be considered as two herd areas: 1) Hill Creek Northwest/Wild Horse Bench and 2) Hill Creek Southeast/Agency Draw.

3.20.3.1 HILL CREEK NORTHWEST/WILD HORSE BENCH

The transfer of the NOSR-2 lands to the Tribe resulted in the reduction of the HMA by 48,000 acres, or approximately 35%. This part of the HMA was estimated to contain approximately 50-60% of the total wild horse habitat. In the Wild Horse Bench portion of the Hill Creek Herd Area is a resident herd of approximately 100 horses, composed of several bands.

Livestock grazing within the HMA has been permitted to the Ute Tribe, although the Tribe has not used this allotment for over twenty years. The livestock grazing allotment is called Lower Showalter.

Wild horses are also currently using an area north of and adjacent to the HMA, bordered on the east by Tribal Lands and on the west by the Green River. Comprising approximately 30,347 acres, the horses have established home ranges there. Up until now, the area has not been considered crucial to the long-term survival of the herd and was not included in the original delineation of the HMA (BLM 1983a).

3.20.3.2 HILL CREEK SOUTHEAST/AGENCY DRAW

This portion of the Hill Creek HMA comprises approximately 55% private land (owned by Utah Oil Shale Corporation), 35% BLM land, and 10% state land. Maintaining wild horses in an area in which 65% of the land is in non-federal ownership could severely limit the ability of the BLM to manage them. If the BLM were requested to remove the wild horses from the private and state land, Southeast/Agency Draw would essentially be split into two parts. However, in the past, these two owners have not objected to wild horses grazing their land.

The HMA is bordered on the south by Tribal lands. In this area, horses move freely between public and Tribal lands. As Tribal lands are higher in elevation, during the winter season, horses tend to move from Tribal lands in the south onto public lands to the north. As a result of this seasonal migration, winter census counts for the HMA are typically two to three times higher than late summer counts (150-170 horses in winter, compared to 40-50 in summer). During the summer, the few springs and ponds in the herd area provide only enough water to support a resident herd of 40-50 horses, and so the majority of the horses move back to the Tribal land at that time. The population estimate for BLM/Tribal horses that use this portion of the HMA is presently unknown. The BLM and the Tribe gathered over 510 horses from this general area in 2002–2003 because drought conditions were negatively impacting the herds and range conditions.

Similar to horses in the Wild Horse Bench area, horses in the Agency Draw area are also using land outside the herd area boundary. This 22,865-acre area, Big Pack Mountain, has not been considered crucial to the long-term survival of the herd and was not included in the original delineation of the HA (BLM 1983a). Big Pack Mountain is bordered on its other three sides by private or Tribal lands.

3.21 Wildlife and Fisheries Resources

The terrestrial wildlife species found in the VPA are typical of the intermountain region of the United States. These species include big game species such as mule deer, Rocky Mountain elk, pronghorn antelope, bighorn sheep, moose, black bear, and mountain lion. Additional species of concern in the VPA fall within the general categories of upland game species, raptors, waterfowl and shorebirds, fish and aquatic species, neotropical migrants, and small mammals and reptiles. Wildlife resources in the VPA are currently managed as directed by the Diamond Mountain RMP and Book Cliff RMP. These RMPs focus on managing habitat conditions instead of wildlife populations. Management goals for most wildlife populations in the VPA are determined primarily by UDWR, with the exception of federally protected wildlife populations, which are determined by USFWS. The current VPA RMPs allocate forage for elk, deer, and antelope. Additionally the Diamond Mountain RMP allocates forage for moose and bighorn at the level identified by the UDWR's prior stable numbers and long-term wildlife population management goals. Resource allocations for raptors, reptiles, amphibians, and other non-game species in the VPA are limited to protecting individuals and the habitat of state and federally listed species, and designating spatial and temporal buffers for nesting raptors.

The BLM's management of wildlife habitat in the VPA has had, and will continue to have, an impact on both local communities and those that exist outside of the Uinta Basin. There is considerable regional interest in the overall condition and management of the VPA. In the past, a majority of the local interest has been focused on big-game management and associated recreational activities. In recent years, however, non-consumptive uses in the VPA, such as tourism and wildlife viewing, have been increasing with the continued expansion of Utah's tourism industry. Because many of the wildlife species found in the VPA regularly cross public, private, and tribal lands, a collaborative effort between all land managers and owners has been essential for effective wildlife management in the VPA.

The UDWR has designated five wildlife management units within the VPA to aid in the management of these wildlife species. Seventy-six percent of Unit 17 (Wasatch Mountains) is located outside of the VPA. Of the remaining lands within the VPA designated part of this unit, the BLM administers only 1,245 acres, therefore, the wildlife management goals and objectives relative to this unit were not included in this analysis. The remaining four wildlife management units, and their sub-units, are outlined in Table 3.21.1. UDWR has developed, or is presently developing, wildlife management plans for the aforementioned big game wildlife species as well as fisheries and upland game populations.

Table 3.21.1. Wildlife Management Units within the VPA

Unit/Sub-unit number	Unit/Sub-unit name	Acres of Unit in the VPA	Acres of Unit in the VPA Managed by BLM
8,	North Slope Uinta Mountains	365,651	62,528
8b	West Daggett		(17% of Unit)
8c	Three Corners		
9	South Slope Uinta Mountains	2,775,395	711,092
9a	Yellowstone		(26% of Unit)
9b	Vernal		
9c	Diamond Mountain		
9d	Bonanza		
10	Book Cliffs	1,225,726	652,440
10a	Bitter Creek and Little Creek		(53% of Unit)
11	Nine Mile	706,163	296,756
11a	Anthro		(42% of Unit)

3.21.1 Wildlife Associated with the VPA

3.21.1.1 Mule Deer

Mule deer occupy most ecosystems in Utah but generally attain their greatest densities in shrublands in areas characterized by rough, broken terrain and abundant browse and cover. Many mule deer populations migrate between summer and winter ranges. Mule deer summer range habitat types on BLM-administered lands in the VPA consist primarily of oak, sagebrush, Douglas fir, and Utah juniper vegetation types. Winter range habitat primarily consists of Utah juniper, prickly pear, sagebrush, galleta, greasewood, and Fremont cottonwood vegetation types. Areas of high winter use in the Book Cliffs included areas of open pinyon/juniper woodland interspersed with four-wing saltbush and sagebrush in Lower McCook Ridge, Indian Ridge, and Big Park (Karpowitz 1984).

The amount of overall crucial winter range and the migration corridor for mule deer that the BLM manages is outlined in Table 3.21.2. The target wintering mule deer herd size and annual harvest for these three wildlife management units are described in Table 3.21.3.

Table 3.21.2. Mule Deer Habitat in the VPA

Unit	Overall range		Crucial winter range		Migration corridor	
	Total Area (acres)	Acres Managed by BLM	Total Area (acres)	Acres Managed by BLM	Total Area (acres)	Acres Managed by BLM
Book Cliffs	1,203,853	651,819	355,992	58,361	58,361	47,091
Nine Mile	667,440	262,357	39,959	0	0	0
North Slope Uinta Mountains	349,738	61,526	105,949	0	0	0
South Slope Uinta Mountains	2,774,731	0	479,253	0	0	0
Total	**4,995,762**	**975,702**	**981,153**	**58,361**	**58,361**	**47,091**

Table 3.21.3. Wildlife Management Goals for Mule Deer

Unit Number	Unit Name (subunit)	Estimated Population Size*[1]	Population Objective[1**]	Buck-to-Doe Ratio	Buck Size	Annual Harvest
8b, 8c	North Slope (West Daggett and Three Corners)	5,000	6,200	15:100	30% being 3 point or better	600
9a	South Slope (Yellowstone)	11,200	13,000	15:100	30% being 3 point or better	1,500
9b, 9c	South Slope (Vernal and Bonanza)	10,100	13,000	15:100	30% being 3 point or better	1,000
9d	South Slope (Diamond Mountain)			25:100	30% being 3 point or better	Limited Entry
10a	Book Cliffs (Bitter Creek and Little Creek)	7,200	15,000	25:100	30% being 3 point or better	Limited Entry
11a	Nine Mile (Anthro)	2,950	8,500	15:100	30% being 3 point or better	250

*Some of these units are estimated at about ½ of population objectives due to drought impacts and low productivity.

** Population objectives are updated on an annual basis.

[1] Hersey and Aoude 2006.

3.21.1.2 Rocky Mountain Elk

The season and function of use of elk habitats help distinguish various types of winter ranges, production areas (calving grounds), and/or summer range. Production or calving areas are used from mid-May through June and typically occupy higher elevation sites than winter range. Calving grounds are usually characterized by aspen, montane coniferous forest, grassland/

meadow, and mountain brush habitats, and are generally in locations where cover, forage, and water are in close proximity (Fitzgerald et al. 1994). In western Colorado, for instance, most females calve within 660 feet of water (Seidel 1977). Crucial winter range is considered to be the part of the local deer and elk range where approximately 90% of the local population is located during an average of five winters out of ten from the first heavy snowfall to spring green-up.

The amount of crucial winter range for elk that the BLM manages is outlined in Table 3.21.4. The management goals for these four wildlife management subunits are described in Table 3.21.5.

Table 3.21.4. Rocky Mountain Elk Habitat in the VPA

Unit	Overall range		Crucial winter range	
	Total Area (acres)	Acres managed by BLM	Total Area (acres)	Acres managed by BLM
Book Cliffs	1,006,347	524,893	418,140	207,418
Nine Mile	450,518	171,070	76,996	2,489
North Slope Uinta Mountains	303,644	54,041	51,836	2,975
South Slope Uinta Mountains	1,694,137	251,978	328,916	73,469
Total	**3,454,646**	**1,001,982**	**875,888**	**286,351**

Table 3.21.5. Wildlife Management Goals for Rocky Mountain Elk

Subunit number	Subunit Name	Estimated population size[1]	Population objective[1*]	Bull/cow ratio	Bull age
8a, 8b	North Slope (Summit and West Daggett)	1,295	1,600	8:100	50% of bulls 3½ years or older
8c	North Slope (Three Corners)	1,075	500	8:100	50% of bulls 3½ years or older
9a	South Slope (Yellowstone)	5,600	5,500	8:100	50% of bulls 2½ years or older
9b, 9c, 9d	South Slope (Vernal, Bonanza, and Diamond Mountain)	3,030	2,500	8:100	50% of bulls 2½ years or older
10a	Book Cliffs (Bitter Creek and Little Creek)	3,900	7,500	8:100	50% of bulls 2½ years or older
11a	Nine Mile (Anthro)	1,000	700	8:100	50% of bulls 2½ years or older

[1] Hersey and Aoude 2006.

* Population objectives are updated on an annual basis.

3.21.1.3 PRONGHORN

Pronghorn are common in Utah, where it primarily occurs in desert, grassland, and sagebrush habitats where they feed mainly on browse. Pronghorn are often found in small groups, and are usually most active during the day.

The lower elevations of the VPA sustain several pronghorn herds, which are highly valued by local sportsmen and wildlife enthusiasts. The BLM and UDWR maintain several guzzler systems in these areas to provide a water source for pronghorn during summer months. The pronghorn populations in the VPA have been adversely affected by historic range degradation and habitat loss in the sagebrush steppe habitat type as well as periodic drought conditions. The management goals for the pronghorn herds in these wildlife management units have not been finalized (UDWR 2001). Locations and total acreage of pronghorn habitat managed by the BLM in the VPA are shown in Table 3.21.6. Current population trends are given in Table 3.21.7. Population objectives are not currently available.

Table 3.21.6. Pronghorn Habitat in the VPA

Unit	Total Area (acres)	Acres managed by BLM
Book Cliffs	122,968	85,973
Nine Mile	317,512	179,321
North Slope Uinta Mountains	108,612	57,799
South Slope Uinta Mountains	592,313	410,235
Total	**1,141,405**	**733,328**

Table 3.21.7. Pronghorn Population Trends in the VPA[1]

Subunit Number	Subunit Name	2006 Estimated Population Size	2007 Buck/Doe Ratio	2006 Annual Harvest
8b, 8c	North Slope (West Daggett and Three Corners)	605	59:100	30
9b, 9c	South Slope (Vernal and Bonanza)	205	21-32:100	41
9d	South Slope (Diamond Mountain)	589		
10a	Book Cliffs (Bitter Creek)	283	50:100	7
11a	Nine Mile (Anthro)	327	67:100	22

[1] Hersey and Aoude 2006.

3.21.1.4 BIGHORN SHEEP

Rocky Mountain bighorn sheep can be found in small herds in northern-eastern Utah. Bighorn sheep have experienced significant declines in numbers in the early 1900s due to disease, habitat degradation, and hunting. Bighorn sheep require separation from domestic sheep to prevent the transmission of diseases, against which they have no natural defenses. Utah has been involved in an aggressive program for the past 30 years to restore bighorn sheep to their native habitat. Bighorn sheep currently exist in two areas in northern-eastern Utah, including areas adjacent to BLM-administered lands along the upper Green River, and in the Book Cliffs area. The current population estimate for bighorn sheep along the upper Green River (the West Daggett (8b) and Three Corners (8c) subunits of the North Slope wildlife management unit) is 182 individuals (Hersey and Aoude 2006). The total 2006 bighorn harvest from these management units was 4 individuals. Occasional sightings have also been documented in the Book Cliffs. These herds are all the result of reintroduction efforts and will likely continue to be augmented with additional reintroductions. Additional bighorn sheep reintroductions are proposed in the Browns Park/Diamond Mountain area. Water and vegetation improvements have also benefited these bighorn sheep populations. A management plan for bighorn sheep in the state of Utah has been developed. Locations and acreage of bighorn sheep habitat in the VPA is shown in Table 3.21.8.

Table 3.21.8. Rocky Mountain Bighorn Sheep Habitat in the VPA

Unit	Total Area (acres)	Acres managed by BLM
Book Cliffs	633,271	228,002
North Slope Uinta Mountains	95,751	14,740
South Slope Uinta Mountains	405,481	38,805
Total	**1,134,503**	**281,547**

3.21.1.5 MOOSE

Moose occur in the Rocky Mountains and the northeastern portion of the Intermountain West (Zeveloff and Collett 1988). Prior to 1918, moose were not known to occur in Utah. Since that time, they have been recorded on the north slope of the Uinta Mountains where their numbers have slowly increased. This increase has been attributed to an increase in beaver populations and the subsequent proliferation of marsh areas with which moose are typically associated (Zeveloff and Collett 1988). From the Uinta population, moose have dispersed and/or been transplanted to a variety of locations throughout the state. Although they may range widely across habitat types, moose are primarily associated with boreal forests and riparian areas. Moose are predominantly browsers and rely on the stems, bark, and leaves of a variety of trees and shrubs for forage. Year-round forage includes willow, fir, and quaking aspen. During the summer, grasses, forbs, and aquatic vegetation typically compose a large portion of the moose diet (Zeveloff and Collett 1988).

There are resident populations of moose in the North Slope Uinta Mountains, South Slope Uinta Mountains, Book Cliffs, and Nine Mile wildlife management units. Acreage of habitat in these units is shown in Table 3.21.9. Moose habitat is generally associated with early stages of seral development and shrub growth. Annual flooding and habitat management techniques, such as

prescribed burnings, are thought to improve habitat for moose. Current population trends are given in Table 3.21.10.

Table 3.21.9. Moose Habitat in the VPA

Unit	Total Area (acres)	Acres managed by BLM
Book Cliffs	0	0
Nine Mile	98,090	19,893
North Slope Uinta Mountains	217,029	21,381
South Slope Uinta Mountains	1,095,295	71,342
Total	**1,410,414**	**112,616**

Table 3.21.10. Moose Population Trends in the VPA[1]

Subunit number	Subunit Name	2005 Estimated population size	Population Objective*	2007 Bull/cow ratio	2006 Annual Harvest
8a	North Slope (Summit)	200	400	108:100	37
8b, 8c	North Slope (West Daggett and Three Corners)			115:100	13
9a	South Slope (Yellowstone)	200	225	105:100	8
9b, 9d	South Slope (Vernal and Diamond Mountain)			100:100	3
10a	Book Cliffs (Bitter Creek)	-	100	-	-
11a	Nine Mile (Anthro)	-	40	-	-

[1] Hersey and Aoude 2006.

* Population objectives are updated on an annual basis.

3.21.1.6 Bison

The Ute Tribe maintains an introduced bison population on tribal lands in the Hill Creek portion of the Book Cliffs. These bison can be frequently found on BLM lands adjacent to Ute Tribal lands in the southern Book Cliffs where suitable bison habitat has been identified.

3.21.1.7 Black Bear

In the VPA, black bears are typically associated with forested or brushy mountain environments and wooded riparian corridors and seldom use open habitats (Zeveloff and Collett 1988). Black bears tend to be nocturnal and tend to shy away from human contact. They are generally omnivorous with preferred foods including berries, honey, fish, rodents, birds and bird eggs, insects, and nuts. Black bears obtain most of their meat from carrion. From November to April, bears enter a period of winter dormancy. Winter dens are located in caves, under rocks, or

beneath the roots of large trees where they are kept nourished and insulated by a thick layer of fat (Zeveloff and Collett 1988).

The VPA sustains several large populations of black bear, some of which are traditionally thought to be the highest density black bear population in the state of Utah. A long-term study being conducted by BYU has shown that the black bear population in the Book Cliffs area has local concentrations of individuals in the Horse Canyon, Main Canyon, and Trail Canyon areas. The factors that make these areas support such high bear populations are still being investigated, but initial studies have shown that good habitat conditions with respect to elevation, permanent water sources, cover, and diversity of food, as well as isolation from human disturbance has raised concerns about potential impact on resource development in these areas on these populations (Pers. Comm. Hal Black, 1/13/04). The amount of black bear habitat that the BLM manages in the VPA is outlined in Table 3.21.11.

Table 3.21.11. Black Bear Habitat in the VPA

Unit	Total Area (acres)	Acres managed by BLM
Book Cliffs	232,792	108,291
Nine Mile	156,051	32,144
North Slope Uinta Mountains	155,511	0
South Slope Uinta Mountains	1,044,332	56,304
Total	**1,588,686**	**196,739**

3.21.1.8 Mountain Lion

The mountain lion inhabits most ecosystems in Utah. However, it is most common in the rough, broken terrain of foothills and canyons, often in association with montane forests, shrublands, and pinyon-juniper woodlands (Fitzgerald et al. 1994). Mule deer is the mountain lion's preferred prey species. Consequently, mountain lion seasonal use ranges generally parallel those of mule deer.

Mountain lions are widespread and occur frequently throughout middle and upper elevations of the VPA where populations are considered stable. The amount of winter range for mountain lions that the BLM manages is the same as the mule deer habitat outlined in Table 3.21.2.

3.21.1.9 Upland Species

Upland game in the VPA include populations of Blue Grouse, California Quail, Chukar Partridge, Greater Sage-grouse, Ruffed Grouse, Mourning Dove, Ring-necked Pheasant, Rio Grand Turkey, Merriam's Wild Turkey, and desert and mountain cottontail rabbit. Annual fluctuations for most upland game bird and small mammal populations closely correlate with annual climatic patterns. Mild winters and early spring precipitation during the months of March, April, and May are associated with increases in upland game populations. Warm, dry weather during the early summer, especially in June, is generally considered vital for the survival of newly born young of many upland game species. Ring-necked Pheasant and Greater Sage-grouse

are two upland game species that have experienced a long-term decline as a result of the degradation and loss of important sagebrush steppe and grassland habitat (UDWR 2000). The Greater Sage-grouse is discussed further in the sensitive species section (Section 3.17).

3.21.1.10 WATERFOWL, SHOREBIRDS, AND WADING BIRDS

The VPA is associated with the western portion of the Central Flyway, which guides migrating birds along the Rocky Mountains and the Great Plains. Because of the arid climate of the VPA, migration routes are often associated with riparian corridors and wetland or lake stopover areas. There are several important waterfowl habitats in the VPA including the Pariette Wetlands, Pelican Lake, and the Green and White rivers. Waterfowl, shorebirds, and wading bird populations are primarily associated with the Pariette Wetlands, Ouray National Wildlife Refuge, and other wetland areas such as Browns Park waterfowl management area (WMA), Mallard Springs WMA, Stewart Lake WMA, and Pelican Lake. These wetlands are an oasis in the Uinta Basin, surrounded by the harsh, arid desert landscape of northeast Utah. Mallard, Gadwall, Cinnamon Teal, Pintail, and Canada Geese are the most common waterfowl species observed in these areas. Herons, egrets, Black-necked Stilts, and various sandpipers are the more common wading birds seen. Other kinds of birds less frequently seen are American White Pelican, Sandhill Crane, American Bittern, and White-faced Ibis.

The Pariette Wetlands Refuge managed by the BLM includes over 9,000 acres (6,504 acres of desert uplands and 2,529 acres of open water, wetland, and riparian habitat) in Pariette Draw. The wetlands feature a perennial flowing stream, 23 man-made freshwater ponds with alkali bulrush, and other emergent vegetation. The marshes, wet meadows, grain fields, and irrigation structures in Pariette have been constructed to improve available habitat for waterfowl and other wildlife species in the area.

The Ouray National Wildlife Refuge consists of approximately 19 square miles of bottomland and river surface along 12 linear miles of the Green River. The Ouray refuge was originally established to provide habitat for breeding and migrating waterfowl. More specifically, the primary objective was to provide food and cover for 14 species of nesting ducks. While the purpose for which the Refuge was established has not changed, the methods of achieving the purpose have changed. Management strategies today are focused on managing water to mimic the natural floodplains that existed before dams were erected along the Green River. Portions of protective levees throughout the Refuge have been removed to allow more frequent flooding. The river feeds five bottomlands within the river floodplain, including Johnson Bottom, Leota Bottom, Wyasket Lake, Sheppard Bottom, and Woods Bottom, as it winds through the Wildlife Refuge. In late May, as natural flooding occurs, ponds are formed, spurring the growth of semi-aquatic plants which provide food and cover for ducks and other wildlife. In addition, these ponds serve as nurseries for the endangered fish species of the Colorado River system.

3.21.1.11 RAPTORS

There are 20 species of raptors found in the VPA, all of which are federally protected under the Migratory Bird Treaty Act. In addition, several raptor species are Utah State-protected. These raptor species are discussed further in the Special Status Species section (Section 3.17). Special

habitat needs for all of these raptor species include the protection of nest sites, foraging areas, and roosting or resting sites. Buffer zones are usually recommended around raptor nest sites during the early spring and summer when raptors are raising their young. The most utilized raptor nesting habitats in the VPA are generally found along riparian areas, juniper-desert shrub transition areas, and cliff faces.

An inventory of raptors within the Vernal Field Office boundary was completed in August 2003 by Utah State University – Uinta Basin. This study focused on determining the nesting requirements and the seasonally important raptor habitats located on public lands within the VPA boundary. GIS locations and the demographics of each raptor nest site identified during the inventory were recorded. This information was added to an expandable GIS database that will track nest site and other important raptor habitat locations. Special habitat needs relative to raptors are generally associated with limiting disturbance during the nesting season and maintaining small mammal populations as a prey base. Electrocution from power lines and environmental contaminants continue to be a threat to some raptor species in the VPA.

3.21.1.12 Other Non-Game Species

Because of the variety of habitats found within the VPA, the VPA contains a high diversity of non-game species such as neotropical migrants and other birds, small mammals, amphibians, and reptiles. The VPA contains various riparian, marsh, talus slope, aspen-conifer, pinyon-juniper, and ridge top habitats used by these wildlife species. A list developed by the USFWS, UDWR, Partners in Flight of neotropical migrants, and other sensitive bird species found in the VPA is provided in Appendix H, Table 33. Other common neotropical migrants and other bird, small mammal, amphibian, and reptile species to the VPA include the American Crow, American Kestrel, Black-capped Chickadee, Common Raven, Green-tailed Towhee, Horned Lark, House Finch, Song Sparrow, Vesper Sparrow, Western Kingbird, Western Meadowlark, black-tailed and white-tailed jackrabbits, golden-mantled ground squirrel, raccoon, red fox, coyote, common sagebrush lizard, common side-blotched lizard, gopher snake, and greater short-horned lizard. Several small mammal, amphibian, and reptile surveys have been conducted in the VPA. Many of these non-game species are also harder to study and monitor because of low population sizes and/or secretive behavior. However, the BLM is acquiring basic habitat and population information on non-game species listed by state and federal agencies as special status species.

Neotropical migrants, small mammals, amphibians, and reptiles often have special habitat needs. Areas in the VPA with the highest concentrations and diversity of these species are generally associated with riparian areas. Amphibian populations have been shown to be particularly susceptible to disturbance activities and increases in chemical pollutants in their habitats. A study of the reptile, amphibian, and small mammal species found in the Book Cliffs area was conducted by Brigham Young University in 1995 and 1996. These studies concluded that a large proportion of small mammals and all amphibian species in the study area had the potential to be significantly impacted by grazing in riparian and wetland areas. Most of the reptile species were associated with talus slopes and rock faces and appeared to be at little risk from all conceivable management options. Additionally, the UDWR has identified that many neotropical migrants rely on riparian areas and corridors for nesting and migration purposes.

3.21.1.13 FISHERIES AND AQUATIC SPECIES

The riparian and aquatic habitat in the VPA is generally associated with the Green and White river drainages. Aquatic species in the VPA include several special status fish species such as bonytail, Colorado pikeminnow, humpback chub, razorback sucker, roundtail chub, bluehead sucker, Colorado River cutthroat trout, and flannelmouth sucker, which are discussed further in the special status species section. The Green and White rivers provide critical habitat for several of these fish species. A primary concern with the riparian areas in the VPA is the effect of decreased regeneration of cottonwood and willow stands and the invasion of non-native plant species such as salt cedar (*Tamarix* sp.*)* and Russian olive (*Elaeagnus angustifolia*) on riparian and aquatic wildlife species.

There are several important cold- and warm-water fisheries within the VPA, including Matt Warner, Calder, Crouse, Steinaker, Red Fleet, Cottonwood, and Brough reservoirs; Pelican Lake; and the White and Green rivers and their tributaries. Most of the reservoirs in the resource area are managed as cold-water fisheries and are stocked with salmonids by the UDWR. The Green River below Flaming Gorge Dam and Pelican Lake have been designated by the state of Utah as waters to be managed under the Blue Ribbon Fisheries Initiative because of the quality angling they provide. The Pariette Wetlands have also been identified as an important aquatic area in the VPA. However, maintenance of the nonnative fisheries associated with the VPA have adversely impacted the recovery of several special status fish species found in the VPA, including the Colorado River cutthroat trout, bonytail, Colorado pikeminnow, humpback chub, and razorback sucker (Hawkins and Nesler 1991).

Aquatic species are often used as indicator species of ecosystem health. These species often need protection from resource utilization such as recreation, grazing, mineral extraction, and invasive non-native species. These species may be impacted by resource management decisions made outside the VPA (e.g., the operation of Flaming Gorge Dam on the Green River).

3.21.2 HABITAT FRAGMENTATION

Habitat fragmentation is a process that causes the disruption and transition of once large continuous blocks of wildlife habitat into less continuous habitat, primarily through human disturbances such as land clearing and other surface disturbances, and the conversion of vegetation from one type to another. Wildlife habitats in the VPA include aquatic, riparian, grassland, desert shrub, badlands, sagebrush steppe, pinyon/juniper woodland, mountain shrub, and conifer forest. These vegetation types are also discussed further in the Vegetation Section. Fragmentation of these habitat types due to activities such as oil and gas development, road and pipeline construction, fence construction on rangelands and dam construction on waterways, or other resource development and land conversion can have a number of detrimental impacts on wildlife species. Habitat fragmentation generally results in some direct impact on wildlife from the initial loss of habitat associated with the alteration. Additional indirect impacts of this habitat loss may also affect the surrounding habitats by increasing the amount of transitional and avoidance space associated with the surrounding habitats. Increasing the edge habitats has been shown to accelerate ecological processes, increase the ability of invading plant or animal species to becoming established in the interior of the patch, and decrease functional habitat use for a variety of wildlife species. Interior species also become more vulnerable to decreasing chances

of successful dispersal from occupied patches and colonization to unoccupied patches because of the decreased size and connectivity of the patches.

The VPA presently contains large areas of disturbed wildlife habitat. Fragmentation has become an issue in areas where mineral, agriculture, and other types of land development is currently occurring. Reducing the effects of habitat fragmentation on wildlife species include determining thresholds for disturbance, conserving existing habitats on an ecosystem level, providing usable corridors between neighboring patches, and controlling the invasion of undesirable species into these refuges. UDWR maintains a database that identifies important areas for many of the game and sensitive species in the VPA including intact riparian areas, important habitats for mule deer, Rocky Mountain elk, Greater Sage-grouse, Ferruginous Hawk, black-footed ferret, etc. The impacts on wintering mule deer and other big game animals from an increasing density of natural gas wells, roads, and associated human activities in the northern Book Cliffs area was analyzed in a four-year baseline study (1998–2002) by the UDWR. The UDWR identified that accelerated oil and gas development in the Book Cliffs area has the potential to further displace big game animals and increase habitat fragmentation during the winter period, thereby lowering the relative carrying capacity of the range. The UDWR recommended that this baseline study be continued for an additional three years to establish long-term distributional trends of wintering big game populations and to determine the potential impact that oil and gas development may have on these populations in the north Book Cliffs area. Efforts will continue to be made to identify and maintain existing important habitats and their interconnecting corridors. A description of the existing habitat fragmentation can be found in Tables 20 to 32 in Appendix H.

3.22 Woodlands and Forest Resources

3.22.1 Regional Overview

Woodland resources comprise lands producing forest tree species that may be used as non-sawtimber products and sold in units other than board feet. By contrast, forest resources are used for sawtimber products and may be sold in board feet. For management purposes in the VPA, forest resources have been grouped with woodland resources.

Woodland resources within the VPA begin at mid-elevations, where sagebrush communities of the lower, more arid areas become dominated by pinyon pine and juniper (5,000 to 8,000 ft). Generally, woodland resources within the VPA consist of pinyon pine, Utah juniper, and Gambel oak. Forest species, the source of most forest resources, are found at higher elevations (Colorado Plateau 2002). Forest resources include ponderosa pine, aspen, Douglas fir, and minor quantities of spruce, white fir, limber pine, and subalpine fir. The stands with commercial value are located south of the town of Myton, in the Five Mile, Trail Canyon, and Big Wash areas; the south Diamond Mountain Rim; the northern slopes of Diamond Mountain; in Browns Park, near Diamond Mountain; in the drainages that flow into Argyle Canyon; and the southern portions of the Book Cliffs (BLM 1990, 2002).

In the southern part of the VPA, in the vicinity of the Book Cliffs, the principal woodland species consist of pinyon pine, Utah juniper, and Rocky Mountain juniper. High-production

areas containing these species generally have slopes of less than 25% and have not been recently burned. In the higher elevations, Douglas fir and aspen generally grow on northern and eastern slopes (at 6,000–8,500 feet) and at the heads of canyons, where soil moisture is near the surface. Cottonwoods grow along the White and Green River bottoms and generally do not grow more than 100 yards from the rivers' edges. Stands also include Russian olive and tamarisk. Mature, single-storied stands of cottonwood grow along old river channels, oxbows, and sandbars. Some areas near Diamond Mountain in the northern portion of the VPA support forest species such as Douglas fir, ponderosa pine, and aspen. Douglas fir is the dominant species in these higher elevation areas, composing up to 70% of the canopy coverage (Diamond Mountain MSA 1990). Approximately 2,000 acres of ponderosa pine exist here as well, some as relict stands.

3.22.2 Woodland and Forest Products

The most desirable woodland and forest products, sought after by both commercial and private interests, include sawtimber, fuelwood, posts, and Christmas trees. Interest in biomass is increasing and is expected to continue to grow as new uses and technologies develop. There is also a limited demand for other woodland products such as shrubs, trees, and seeds. The demand for woodland products continues to increase; however, the ability to satisfy the demand for woodland products is limited by the available woodland resource.

Commercial sales or commercial harvesting of forest resources are permitted by the BLM., Douglas fir, ponderosa pine, limber pine, aspen, and cottonwood trees may be sold in designated areas to protect forest stands from disease or to prevent wildland fires (BLM 1996).

Historically, pinyon pine has been the preferred species for fuelwood, but juniper has become popular as well. In the past, both of these woodland species were harvested following chainings, but most of the wood within these areas has been removed. Cutting of green wood is now a more common practice for commercial woodcutters.

Trees used as posts are generally found on the more productive, pinyon-juniper sites, where the soils are deep and well drained. Trees suitable for posts have become more difficult to find because they have been searched out and cut by local residents for many years. The areas where significant numbers of post-trees still grow are remote and not easily reached.

The annual demand for cut Christmas trees remains high, but the quantity of good-quality pinyon pine, the Christmas tree of choice, is limited (BLM 2002). Demand for Christmas trees from the VPA is primarily local, but each year, enough trees are sold to only partially satisfy local demand. Past sales of Christmas trees for personal use have been limited to approximately 600-800 trees. Live pinyon pine are also sold for landscaping.

Current management of woodland resources focuses on prescribed burns, burning of slash piles, and commercial and personal greenwood sales of pinyon pine and juniper. The BLM monitors commercial woodcutting periodically to ensure that woodcutters remain in compliance with permit stipulations.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1. INTRODUCTION

This chapter presents the environmental consequences of the management actions proposed under the five alternatives and the Proposed RMP described in Chapter 2. These management actions were developed as alternative ways of resolving the issues that pertain to current Vernal Field Office (VFO) management and allocation of public land resources, their use, and protection. Decisions by the Bureau of Land Management (BLM) about resource use and management in the Vernal Planning Area (VPA) will be based on this issue analysis.

Alternative A would protect important environmental values and sensitive resources while allowing the development of oil and gas resources, recreational facilities, and other human uses. Alternative B would emphasize direct human actions. Alternative C would minimize human activities within the VPA. Alternative D (No Action) would be a continuation of existing management practices defined in the Diamond Mountain Resource Management Plan (RMP) and in the Book Cliffs RMP. Alternative E would emphasize the protection of all non–Wilderness Study Area (WSA) lands with wilderness characteristics. The Proposed RMP is a combination of decisions pulled from the various alternatives that best meet the goals and objectives of the plan.

This RMP/environmental impact statement (EIS) provides a landscape-scale, "big picture" level of analysis, and in most cases, the exact locations of projected development and other changes are not known at this time. Impacts for each specific resource or resource use presented in Chapter 3 are described under each alternative and by each issue that would affect that resource. Impacts are defined as modifications to the existing environment brought about by implementing an alternative. Impacts can be beneficial or detrimental, can result from the action directly or indirectly, and can be long-term, short-term, temporary, or cumulative in nature.

For the analysis, BLM staff has used existing data, current methodologies, professional judgments, and projected actions and levels of use. The analysis takes into account the mitigation measures and stipulations described in Chapter 2. If impacts are not discussed, the analysis has indicated that none would occur or their magnitude would be negligible.

Impacts from actions to be carried out under more than one alternative are discussed under the first applicable alternative and the Proposed RMP. This discussion then is referenced under the other pertinent alternatives and the Proposed RMP.

4.1.1. ANALYTICAL ASSUMPTIONS

The following are the general assumptions used for issue assessment under all alternatives and the Proposed RMP. Assumptions associated with a single issue (e.g., wildlife habitat) are included within the alternative discussion for that issue.

- All resource actions recognize valid existing rights.

- The entire planning area is assigned one of the following leasing constraints for oil and gas development:
  - Open to oil and gas leasing subject to standard lease terms
  - Open to oil and gas leasing subject to moderate constraints (TL/CSU)
  - Open to oil and gas leasing subject to major constraints (NSO)
  - Administratively closed to oil and gas leasing
- The BLM would have the funding and workforce to implement the selected alternative.
- There would be no management decision-related restrictions in the RMP that apply to Utah's State Institutional and Trust Lands Administration (SITLA) lands. The BLM would continue to guarantee reasonable access to inholdings as required by law. Therefore, there should be negligible or minimal economic impact of BLM decisions on SITLA lands.
- Additional National Environmental Policy Act (NEPA) analysis would be required to determine the impacts from site-specific actions (activity plans) and to identify additional mitigating measures.
- All lands identified for disposal are free of encumbrances and can be disposed. This includes cultural resource clearances.
- Demand for recreational activities (both dispersed and concentrated), energy production, vegetative resources and wildlife (non-consumptive and consumptive) use would increase.
- Short-term impacts are those that would last for fewer than five years.
- Long-term impacts are those that would last for five years or more.
- State highways and county roads through the VPA will remain open for access.
- All decisions, projects, activities, and mitigation for the alternatives would be completed as described in Chapter 2 and Appendix K (Surface Stipulations Applicable to all Surface-disturbing Activities).
- Acreages were calculated using GIS technology and there may be slight variations in total acres between disciplines. These variations are negligible and will not affect analysis.
- The Hill Creek Extension (188,500 acres) was not leased in the Book Cliffs RMP and therefore is not included in the total acreage calculations of Alternative D (No Action).
- Reasonable access to state lands, across BLM lands, would be provided under all alternatives.

4.1.2. Assumptions and Methodology for Minerals Development

In 2002, the BLM prepared a projected reasonable foreseeable development (RFD) scenario to project environmental impacts across a 15-year period; this RFD has been modified (2008) for oil and gas development only to project environmental impacts for up to 5 years. Development projections included in-depth reviews of potential for occurrence, past well production, current well production, and future potential for production. During the pendency of this planning effort (beginning with public meetings in 2001 and 2002 for scoping purposes through the notification in the Federal Register on January 14, 2005, of the availability of the Draft RMP/EIS), the RFD

scenario, which is a planning tool and not a prediction or limit to development, did not track completely with the pace of development in the Uinta Basin. The BLM has carefully monitored industry trends and believes that the RFD used as an analytical tool in this Proposed RMP can be considered accurate up to approximately 5 years from the time the Record of Decision (ROD) is signed. Within the next five-year timeframe, the BLM will monitor the impacts to resources of continued development in the VPA and ensure that the impacts disclosed in this Proposed RMP are not exceeded by the pace of development.

The potential for occurrence and future oil and gas activity is presented in Table 4.1.2. This activity includes potential mineral development on state, private, U.S. Forest Service (USFS), tribal, BLM, and U.S. Fish and Wildlife Service (USFWS) administered lands within the planning area. Table 4.1.3 shows present and historic cumulative surface disturbance for all lands. Tables 4.1.4a and 4.1.4b describe the cumulative surface disturbance for the RFD.

Predicted surface disturbance for oil and gas development by alternative and the Proposed RMP on BLM lands only was calculated by multiplying the percent of BLM lands open for development under each of the alternatives and the Proposed RMP by the total number of wells predicted for all lands. The resultant number of wells was multiplied by surface disturbance assumptions per well (Table 4.1.1) to arrive at total disturbance (See specific resource chapters for applicable calculations). It should be noted that the total number of wells cited in the RFD report do not represent upper limits on the number of wells that could be drilled in the VPA during the life of the plan. The RFD well totals were developed for the purposes of assessing impacts for decision-making. The total number of wells permitted will be determined through site-specific NEPA analysis of field development projects.

Table 4.1.1. Disturbance Assumptions

Management Activity	Disturbed Acres
Access road construction	0.20 mile per well (0.73 acres surface disturbance per well)
Well pad construction	2.4 acres surface disturbance per well 0.9 acre surface disturbance per well will be reclaimed within 1 year after completion of operations
Existing pipeline systems	Gathering/Injection Lines: 0.47 acre surface disturbance per well (producing, shut-in, temporarily abandoned, and service wells) Transmission Lines: 0.15 mile per well (producing, shut-in, temporarily abandoned, and service wells). 0.79 acre surface disturbance per well (producing, shut-in, temporarily abandoned, and service wells). Approximately 1/3 of pipeline surface disturbance will be reclaimed in short term.
Power lines	Ten (10) percent of wells (producing, shut-in, temporarily abandoned, and service wells) will have electrification. Where power lines are present, the length will approximate access road length. Existing activity accounts for approximately 73 miles of power lines. Future development activity will result in approximately 119 additional miles of power lines. There will be approximately 0.25 acre of surface disturbance per mile of power line.

Table 4.1.2. Potential for Occurrence and Future Oil and Gas Activity

Development Area	Predicted Gas Wells	Predicted Oil Wells	Predicted Coal-bed Natural Gas Wells
Manila-Clay Basin	45	0	0
Tabiona-Ashley Valley	0	30	0
Altamont-Bluebell	250	175	0
Monument Butte - Red Wash	3,100	1,700	0
West Tavaputs	350	75	50
East Tavaputs	600	75	80
Totals	**4,345**	**2,055**	**130**

Table 4.1.3. Related Oil and Gas Activity Surface Disturbance—Present and Historic Activity

Type of Disturbance	Short-term		Life of Activity	
	Miles	Acres	Miles	Acres
Producing Oil Wells		1,146		1,718
Producing Gas Wells		1,212		1,818
Shut-In Oil Wells		198		296
Shut-In Gas Wells		157		235
Service Wells		336		504
Shut-In Service Wells		30		44
Temporarily Abandoned Wells		167		251
Abandoned Wells		284		426
Plugged and Abandoned Wells		1,080		1,621
Access Roads			1,043	8,688
Pipeline Gathering Systems				1,906
Transportation Pipeline Systems	608	1,057	608	2,147
Compressor Stations				66
Power Lines			73	18
Totals	**608**	**5,667**	**1,724**	**19,738**

Table 4.1.4.a Related Oil and Gas Activity Surface Disturbance—Future Activity

Type of Disturbance	Manila-Clay Basin				Tabiona-Ashley Valley				Altamont-Bluebell			
	Short-term		Life of Activity		Short-term		Life of Activity		Short-term		Life of Activity	
	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres
Producing Oil Wells						27		45		158		262
Producing Gas Wells		41		67						225		375
Access Roads			9	33			6	22			85	309
Pipeline Gathering Systems				21				14				200
Transportation Pipeline Systems	7	12	7	24	5	8	5	16	64	112	64	224
Compressor Stations				2				2				10
Power Lines			1	<1			1	<1			8	2
Totals	**7**	**53**	**17**	**147**	**5**	**35**	**12**	**99**	**64**	**495**	**157**	**1,382**

Table 4.1.4.b Related Oil and Gas Activity Surface Disturbance—Future Activity, continued

Type of Disturbance	Monument Butte - Red Wash				West Tavaputs Plateau				East Tavaputs Plateau			
	Short-term		Life of Activity		Short-term		Life of Activity		Short-term		Life of Activity	
	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres
Producing Oil Wells		1,530		2,550		67		113		67		113
Producing Gas Wells		2,790		4,650		360		600		612		1,020
Access Roads			960	3,491			95	346			151	549
Pipeline Gathering Systems				2,256				223				355
Transportation Pipeline Systems	720	1,264	720	2,528	72	125	72	250	113	199	113	398
Compressor Stations				118				13				22
Power Lines			86	22			9	2			14	4
Totals	**720**	**5,584**	**1,766**	**15,615**	**72**	**552**	**176**	**1,547**	**113**	**878**	**278**	**2,461**

4.1.3. ASSUMPTIONS AND METHODOLOGY FOR AIR QUALITY MODELING

Air quality modeling for this document is based on the initial acreages proposed for Alternatives A, B, C, and D in June and July 2004. Alternative E was formulated later than the other Alternatives and was determined to be the same as C, but managing for non-WSA lands with wilderness characteristics. For the purposes of the air quality analysis, Alternative E is assumed to be the same as C. Similarly, the assumptions relevant to oil and gas development as they pertain to air quality are identical for the Proposed RMP and Alternative A. Projected well numbers and road-related air quality impacts were based on these proposed acreages. The total acreages for potential mineral development for Alternatives A, B, C and D have changed somewhat over time as additional considerations and information has been brought forward through the assessment process. For Alternatives A, B and C/E, and the Proposed RMP, the changes are very small and represent less than 1% difference from the acreages and well numbers modeled for air quality impacts. In the case of Alternative D (No Action), the acreage used in the modeling assessment is approximately 6% greater than that currently available for leasing. This difference is specific to air quality modeling. When the air quality modeling was undertaken, the Hill Creek extension (encompassing approximately 188,500 acres in total) was included in the acreage totals for modeling. However, in the intervening timeframe, it was decided that because the Hill Creek Extension was not leased in the Book Cliffs RMP this acreage should have not been included in the modeling for Alternative D (No Action). Air quality modeling for Alternative D (No Action) does not reflect the withdrawal of the 188,500 acres and therefore exhibits a slight overestimation of air quality impacts for this alternative. Given the conservative nature of the assumptions used and boundary conditions employed for the air quality modeling, these differences are considered to be minor at most and the modeled air quality impacts for these alternatives remain valid.

4.1.4. TYPES OF IMPACTS TO BE ADDRESSED—DIRECT, INDIRECT, AND CUMULATIVE

Direct impacts are attributable to implementation of an alternative that affect a specific resource and generally occur at the same time and place. Indirect impacts can result from one resource affecting another (e.g., soil erosion and sedimentation affecting water quality) or can be later in time or removed in location, but are still RFD. Long-term impacts are those that would substantially remain for many years or for the life of the project. Temporary impacts are short-term or ephemeral changes to the environment that return to the original condition once the activity is stopped, such as air pollutant emissions caused by earthmoving equipment during construction. Short-term impacts result in changes to the environment that are stabilized or mitigated rapidly and without long-term effects, such as surface disturbance that is revegetated immediately after earthmoving is completed. Impacts can vary from a slightly discernible change to a full modification or elimination of the environmental condition. Cumulative impacts could also occur as the result of past, present, and RFD future actions by federal, state, and local governments, private individuals and entities in or near the VPA.

4.1.5. IMPACTS TO CRITICAL ELEMENTS

4.1.5.1. IMPACTS OF ALTERNATIVES ON PRIME AND UNIQUE FARMLANDS

All alternatives and the Proposed RMP in this Final EIS are consistent with the intent of the Secretary of Agriculture Memorandum 1827 for prime land. The project does not include any use of prime farmland nor does it impact any prime farmland soils (NRCS 1990).

4.1.5.2. IMPACTS OF ALTERNATIVES ON INVASIVE AND/OR NOXIOUS NON-NATIVE PLANTS

Vegetation and surface-disturbing activities would occur under all alternatives and the Proposed RMP in this Final EIS. These disturbances all increase the risk of propagation of invasive or noxious non-native plants. However, effective implementation of management actions common to all of the alternatives would prevent the risk from becoming greater than at present and would help to reduce risk in the long-term.

4.1.5.3. INCOMPLETE OR UNAVAILABLE INFORMATION

This analysis was done using the best-available information that is believed to be sufficient for a programmatic analysis of the impacts of multi-discipline decisions on management direction on a planning area-wide basis. This includes but is not limited to landscape level data such as GAP-level vegetation data, State Soil Geographic (STATSGO) data, and field-office information on wildlife habitat boundaries. Additional site-specific data (including cultural resource surveys, TES surveys, etc.) will be required to complete site-specific NEPA analysis necessary prior to implementation of fire and fuel management activities.

4.10. NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

Non-WSA lands with wilderness characteristics are areas having 5,000 acres, or areas less than 5,000 acres that are contiguous to designated wilderness, WSAs, or other lands administratively endorsed for wilderness; or in accordance with the Wilderness Act's language, areas "of sufficient size as to make practicable it preservation and use in an unimpaired condition". These are areas in a natural or undisturbed condition that provide outstanding opportunities for solitude or primitive forms of recreation (non-motorized and non-mechanized activities in undeveloped settings). BLM used the same criteria for determining wilderness characteristics as in the 1979 wilderness inventory. The 5,000 acre value was helpful to BLM in making preliminary judgments, but it was not considered a limiting factor.

The Proposed RMP and all of the alternatives would impact the values of non-WSA lands with wilderness characteristics to some degree. Generally, actions that create surface disturbance adversely affect the natural characteristics of these areas and the setting for experiences of solitude and primitive recreational activities. Motorized uses in these areas detract from opportunities for both solitude and primitive forms of recreation.

Under the Proposed RMP, all or parts of 15 non-WSA lands with wilderness characteristics, totaling 106,178 acres would be managed with emphasis on protection of the areas wilderness characteristics. All or parts of 11 non-WSA lands with wilderness characteristics, totaling 171,418 acres would be managed with emphasis on other resources values and uses. Under Alternatives A, B, C, and D, no non-WSA lands with wilderness characteristics would be managed with specific emphasis on protection of the wilderness characteristics. Under Alternative E, all 25 non-WSA lands with wilderness characteristics would be managed with emphasis on protection of wilderness characteristics on 277,596 acres (see Table 2.1.10.)

The analysis that follows will disclose the effects of the various actions prescribed under the Proposed RMP and each alternative on the wilderness characteristics of non-WSA lands with wilderness characteristics proposed for management and protection of those characteristics and non-WSA lands with wilderness characteristics that are proposed for management with emphasis on other resource values and uses.

4.10.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

4.10.1.1. FIRE MANAGEMENT

Prescribed fire would be used under the Proposed RMP and all alternatives to restore native vegetation communities; to maintain and enhance forage for livestock and wildlife; and to reduce fuel loading to prevent catastrophic wildfires.

Prescribed fire treatments would restore vegetation communities and a more natural or desired composition of forbs, grasses, shrubs, and trees, enhancing a more natural landscape. In the short term, a burned landscape may reduce visitor attraction to non-WSA lands with wilderness characteristics and opportunities for primitive recreation. In the long-term, however, a more

natural landscape would benefit the natural characteristics of the non-WSA lands with wilderness characteristics and enhance the setting and opportunities for primitive forms of recreation, including hiking, backpacking, hunting, wildlife viewing, and nature study. Enhancing forage for wildlife would support and enhance opportunities for primitive recreation, including hunting and wildlife viewing. Reducing fuel loading and the risk of catastrophic wildfire would protect the settings that support primitive recreation opportunities.

In the short term, fire operations (e.g., aircraft over-flights and fire line construction) would adversely impact both the natural landscape and characteristics of non-WSA lands with wilderness characteristics. The noise and presence of the people, equipment, and operations would also reduce opportunities for solitude and conflict with primitive forms of recreation. In the long-term, however, surface disturbance associated with the fire treatment would be restored, with little to no net effect on natural characteristics of the land. The effects of fire operations on opportunities for solitude and primitive recreation would cease, restoring those opportunities. When fencing and seeding are used to aid in restoration of the vegetation community, livestock exclosure fences would have a short-term, temporary impact on the natural characteristics of the non-WSA lands with wilderness characteristics. Introducing a fence would add a human-made structure to the landscape, diminishing the natural characteristics in the short term, and until it is removed.

Wildfire suppression would be permitted in non-WSA lands with wilderness characteristics, with similar impacts as described for prescribed fire above. The suppression operation would result in the same physical disturbances to the land, and thus the natural characteristics of the non-WSA lands with wilderness characteristics. The scale or degree of impact, however, may vary depending on the size and severity of the fire and the resources at risk. The impacts of the noise and presence of people and equipment would also be the same as described for prescribed fire, with variation for size and severity of the wildland fire.

The long-term effects of emergency site reclamation (ESR) on the wilderness characteristics of the non-WSA lands with wilderness characteristics, however, would vary, depending on the ESR objectives and methods employed to achieve those objectives. Restoration of healthy vegetation communities that protect watersheds and support wildlife would enhance the natural characteristics of the non-WSA lands with wilderness characteristics and the settings needed for primitive recreational opportunities.

The methods used to restore vegetation communities, however, would result in both short and long-term effects on the natural characteristics of an area. Revegetation methods that use aerial or broadcast seeding would leave less evidence of human intervention on the landscape, and little effect on the natural characteristics of the non-WSA lands with wilderness characteristics. In pinyon-juniper communities it is often necessary to remove standing dead vegetation to facilitate seeding. This is done by chaining, cutting, and/or chipping. If these methods are used in non-WSA lands with wilderness characteristics, as the evidence of human manipulation of the landscape would be readily apparent and remain for many years, reducing the apparent naturalness of the land. Except in emergency situations, methods used to restore wildland fires in non-WSA lands with wilderness characteristics that are being managed for those characteristics would employ methods that are consistent with protection of wilderness characteristics.

4.10.1.2. LANDS AND REALTY

Under the Proposed RMP and all alternatives, lands would be recommended for withdrawal from entry under the mining laws for the protection of natural and cultural resource values. Closure of lands to mining (e.g., gold, silver, and uranium) would prevent surface disturbances to the landscape that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Mineral withdrawals would also prevent the presence and noise of mining operations (people, vehicles, and equipment) that would diminish opportunities for solitude and conflict with primitive forms of recreation (e.g., hiking, backpacking, hunting, river floating, wildlife viewing, and nature study).

Under the Proposed RMP and all alternatives, most of the public lands in the VPA would be retained in public ownership and managed under the principles of multiple use and sustained yield for the benefit of the American people. Retention of public lands would facilitate the BLM's ability to manage the various resource values and uses, including wilderness characteristics. Further, non-federal lands may be acquired to maintain or enhance public use and resource values, through exchange or from willing sellers.

Under the Proposed RMP and all alternatives, the identification of utility corridors for future placement of power lines and pipelines, and the identification of avoidance areas for corridors would both degrade and protect the wilderness characteristics of non-WSA lands with wilderness characteristics. If corridors were located through non-WSA lands with wilderness characteristics, the placement of utility lines would introduce human-made structures to the landscape and degrade the natural condition of the lands. The presence of these facilities would change the setting required to support primitive forms of recreation from an undeveloped landscape to a more developed and industrial landscape. The presence and operation of utility lines would also reduce opportunities for solitude. On the other hand, if non-WSA lands with wilderness characteristics were identified as areas of avoidance for placement of utility corridors, the natural characteristics and opportunities for solitude and primitive recreation would be protected.

Under the Proposed RMP and all alternatives, easements would be acquired to improve access to public lands. Acquisition of easements would improve access to some of the non-WSA lands with wilderness characteristics, providing additional opportunities for primitive recreational activities.

4.10.1.3. LIVESTOCK AND GRAZING MANAGEMENT

Under the Proposed RMP and all alternatives, livestock (cattle and sheep) would continue to graze on public lands in non-WSA lands with wilderness characteristics. Levels of livestock use (AUMs) on public lands are set to ensure vegetation communities will meet standards for rangeland health, including proper functioning condition of riparian zones, and the BLM monitors the rangeland to ensure those standards and conditions are met. When a healthy vegetation condition is maintained, there would be no degradation of the natural characteristics of the non-WSA lands with wilderness characteristics. Healthy vegetation communities would maintain and enhance wildlife habitat and populations, ensuring continued opportunities for primitive forms of recreation, including hunting, wildlife viewing, and nature study. Under the Proposed RMP and all alternatives, the health of vegetation communities would be protected,

and, therefore, there would be no degradation to the natural characteristics of the non-WSA lands with wilderness characteristics.

Often, it is necessary to construct fences and waters to support livestock grazing. In order to ensure proper distribution of livestock over an allotment and proper levels of forage utilization, fences and waters are constructed to manage livestock. The introduction of human-made structures on the landscape would degrade the natural characteristics of the non-WSA lands with wilderness characteristics, to some degree. However, improved livestock distribution and forage utilization would protect and enhance the condition of the vegetation community and thus the natural characteristics of the non-WSA lands with wilderness characteristics. If a minimal number of fences or waters could be constructed in non-WSA lands with wilderness characteristics and still meet the objectives of protecting wilderness characteristics, they may be permitted. Livestock management facilities are proposed under the Proposed RMP and all alternatives.

4.10.1.4. MINERALS

Under the Proposed RMP and all alternatives, development of existing oil and gas leases would result in the loss of wilderness characteristics on between 14% and 100% of 11 different non-WSA lands with wilderness characteristics, totaling between 117,470 acres and 171,412 acres. Construction of roads, well pads, compressors, pipelines, and power lines would disturb vegetation and soil and the natural characteristics of the non-WSA lands with wilderness characteristics. The presence of people, vehicles, and equipment, and the physical disturbance to the landscape would diminish opportunities for solitude and conflict with primitive forms of recreation.

However, under the Proposed RMP and all alternatives, lands would be proposed for withdrawal from entry under the mining laws in some of the non-WSA lands with wilderness characteristics. Closure to mining would prevent surface disturbances that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics and would exclude the presence and noise of people, vehicles, equipment, and structures that would diminish opportunities for solitude and conflict with opportunities for primitive recreation.

4.10.1.5. RECREATION

Under the Proposed RMP and all alternatives, portions of the VPA would be managed for primitive recreational opportunities and the settings needed to support those activities and desired experiences. Under the Proposed RMP and every alternative, management for primitive recreation would maintain and enhance the opportunities for primitive and unconfined recreation and the experience of solitude in some of the non-WSA lands with wilderness characteristics.

Under the Proposed RMP and all alternatives, portions of the VPA would be managed for motorized recreation, including OHV use, back country driving, sightseeing, and vehicle-supported camping, picnicking, and hunting. Under the Proposed RMP and all alternatives, motorized uses would degrade opportunities for solitude and primitive recreation in some of the non-WSA lands with wilderness characteristics. Under Proposed RMP and Alternatives A, B, C,

and D (No Action), motorized travel would be permitted on some of the vehicle routes in non-WSA lands with wilderness characteristics. The noise and presence of vehicles would degrade opportunities for solitude and conflict with primitive forms of recreation. Under Alternative E, motorized use of routes would only be permitted on the boundaries of non-WSA lands with wilderness characteristics. However, use of those boundary routes would degrade opportunities for solitude near the edges of non-WSA lands with wilderness characteristics. As visitors move away from the boundary of the non-WSA lands with wilderness characteristics, further into the heart of the area(s), the impacts of the noise and presence of vehicles on solitude and primitive recreation would lessen.

4.10.1.6. Riparian and Wetland Resources

Under the Proposed RMP and all alternatives, riparian systems would be managed to achieve proper functioning condition. Protection and improvement of riparian vegetation communities in non-WSA lands with wilderness characteristics would enhance the natural characteristics of portions of some of the non-WSA lands with wilderness characteristics. Protection and improvement of riparian areas would also enhance habitat for aquatic and terrestrial wildlife and would enhance opportunities for primitive recreation.

Sometimes it is necessary to construct facilities to manage and improve riparian areas. Construction of exclosure fences, for example, would introduce human-made structures to the landscape and degrade the natural characteristics of the riparian portion of the non-WSA lands with wilderness characteristics, to some degree. Many of these structures would be temporary and would be removed upon achieving proper functioning condition. Rehabilitation of the riparian vegetation condition, however, would restore the natural characteristics of the riparian portion of non-WSA lands with wilderness characteristics.

4.10.1.7. Special Designations

Special designations are proposed under Proposed RMP and all of the alternatives. These areas include ACECs, suitable Wild and Scenic Rivers, and WSAs. Generally, ACECs and Wild and Scenic Rivers are established to protect water courses, wildlife, vegetation, cultural resources, scenic quality, and recreational opportunities, and management of them would limit surface disturbances and offer protection to the natural characteristics of some of the non-WSA lands with wilderness characteristics. Protection of natural landscapes would protect and enhance the settings and opportunities for both solitude and primitive types of recreation.

Under the Proposed RMP and all alternatives, WSAs would be managed to protect their wilderness characteristics. Where WSAs are contiguous to non-WSA lands with wilderness characteristics, protection of the WSA would extend or expand opportunities for solitude and primitive forms of recreation found in the non-WSA lands with wilderness characteristics to a larger area, enhancing the opportunity.

4.10.1.8. VISUAL RESOURCES

Under the Proposed RMP and all alternatives, visual resource management objectives would protect natural landscapes, and thus wilderness characteristics, but would also provide opportunities for landscape changes that would degrade the natural characteristics of non-WSA lands with wilderness characteristics. Management under VRM Class I (preservation of the characteristics landscape) and Class II (retention of the characteristics landscape) objectives would prevent and minimize disturbance to the landform and vegetation and would prevent the placement of structures that are apparent on the landscape, thus protecting the natural characteristics of some of the non-WSA lands with wilderness characteristics. However, management objectives under VRM Class III (partial retention of the characteristic landscape) and Class IV (management for landscape change) provide for more landscape change. With those objectives, surface disturbance to landform and vegetation and placement of structures that are apparent on the landscape would be permitted. This would degrade the natural characteristics of some of the non-WSA lands with wilderness characteristics and alter the setting needed to support opportunities for solitude and primitive types of recreation.

4.10.1.9. WILDLIFE AND FISHERIES

Under the Proposed RMP and all alternatives, the BLM would implement a variety of actions to maintain, enhance, and protect habitats for a diversity of fish and wildlife species. Degraded habitats would be restored. Habitat would be managed for large blocks that provide for the life cycle requirements of fish and wildlife species. These actions would lead to healthy and diverse wildlife populations throughout the VPA. For example, under the Proposed RMP and all alternatives, the cottonwood vegetation community along the Green and White Rivers would be protected and restored, where needed, to maintain important winter habitat for Bald Eagles. The presence of a variety of wildlife would provide for primitive recreation activities (i.e., hunting, wildlife viewing, photography, and nature study) in the non-WSA lands with wilderness characteristics.

There are no actions common to the Proposed RMP and all the alternatives for air quality, cultural resources, hazardous materials, paleontology, soil and water resources, or socio-economics, which would impact non-WSA lands with wilderness characteristics. These resources are analyzed in the Alternatives Impacts Section (4.10.2).

4.10.2. ALTERNATIVE IMPACTS

4.10.2.1. IMPACTS OF CULTURAL RESOURCES DECISIONS ON NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

4.10.2.1.1. PROPOSED RMP

4.10.2.1.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under this the Proposed RMP, cultural resource sites and areas of high site density would be protected from surface disturbance caused by OHV use by limiting motorized travel to designated routes in the Little Hole/Devils Hole area. This action would have direct, short- and long-term benefits to the natural characteristics of the Lower Flaming Gorge non-WSA lands with wilderness characteristics by limiting surface disturbance cause by OHV use to the designated routes and by not expanding OHV use to other areas of the non-WSA lands with wilderness characteristics. However, while limiting OHV use to designated routes would prevent surface disturbance that would impact the naturalness of this non-WSA lands with wilderness characteristics, the noise and presence of OHVs on these routes would have an adverse impact on opportunities for solitude and primitive recreation activities when OHVs travel on these routes.

4.10.2.1.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under the Proposed RMP, cultural resource sites and areas of high site density would be protected from surface disturbance caused by OHV use by limiting motorized travel to designated routes in the Upper Willow Creek area. This action would have direct, short- and long-term benefits to the natural characteristics of the Wolf Point non-WSA lands with wilderness characteristics by limiting surface disturbance cause by OHV use to the designated routes and by not expanding OHV use to other areas of the non-WSA lands with wilderness characteristics. Limiting OHV use to designated routes and offering portions of the Four Mile Wash area for oil and gas leasing subject to NSO would also protect areas of high cultural resource site density by limiting surface disturbance and vehicle use to designated routes. This action would also have direct, short- and long-term benefits to the natural characteristics of the Four Mile Wash portion of the Desolation Canyon non-WSA lands with wilderness characteristics. However, while limiting OHV use to designated routes would prevent surface disturbance that would impact the naturalness of these non-WSA lands with wilderness characteristics, the noise and presence of OHVs on these routes would have an adverse impact on opportunities for solitude and primitive recreation activities when OHVs travel on these routes.

4.10.2.1.2. ALTERNATIVE A

4.10.2.1.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under this alternative, the benefits of limiting surface disturbance by OHV use to protect cultural resources, and thus wilderness characteristics, would be the same as described for the Proposed RMP.

4.10.2.1.3. ALTERNATIVE B

4.10.2.1.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under this alternative, the benefits of limiting surface disturbance by OHV use to protect cultural resources, and thus wilderness characteristics, would be the same as described for the Proposed RMP. However, the benefits of offering oil and gas leases with an NSO stipulation in the Four Mile Wash area of Desolation Canyon non-WSA lands with wilderness characteristics would not be realized. Under this alternative, leases would be issued with standard stipulations resulting in surface disturbance and impacts to the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of oil and gas exploration and development would also adversely impact opportunities for solitude and primitive recreation activities.

4.10.2.1.4. ALTERNATIVE C

4.10.2.1.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under this alternative, cultural sites and areas of high site density would be protected from surface disturbance caused by OHV use and oil and gas development by closing the Little Hole/Devils Hole and Four Mile Wash areas to OHV use and oil and gas leasing. These actions would have direct, short- and long-term benefits to the natural characteristics of the Lower Flaming Gorge and Desolation Canyon non-WSA lands with wilderness characteristics by preventing surface disturbance cause by OHV driving cross-country (as permitted in Alternative D, No Action) and oil and gas exploration and development. Further, closing these areas to OHV use and oil and gas development would provide short- and long-term benefits to opportunities for solitude and primitive recreation activities in these areas by excluding the presence and noise of OHVs and oil and gas development from these non-WSA lands with wilderness characteristics.

In Upper Willow Creek OHV travel would be permitted on designated routes. The effects of this action on the wilderness characteristics of Wolf Point non-WSA lands with wilderness characteristics would be the same as Proposed RMP. Under this alternative, oil and gas leases would be subject to timing and controlled surface use stipulations, resulting in surface disturbance and impacts to the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of oil and gas exploration and development would also adversely impact opportunities for solitude and primitive recreation activities.

4.10.2.1.5. ALTERNATIVE D (NO ACTION)

4.10.2.1.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative D (No Action) would not limit OHV use near high-density cultural sites, and these sites would be open to oil and gas leasing. This alternative would have long-term, adverse impacts on the wilderness characteristics of Lower Flaming Gorge, Wolf Point, and Desolation Canyon non-WSA lands with wilderness characteristics by permitting surface-disturbing activities that would alter the landscape and natural characteristics of these areas. Further, the noise and presence of OHVs and oil and gas development would degrade opportunities for solitude and conflict with primitive recreation activities these areas offer.

4.10.2.1.6. ALTERNATIVE E

4.10.2.1.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Alternative E would have the same impacts on cultural sites and areas of high site density and wilderness characteristics in the Lower Flaming Gorge, Wolf Point, and Desolation Canyon non-WSA lands with wilderness characteristics as described in Alternative C, except Wolf Point would also be closed to OHV use and oil and gas leasing, preventing surface disturbance that would degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics.

4.10.2.1.7. SUMMARY

In summary, Alternatives C and E would provide the highest level of protection to cultural sites and areas of high site density and wilderness characteristics in the Lower Flaming Gorge, Wolf Point, and Desolation Canyon non-WSA lands with wilderness characteristics. The Proposed RMP and Alternatives A and B would provide some protection but less than that provided by Alternatives C and E. Alternative D (No Action) would provide the least protection to cultural resources and wilderness characteristics.

4.10.2.2. IMPACTS OF FIRE MANAGEMENT DECISIONS ON NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS.

4.10.2.2.1. PROPOSED RMP

4.10.2.2.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The Proposed RMP would provide for prescribed fire treatments on approximately 156,425 acres per decade. Where fire treatments occurred in non-WSA lands with wilderness characteristics being managed to protect their wilderness characteristics, the effects on wilderness values would be both short- and long-term. Further, the degree of impact would vary by vegetation community

and landform. For example, the effects of fire that burned in a pinyon-juniper community in mountainous terrain would remain longer and remain more visible to the visitor than a fire that burned on a sage brush flat.

Prescribed fire treatments would restore native vegetation communities and a more natural composition of forbs, grasses, shrubs, and trees, enhancing a more natural landscape. In the short-term, a burned landscape may reduce opportunities for primitive recreation. In the long-term, however, a more natural landscape would benefit the natural characteristics of the non-WSA lands with wilderness characteristics and enhance the setting and opportunities for primitive forms of recreation. Restoration and maintenance of native vegetation communities would also support wildlife populations that continue to provide opportunities for primitive forms of recreation like hunting, wildlife viewing, photography, and nature study.

In the short term, fire operations (i.e., aircraft over-flights and fire line construction) would adversely impact both the natural landscape and characteristics of the non-WSA lands with wilderness characteristics. The noise and presence of the people, equipment, and operations would also adversely impact opportunities for solitude and primitive forms of recreation. In the long term, however, surface disturbance associated with the fire treatment would be restored, with little to no net effect on naturalness. And, the effects of fire operations on opportunities for solitude and primitive recreation would cease, restoring those opportunities. When fencing and seeding are used to aid in restoration of the vegetation community, the livestock exclosure fences would have a short-term, temporary impacts on the natural characteristics of the non-WSA lands with wilderness characteristics. Introducing a fence would add a human-made structure to the landscape, diminishing the natural characteristics in the short-term until it is removed.

4.10.2.2.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Where prescribed fire treatments occurred in non-WSA lands with wilderness characteristics being managed for other resource values and uses, the effects of the fire and the burning operations would be generally the same as for non-WSA lands with wilderness characteristics being managed to protect their wilderness characteristics. However, in these non-WSA lands with wilderness characteristics (not being managed to protect their wilderness characteristics), fire line construction could be more substantial. In forest and woodland vegetation communities, chain saws could be used to create fuel breaks for fire line construction, resulting in more substantial evidence of human manipulation of the land (cut logs, stumps, and cleared lines through vegetation). This type of surface disturbance would remain evident on the land for longer periods of time, reducing the natural characteristics of the non-WSA lands with wilderness characteristics.

4.10.2.2.2. ALTERNATIVE A, B, AND C

4.10.2.2.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

These alternatives would also provide for prescribed fire treatments on approximately 156,425 acres per decade. The impacts to the wilderness characteristics of the non-WSA lands with wilderness characteristics would be the same as described under the Proposed RMP for those non-WSA lands with wilderness characteristics managed for resource values and uses other than wilderness characteristics.

4.10.2.2.3. ALTERNATIVE D (NO ACTION)

4.10.2.2.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative D (No Action) would prescribe fire on up to 27,950 acres in the Book Cliffs area and 22,950 acres in the Diamond Mountain area. The effects, whether adverse or beneficial, would be the same as those described under Proposed RMP for non-WSA lands with wilderness characteristics being managed for other resource values and uses, but on a smaller scale than under the Proposed RMP.

4.10.2.2.4. ALTERNATIVE E

4.10.2.2.4.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The Proposed RMP would provide for prescribed fire treatments on approximately 156,425 acres per decade, with impacts to the wilderness characteristics of all 25 non-WSA lands with wilderness characteristics (277,596 acres) the same as described for the Proposed RMP for the non-WSA lands with wilderness characteristics managed to protect their values.

4.10.2.2.5. SUMMARY

In summary, fire management would have long-term, beneficial impacts on vegetation, and thus on the natural quality of the non-WSA lands with wilderness characteristics. The Proposed RMP and Alternatives A, B, C, and E would have generally equivalent impacts on this resource. Alternative D (No Action) would have the least beneficial impacts on the natural quality because fewer acres would be treated with prescribed fire.

4.10.2.3. Impacts of Lands and Realty Management Decisions on Non-WSA Lands with Wilderness Characteristics

4.10.2.3.1. Proposed RMP

4.10.2.3.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The Proposed RMP proposes withdrawals to preclude locatable mineral entry into the Green River Scenic Corridor in Browns Park, the White River, Lears Canyon, and the Book Cliffs Natural Area. The proposed withdrawals, totaling 17,814 acres, would prohibit entry for locatable mining, protecting the existing characteristics of the landscape. Withdrawing lands from mineral entry in these areas would prevent surface disturbance and protect the natural characteristics of 1,779 acres of the Lower Flaming Gorge, 171 acres of the Cold Spring Mountain, and 6,720 acres of the White River non-WSA lands with wilderness characteristics. Further, prohibition of mining would preserve the opportunities for both solitude and primitive forms of recreation in each of these non-WSA lands with wilderness characteristics.

Under the Proposed RMP, BLM would pursue public access to the White River at the mouth of Cowboy Canyon, Bonanza Bridge, and the Wagon Hound Road. This action would enhance public access to the White River non-WSA lands with wilderness characteristics, protecting and enhancing opportunities to participate in primitive and unconfined forms of recreation in this area.

Under the Proposed RMP, non-WSA lands with wilderness characteristics managed to protect their wilderness characteristics would be managed as ROW avoidance areas. Avoidance from future ROW development for pipelines and power lines would prevent surface disturbance and the placement of human-made structures on the land. This action would protect the natural characteristics of the landscape and the setting needed to support opportunities for solitude and primitive recreation.

4.10.2.3.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Withdrawing lands from mineral entry would prevent surface disturbance and protect the natural characteristics of 3 acres of the Cripple Cowboy non-WSA lands with wilderness characteristics. Further, prohibition of mining would preserve the opportunities for both solitude and primitive forms of recreation in each of these non-WSA lands with wilderness characteristics.

Under the Proposed RMP, BLM would pursue acquisition of Indian Trust Lands in Bitter Creek and Willow Creek and near the confluence of South and Sweetwater Canyons. These actions would enhance public access to the Bitter Creek, Rat Hole, Cripple Cowboy, Hells Hole Canyon, Sweet Water, and Wolf Point non-WSA lands with wilderness characteristics, protecting and enhancing opportunities to participate in primitive and unconfined forms of recreation in these areas.

4.10.2.3.2. ALTERNATIVE A

4.10.2.3.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The effects of pursuing access to public lands and proposing mineral withdrawals would be the same as described under the Proposed RMP, except that none of the non-WSA lands with wilderness characteristics would be managed to protect their wilderness characteristics.

4.10.2.3.3. ALTERNATIVE B

4.10.2.3.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative B also proposes withdrawals to preclude locatable mineral entry into the Green River Scenic Corridor in Browns Park, the White River, Lears Canyon, and the Book Cliffs Natural Area. The effects on the wilderness characteristics of Lower Flaming Gorge, Cold Spring Mountain, White River, and Cripple Cowboy non-WSA lands with wilderness characteristics would be the same as described in Proposed RMP.

Public access to the White River would not be pursued and acquisition of Indian Trust Lands would only be sought for BLM administrative purposes under this alternative. The actions would provide no enhancement of public access to participate in primitive recreation activities in a natural setting.

4.10.2.3.4. ALTERNATIVE C

4.10.2.3.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The effects of pursuing access to public lands and proposing mineral withdrawals would be the same as described under the Proposed RMP, except that mineral withdrawal would also be proposed for lands in the Lower Green River ACEC on 17,063 acres. Withdrawing lands from mineral entry in this area would protect the natural characteristics on 8,572 acres of the Desolation Canyon non-WSA lands with wilderness characteristics. Prohibition of mining would also preserve the opportunities for solitude and primitive recreation activities in the Desolation Canyon non-WSA lands with wilderness characteristics.

4.10.2.3.5. ALTERNATIVE D (NO ACTION)

4.10.2.3.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under this alternative, BLM would recommend mineral withdrawals in the Green River Scenic Corridor in Browns Park, relict vegetation areas, and the Lower Green River, totaling about 30,900 acres. Mineral withdrawals under this alternative would prevent surface disturbance and

protect the natural landscape and characteristics of the Cold Spring Mountain (171 acres), Lower Flaming Gorge (1,779 acres), and Desolation Canyon (8,572 acres) non-WSA lands with wilderness characteristics. Without mining operations, there would be no presence and noise of people, equipment, and mining operations, and thus these would not impact opportunities for solitude and primitive recreation in these areas.

4.10.2.3.6. ALTERNATIVE E

4.10.2.3.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The effects of pursuing access to public lands would be the same as described under the Proposed RMP. Under this alternative, non-WSA lands with wilderness characteristics would be managed as ROW avoidance areas. Avoidance from future ROW development for pipelines and power lines would protect the wilderness characteristics of these areas, including the natural characteristics of the landscape of all the non-WSA lands with wilderness characteristics. Further, under Alternative E, all non-WSA lands with wilderness characteristics would be recommended for withdrawal from mineral entry. Withdrawal from mining entry would have the same impacts as described in Proposed RMP, except on a much larger area (277,596 acres). Protection of the natural landscape would also preserve the setting needed to support primitive forms of recreation and experiences of solitude.

4.10.2.3.7. SUMMARY

In summary, Alternative E would provide the greatest protection to the wilderness characteristics of the non-WSA lands with wilderness characteristics by proposing to withdraw all non-WSA lands with wilderness characteristics from locatable mineral entry and by avoiding the areas as locations for future utility ROWs. The Proposed RMP and other alternatives provide comparable protection to the wilderness characteristics of non-WSA lands with wilderness characteristics, though Alternative B does not seek to secure as much access to public lands as the Proposed RMP and other alternatives.

4.10.2.4. IMPACTS OF LIVESTOCK AND GRAZING MANAGEMENT ON NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

4.10.2.4.1. PROPOSED RMP AND ALTERNATIVES A AND C

4.10.2.4.1.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under the Proposed RMP and these alternatives, lands acquired in the Nine Mile area would not be grazed by livestock to enhance riparian and watershed values. The resulting improvement of riparian and watershed condition would enhance the wilderness characteristics of Desolation Canyon non-WSA lands with wilderness characteristics. Without livestock grazing, the vegetation and soil condition of the watershed would improve, also improving the natural characteristics of the non-WSA lands with wilderness characteristics. Further, improved natural

condition would sustain the setting needed to support wilderness-related recreation opportunities (primitive and unconfined recreation) and the experience of solitude wilderness visitors seek.

4.10.2.4.2. ALTERNATIVE B

4.10.2.4.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, livestock grazing would be permitted on lands acquired in the Nine Mile area if use does not detract from riparian values and recreation objectives. At proper levels of use, grazing would not adversely impact the riparian conditions of Nine Mile Canyon. While there would be some visual evidence of livestock use in the canyon (presence of livestock, feces, trampling of soil, and consumption of vegetation), rangeland health and riparian condition would be maintained, and the natural characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics would be maintained to the average visitor. For some visitors, the presence of livestock would diminish the desired experience (connection with the natural world and experiences of solitude). However, this effect would be seasonal. Livestock would not graze in the canyon year long. At other times of the year, livestock would be gone, trampled soils would recover, and vegetation would re-grow, reducing the effect to the visitor.

4.10.2.4.3. ALTERNATIVE D (NO ACTION)

4.10.2.4.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative D (No Action), grazing management actions are unspecified on lands acquired in the Nine Mile area. Because grazing is guided by livestock objectives set in the *Standards for Rangeland Health and Guidelines for Grazing Management* and the riparian areas are managed by objectives of Proper Functioning Condition, this alternative would have impacts on Desolation Canyon non-WSA lands with wilderness characteristics like Alternative B. Proper levels of livestock use are guided by grazing and riparian objectives. These objectives would not permit degradation of the lands. However, because livestock would still be present during periods of the year, the effects on wilderness characteristics would be the same as described for Alternative B.

4.10.2.4.4. ALTERNATIVE E

4.10.2.4.4.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under this alternative, lands acquired in the Nine Mile area would not be grazed by livestock to enhance riparian and watershed values. The resulting improvement of riparian and watershed condition would enhance the wilderness characteristics of Desolation Canyon non-WSA lands with wilderness characteristics as described under the Proposed RMP and Alternatives A and C, except that under this alternative, Desolation Canyon non-WSA lands with wilderness characteristics would be managed to protect its wilderness characteristics.

4.10.2.4.5. SUMMARY

In summary, under the Proposed RMP and Alternatives A, C, and E there would be no impact of livestock grazing on non-WSA lands with wilderness characteristics from acquisition of lands in Nine Mile Canyon, because grazing would not be permitted on the acquired lands. Alternatives B and D (No Action), however, would allow for livestock grazing, with seasonal impacts on opportunities for solitude and primitive recreation activities due to the presence of livestock in the Desolation Canyon non-WSA lands with wilderness characteristics.

4.10.2.5. IMPACTS OF MINERALS AND ENERGY RESOURCES ON NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

Given the resource development potential, past levels of production, presence of leases, and ongoing exploration and development, the following assumptions for oil and gas exploration and development were used in the analysis of impacts to non-WSA lands with wilderness characteristics.

- The number of wells projected in each development area would not be evenly distributed throughout the development area. Greater densities of wells would cluster in areas of exploration interest and resource discovery and production.
- Lessees would exercise rights on existing leases (valid existing rights) in areas of high and moderate potential with a past or current demonstration of interest in exploration and development.
- 75% of the wells drilled would produce oil or gas.
- 75% of the producing wells would be producing at any given time.
- The average life of a well would be 25 years.
- There would be 0.20 miles of new road construction per well and 0.73 acres of surface disturbance per well.
- There would be 2.4 acres of surface disturbed per well; 0.9 acres would be reclaimed within 1 year.
- The number of miles of pipelines would equal the numbers of miles of new roads.
- Average well spacing would be 80 acres.
- 10% of the wells would have electrification. The length of power lines would approximately equal the miles of road. There would be approximately 0.25 miles of surface disturbance per mile of power line.

The potential for oil and gas development in the VPA was derived from the Mineral Potential Report for the Vernal Planning Area (BLM 2004). Definitions of high ("H"), medium ("M"), and undetermined ("ND") oil and gas development potential can be found in that publication. For analysis purposes, high and medium potential are considered as reasonably foreseeable for development, while undetermined potential is considered to indicate that development is unlikely to occur. Areas are considered to have undetermined oil and gas potential because of a lack of useful data. Within the VPA, these areas typically lack data due to a dearth of current or

historical exploration, and they are therefore considered unlikely to be developed within the life of this plan.

A number of variables would influence the degree of impact to non-WSA lands with wilderness characteristics, including where surface-disturbing activities occur, land form or topography, vegetation type, sequence of development, and reclamation time. Soil types and climate would affect the time it takes to reclaim disturbances. Successful reclamation would take about 5–10 years.

Construction and operation of oil and gas wells and associated support facilities, including roads, surface and buried pipelines, power lines, and compressor stations would create soil and vegetation disturbance and the presence of permanent structures that would degrade the natural characteristics of non-WSA lands with wilderness characteristics. In addition to site-specific surface disturbance, the cumulative number of wells and density of spacing would change the natural landscape to an industrial landscape.

The noise of construction and operation of producing wells, including the presence of work crews, vehicles, and equipment, would degrade opportunities for solitude and conflict with primitive recreational opportunities in proximity to industrial development. As recreational visitors move away from the sources of development, the sights and sounds of development would diminish. However, it can be expected that sights and sounds from development would reduce opportunities for solitude and primitive and unconfined recreation up to 1/2 mile beyond the direct loss of natural characteristics. Given the number and spacing of industrial facilities, it would be difficult to escape the adverse effects on solitude and primitive recreation activities throughout the areas with wilderness characteristics.

It can be expected that as a result of oil and gas development and production, entire non-WSA lands with wilderness characteristics would lose their natural characteristics and opportunities for solitude and primitive recreation activities. Table 4.10.1 summarizes the impacts from the Proposed RMP and each of the alternatives to each of the non-WSA lands with wilderness characteristics found in the VPA.

Because the precise location of solid mineral development (Gilsonite, phosphate, mineral materials, and locatable minerals) is unknown, for analysis purposes the following assumptions for solid mineral exploration and development were used in the analysis of impacts to non-WSA lands with wilderness characteristics.

- The assessment of potential effects is based on the overall acreage open to development.
- The greater the surface disturbance, the greater the potential to impact the wilderness characteristics of non-WSA lands with wilderness characteristics.

4.10.2.5.1. PROPOSED RMP

4.10.2.5.1.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under Proposed RMP, the 15 non-WSA lands with wilderness characteristics managed to protect their wilderness characteristics would be closed to oil and gas leasing, except for White River which would be open subject to an NSO stipulation. These leasing stipulations would prevent occupancy and surface disturbance that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Protection of the natural characteristics would also maintain the setting needed for support opportunities for solitude and primitive recreation activities.

Under the Proposed RMP, parts (between 11% and 89%) of five of the non-WSA lands with wilderness characteristics being managed to protect those characteristics (Bourdette Draw, Bull Canyon, Daniels Canyon, Diamond Mountain, and Mountain Home – See Table 4.10.1 below), totaling 18,286 acres, are currently leased for oil and gas production. However, given the mineral potential of the areas and past and current interest in exploration and production, it is not expected that these lands would be affected by oil and gas operation (exploration, development, and production) under the Proposed RMP.

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

All or parts (between 54% and 100%) of 11 non-WSA lands with wilderness characteristics, totaling up to 150,421 acres, would lose their natural characteristics and opportunities for solitude and primitive recreation due to surface disturbance and the presence and noise of people and equipment during exploration for and development of oil and gas resources in the VPA.

- Bitter Creek
- Cripple Cowboy
- Desolation Canyon
- Hell's Hole Canyon
- Hideout Canyon
- Lower Bitter Creek
- Mexico Point
- Rat Hole
- Sweet Water Canyon
- White River
- Wolf Point

These areas are located in oil and gas development areas with moderate to high potential for further development. Given the resource potential, level of past production, existing leases, and ongoing exploration and development, it is anticipated these 11 non-WSA lands with wilderness characteristics would lose all or most of their wilderness characteristics. The impacts to naturalness and opportunities for solitude and primitive recreation activities would be the same as described above.

4.10.2.5.1.2. Other Mineral Resources

Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Phosphate is present on 11,719 acres of lands in the Bourdette Draw, Daniels Canyon, Moonshine Draw, and Mountain Home non-WSA lands with wilderness characteristics. Under the Proposed RMP, these non-WSA lands with wilderness characteristics would be managed to protect those characteristics and all 11,719 acres would be closed to phosphate leasing. Closure to leasing and development would prevent surface disturbance and protect the natural characteristics and opportunities for solitude and primitive recreation of these four non-WSA lands with wilderness characteristics.

There is 1 mile of Gilsonite veins on about 5 acres located in the portion of White River non-WSA lands with wilderness characteristics that would be managed to protect those characteristics. These lands would be closed to solid mineral leasing and no surface disturbance or impacts to wilderness characteristics would result.

Mineral materials would be closed to leasing on 25,688 acres in Beach Draw, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, White River, and Wild Mountain.

Under the Proposed RMP, 8,670 acres in portions of three non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws: Cold Spring Mountain, Lower Flaming Gorge, and White River. Withdrawal from mineral entry would prevent surface disturbance that would reduce the natural characteristics of these areas, and prevent the presence and noise of people, equipment, and structures that would diminish solitude and conflict with opportunities for primitive recreation activities.

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

There are 9 miles of Gilsonite on about 44 acres (determined based on an average width of 40 feet for Gilsonite) in Desolation Canyon (1 mile) and White River (8 miles) non-WSA lands with wilderness characteristics that would not be managed to protect their wilderness characteristics. These lands would be open for solid mineral leasing.

Mineral materials (e.g., sand, gravel, and building stone) would be open to leasing on 30,490 acres in 4 separate non-WSA lands with wilderness characteristics: Bitter Creek, Desolation Canyon, Lower Bitter Creek, and Wolf Point.

Under the Proposed RMP, 3 acres in a portion of the Cripple Cowboy non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws. Withdrawal from mineral entry would prevent surface disturbance that would degrade the natural characteristics. Closure to entry would also prevent the presence and noise of people, vehicles, and equipment that would diminish opportunities for solitude and conflict with opportunities for primitive recreation activities.

The impacts from projected development of Gilsonite, phosphate, mineral materials, and locatable minerals are difficult to quantify because specific locations for these operations have not been determined and development is dependent on market demand and technology. However, generally, it can be said that these types of operations typically result in small to medium-sized surface disturbances that would degrade the natural characteristics of localized parts of the non-WSA lands with wilderness characteristics, if they were to occur in any of the areas listed above. Further, the presence and noise of people and equipment would degrade opportunities for solitude and conflict with opportunities for primitive forms of recreation. Road construction to new mine sites would reduce the roadless nature and natural characteristics of the non-WSA lands with wilderness characteristic.

Development potential for Gilsonite, phosphate, and mineral materials is moderate to high, and exploration and development is likely. Development potential for locatables is moderate. Very little development is expected.

This assessment is based on acres open to development, as compared to Alternative D (No Action). The more acres open to mineral leasing, the more potential for surface disturbance and degradation of the wilderness characteristics of non-WSA lands with wilderness characteristics. Under the Proposed RMP, 10,531 fewer acres would be open to phosphate leasing as under Alternative D (No Action), and 1 less mile of Gilsonite would be available for leasing under the Proposed RMP than under Alternative D (No Action). And, 28,975 fewer acres would be open to disposal of mineral materials. Under the Proposed RMP, 13,086 more acres would be available for mineral entry than under Alternative D (No Action).

4.10.2.5.2. ALTERNATIVE A

4.10.2.5.2.1. Oil, Gas, and Coal-bed Natural Gas (CBNG)

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

All or parts (between 70% and 100%) of 11 non-WSA lands with wilderness characteristics, totaling up to 153,768 acres, would lose their natural characteristics and opportunities for solitude and primitive recreation due to exploration for and development of oil and gas resources in the VPA.

- Bitter Creek
- Cripple Cowboy
- Desolation Canyon
- Hell's Hole Canyon
- Hideout Canyon
- Lower Bitter Creek
- Mexico Point
- Rat Hole
- Sweet Water Canyon
- White River
- Wolf Point

These areas are located in oil and gas development areas with moderate to high potential for further development. Given the resource potential, level of past production, existing leases, and ongoing exploration and development, it is anticipated these 11 non-WSA lands with wilderness characteristics would lose all or most of their wilderness characteristics. The impacts to

naturalness and opportunities for solitude and primitive recreation would be the same as described above.

4.10.2.5.2.2. Other Mineral Resources

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Phosphate would be available for leasing on 11,515 acres in Bourdette Draw, Daniels Canyon, Moonshine Draw, and Mountain Home non-WSA lands with wilderness characteristics, and closed to leasing on 204 acres in Moonshine Draw and Mountain Home non-WSA lands with wilderness characteristics. In all, 10 miles of Gilsonite would be open to leasing on about 49 acres (determined based on an average width of 40 feet for Gilsonite) in Desolation Canyon, and White River non-WSA lands with wilderness characteristics.

Mineral materials (e.g., sand, gravel, and building stone) would be open to leasing on 53,084 acres in 17 separate non-WSA lands with wilderness characteristics: Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, White River, Wild Mountain, and Wolf Point. Mineral materials would be closed to leasing on 13,872 acres in Bourdette Draw, Bull Canyon, Cold Spring Mountain, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Bitter Creek, Lower Flaming Gorge, Mountain Home, and White River.

Under Alternative A, 8,673 acres in portions of four non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws: Cold Spring Mountain, Cripple Cowboy, Lower Flaming Gorge, and White River. This would leave 268,923 acres open to entry under the mining laws in all or portions of each of the non-WSA lands with wilderness characteristics.

The impacts from projected development of Gilsonite, phosphate, mineral materials, and locatable minerals are difficult to quantify because specific locations for these operations have not been determined and development is dependent on market demand and technology. However, generally, it can be said that these types of operations typically result in small to medium-sized surface disturbances that would degrade the natural characteristics of localized parts of the non-WSA lands with wilderness characteristics, if they were to occur in any of the areas listed above. Further, the presence and noise of people and equipment would degrade opportunities for solitude and conflict with opportunities for primitive forms of recreation. Road construction to new mine sites would reduce the roadless nature of the non-WSA lands with wilderness characteristic.

Development potential for Gilsonite, phosphate, and mineral materials is moderate to high, and exploration and development is likely. Development potential for locatables is moderate. Very little development is expected.

This assessment is based on acres open to development, as compared to Alternative D (No Action). The more acres open to mineral leasing, the more potential for surface disturbance and degradation of the wilderness characteristics of non-WSA lands with wilderness characteristics.

Under Alternative A, 984 more acres would be open to phosphate leasing than under Alternative D (No Action), and 1 more mile of Gilsonite would be available for leasing under Alternative A than under Alternative D (No Action). However, 6,381 fewer acres would be open to disposal of mineral materials. Under Alternative A, 13,086 more acres would be available for mineral entry than under Alternative D (No Action).

4.10.2.5.3. ALTERNATIVE B

4.10.2.5.3.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The impacts of oil and gas development on the natural characteristics and opportunities for solitude and primitive recreation of non-WSA lands with wilderness characteristics would be the same as described for Alternative A, for the same 11 areas, though more acres would lose their wilderness characteristics—up to 171,412 acres.

4.10.2.5.3.2. Other Mineral Resources

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, phosphate would be available for leasing on 11,515 acres in Bourdette Draw, Daniels Canyon, Moonshine Draw, and Mountain Home non-WSA lands with wilderness characteristics, and closed to leasing on 204 acres in Moonshine Draw and Mountain Home non-WSA lands with wilderness characteristics. A total of 10 miles of Gilsonite would be open to leasing on about 48 acres (acres determined based on an average width of 40 feet of Gilsonite) in the Desolation Canyon and White River non-WSA lands with wilderness characteristics.

Mineral materials (i.e., sand, gravel, and building stone) would be open to leasing on 63,926 acres in 18 separate non-WSA lands with wilderness characteristics: Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Bitter Creek, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, White River, Wild Mountain, and Wolf Point. Mineral materials would be closed to leasing on 13,872 acres in Bourdette Draw, Bull Canyon, Cold Spring Mountain, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Mountain Home, and White River.

Under Alternative B, 8,673 acres in portions of four non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws: Cold Spring Mountain, Cripple Cowboy, Lower Flaming Gorge, and White River. This would leave 268,923 acres open to entry under the mining laws in all or portions of each of the non-WSA lands with wilderness characteristics.

The impacts from projected development of Gilsonite, phosphate, mineral materials, and locatable minerals are difficult to quantify because specific locations for these operations have not been determined and development is dependent on market demand and technology. However, generally, it can be said that these types of operations typically result in small to

medium-sized surface disturbances that would degrade the natural characteristics of localized parts of the non-WSA lands with wilderness characteristics, if they were to occur in any of the areas listed above. Further, the presence and noise of people and equipment would degrade opportunities for solitude and conflict with opportunities for primitive forms of recreation. Road construction to new mine sites would reduce the roadless nature of the non-WSA lands with wilderness characteristic.

Development potential for Gilsonite, phosphate, and mineral materials is moderate to high, and exploration and development is likely. Development potential for locatables is moderate. Very little development is expected.

This assessment is based on acres open to development, as compared to Alternative D (No Action). The more acres open to mineral leasing, the more potential for surface disturbance and degradation of the wilderness characteristics of non-WSA lands with wilderness characteristics. Compared to Alternative D (No Action), 984 more acres would be open to phosphate leasing than under Alternative D (No Action), and 1 more mile of Gilsonite would available for leasing than under Alternative D (No Action). And, 4,461 more acres would be open to disposal of mineral materials. Under Alternative B, 13,086 more acres would be available for mineral entry than under Alternative D (No Action).

4.10.2.5.4. ALTERNATIVE C

4.10.2.5.4.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative C the impacts of oil and gas development on the natural characteristics and opportunities for solitude and primitive recreation of non-WSA lands with wilderness characteristics would be the same as those described for Alternative B, for the same areas, except that fewer acres would be affected. All or parts (between 51% and 100%) of the same 11 non-WSA lands with wilderness characteristics discussed in Alternative B, totaling up to 123,571 acres, would lose their natural characteristics and opportunities for solitude and primitive recreation due to oil and gas development and production.

4.10.2.5.4.2. Other Mineral Resources

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative C, phosphate would be available for leasing on 11,509 acres in the Bourdette Draw, Daniels Canyon, Moonshine Draw, and Mountain Home non-WSA lands with wilderness characteristics, and closed to leasing on 210 acres in Moonshine Draw and Mountain Home non-WSA lands with wilderness characteristics. A total of 9 miles of Gilsonite would be open to leasing on about 44 acres (acres determined based on an average width of 40 feet for Gilsonite) in the White River non-WSA lands with wilderness characteristics.

Mineral materials (e.g., sand and gravel and building stone) would be open to leasing on 34,106 acres in 15 separate non-WSA lands with wilderness characteristics: Bitter Creek, Bourdette

Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Bitter Creek, Lower Flaming Gorge, Moonshine Draw, Mountain Home, White River, and Wild Mountain. Mineral materials would be closed to leasing on 32,850 acres in Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, White River, and Wolf Point.

Under Alternative C, 17,245 acres in portions of five non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws: Cold Spring Mountain, Cripple Cowboy, Desolation Canyon, Lower Flaming Gorge, and White River. This would leave 260,351 acres open to entry under the mining laws in all or portions of each of the non-WSA lands with wilderness characteristics.

The impacts from projected development of Gilsonite, phosphate, mineral materials, and locatable minerals are difficult to quantify because specific locations for these operations have not been determined and development is dependent on market demand and technology. However, generally it can be said that these types of operations typically result in small to medium-sized surface disturbances that would degrade the natural characteristics of localized parts of the non-WSA lands with wilderness characteristics, if they were to occur in any of the areas listed above. Further, the presence and noise of people and equipment would degrade opportunities for solitude and conflict with opportunities for primitive forms of recreation. Road construction to new mine sites would reduce the roadless nature of the non-WSA lands with wilderness characteristic.

Development potential for Gilsonite, phosphate, and mineral materials is moderate to high, and exploration and development is likely. Development potential for locatables is moderate. Very little development is expected.

This assessment is based on acres open to development, as compared to Alternative D (No Action). The more acres open to mineral leasing, the more potential for surface disturbance and degradation of the wilderness characteristics of non-WSA lands with wilderness characteristics. Under Alternative C, 978 more acres would be open to phosphate leasing than under Alternative D (No Action), and the same number of miles of Gilsonite (9) would available for leasing as Alternative D (No Action). However, 25,359 fewer acres would be open to disposal of mineral materials. Under Alternative C, 365 fewer acres would be available for mineral entry than under Alternative D (No Action).

4.10.2.5.5. ALTERNATIVE D (NO ACTION)

4.10.2.5.5.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

<u>Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses</u>

The impacts of oil and gas development on the natural characteristics and opportunities for solitude and primitive recreation of non-WSA lands with wilderness characteristics would be the

same as described for Alternative C, for the same areas, except that 22,200 more acres would be affected: up to 145,711 acres.

4.10.2.5.5.2. Other Mineral Resources

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Phosphate would be available for leasing on 10,531 acres in the Bourdette Draw, Daniels Canyon, Moonshine Draw, and Mountain Home non-WSA lands with wilderness characteristics, and closed to leasing on 1,188 acres in Moonshine Draw and Mountain Home non-WSA lands with wilderness characteristics. A total of 9 miles of Gilsonite would be open to leasing on about 44 acres (acres determined based on an average width of 40 feet for Gilsonite) in the Desolation Canyon, Lower Bitter Creek, and White River non-WSA lands with wilderness characteristics.

Mineral materials (e.g., sand and gravel and building stone) are open to leasing on 59,465 acres in 18 separate non-WSA lands with wilderness characteristics: Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Bitter Creek, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, White River, Wild Mountain, and Wolf Point. Mineral materials are closed to leasing on 7,490 acres in Bourdette Draw, Bull Canyon, Cold Spring Mountain, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Mountain Home, and White River.

Under Alternative D (No Action), 10,522 acres in portions of three non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws—Cold Spring Mountain, Desolation Canyon, and Lower Flaming Gorge. This would leave 267,074 acres open to entry under the mining laws in all or portions of each of the non-WSA lands with wilderness characteristics.

The impacts from projected development of Gilsonite, phosphate, mineral materials, and locatable minerals are difficult to quantify because specific locations for these operations have not been determined and development is dependent on market demand and technology. However, generally it can be said that these types of operations typically result in small to medium-sized surface disturbances that would degrade the natural characteristics of localized parts of the non-WSA lands with wilderness characteristics, if they were to occur in any of the areas discussed above. Further, the presence and noise of people and equipment would degrade opportunities for solitude and conflict with opportunities for primitive forms of recreation. Road construction to new mine sites would reduce the roadless nature of the non-WSA lands with wilderness characteristic.

Development potential for Gilsonite, phosphate, and mineral materials is moderate to high, and exploration and development is likely. Development potential for locatables is moderate. Very little development is expected.

This assessment is based on acres open to development. The more acres open to mineral leasing, the more potential for surface disturbance and degradation of the wilderness characteristics of non-WSA lands with wilderness characteristics. Alternative D (No Action) would open 10,531

acres to phosphate leasing, 984 fewer acres than under the Proposed RMP and Alternative B and 978 fewer acres than under Alternative C. Alternative D (No Action) would make 9 miles of Gilsonite available for leasing, the same as under Alternative C, but 1 mile less than under the Proposed RMP and Alternative B. Under Alternative D (No Action), 59,465 acres would be open for mineral material disposal, more than the Proposed RMP and Alternative C, but 4,461 fewer acres than Alternative B. Under Alternative D (No Action), 35,900 acres would be recommended for withdrawal from entry under the mining laws, 13,086 more than under the Proposed RMP and Alternatives A and B, but 365 fewer acres than Alternative C.

4.10.2.5.6. ALTERNATIVE E

4.10.2.5.6.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Due to the presence of existing leases, parts (between 14% and 85%) of 11 non-WSA lands with wilderness characteristics totaling up to 117,470 acres would lose their natural characteristics and opportunities for solitude and primitive recreation due to exploration, development, and production of oil and gas resources in the VPA:

- Bitter Creek
- Cripple Cowboy
- Desolation Canyon
- Hell's Hole Canyon
- Hideout Canyon
- Lower Bitter Creek
- Mexico Point
- Rat Hole
- Sweet Water Canyon
- White River
- Wolf Point

These areas are located in oil and gas development areas with moderate to high potential for further development. Given the resource potential, level of past production, existing leases (exercise of valid existing rights), and ongoing exploration and development, it is anticipated these 11 non-WSA lands with wilderness characteristics would lose part of their natural characteristics and opportunities for solitude and primitive recreation. The impacts to naturalness and opportunities for solitude and primitive recreation would be the same as those described for Proposed RMP above.

4.10.2.5.6.2. Other Mineral Resources

Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

While phosphate occurs on 11,719 acres in the Bourdette Draw, Daniels Canyon, Moonshine Draw, and Mountain Home non-WSA lands with wilderness characteristics, it would be closed to leasing under this alternative. All 10 miles of Gilsonite found in Desolation Canyon, Lower Bitter Creek, and White River would be closed to leasing under Alternative E. Further, 66,956 acres of mineral materials found in Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Lower Bitter Creek, Lower Flaming Gorge, Moonshine Draw, Mountain

Home, Stuntz Draw, White River, Wild Mountain, and Wolf Point would be closed to mineral material disposal. Under Alternative E, 277,596 acres in all 25 non-WSA lands with wilderness characteristics would be proposed for withdrawal from entry under the mining laws.

The impacts from projected development of Gilsonite, phosphate, mineral materials, and locatable minerals are difficult to quantify because specific locations for these operations have not been determined and development is dependent on market demand and technology. However, generally it can be said that these types of operations typically result in small to medium-sized surface disturbances that would degrade the natural characteristics of localized parts of the non-WSA lands with wilderness characteristics, if they were to occur in any of the areas listed above. Further, the presence and noise of people and equipment would degrade opportunities for solitude and conflict with opportunities for primitive forms of recreation. Road construction to new mine sites would reduce the roadless nature of the non-WSA lands with wilderness characteristic.

Development potential for Gilsonite, phosphate, and mineral materials is moderate to high, and exploration and development is likely. Development potential for locatables is moderate. Very little development is expected.

This assessment is based on acres open to development, as compared to Alternative D (No Action). The more acres open to mineral leasing, the more potential for surface disturbance and degradation of the wilderness characteristics of non-WSA lands with wilderness characteristics. Because the emphasis of Alternative E is to protect the wilderness characteristics of non-WSA lands with wilderness characteristics, these lands would not be available for leasing for any of the solid mineral leasables. Compared to Alternative D (No Action), 10,531 fewer acres open to phosphate leasing, 9 fewer miles would be open to Gilsonite leasing, and 59,465 fewer acres would be open to mineral material disposal. All 277,596 acres of non-WSA lands would be recommended for withdrawal from mineral entry—241,696 more acres unavailable for hardrock mining than under Alternative D (No Action). As a result, there would be no impacts on the wilderness characteristics of the non-WSA lands with wilderness characteristics, subject to valid existing rights.

4.10.2.5.6.3. Summary

Under the Proposed RMP and all alternatives, portions (between 14% and 100%) of 11 of the non-WSA lands with wilderness characteristics would lose their wilderness characteristics due to the development of oil and gas resources (exercise of valid existing rights on existing leases). Construction of roads and well pads and ancillary facilities would degrade the natural landscape. The presence of people and equipment and the operation of the exploration and production facilities would diminish or eliminate opportunities for solitude and primitive recreation. Oil and gas development would degrade the wilderness characteristics of between 117,470 acres and 171,412 acres, depending on the Proposed RMP or alternative, of the total 277,596 acres of non-WSA lands with wilderness characteristics in the VPA.

Under Alternatives A, B, C, and D (No Action), the anticipated development of some phosphate, Gilsonite, and mineral materials leases would have the same types of impacts on the wilderness

characteristics on up to 18 non-WSA lands where these resource values are located. Under the Proposed RMP and Alternatives A, B, C, and D (No Action), most of the non-WSA lands with wilderness characteristics would be open to entry under the mining laws. A few projects are anticipated that would have generally small to moderate, localized impacts on the wilderness characteristics of the non-WSA lands with wilderness characteristics. Under Alternative E, however, all 277,596 acres of the non-WSA lands with wilderness characteristics would be recommended for mineral withdrawal, protecting the wilderness characteristics of these lands.

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Beach Draw (898 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				898	0	0	0	0 (0%)
Alternative A			X	40	858			0	0	0	0 (0%)
Alternative B			X	717	181			0	0	0	0 (0%)
Alternative C			X	3	16	879		0	0	0	0 (0%)
Alternative D (No Action)			X	898				0	0	0	0 (0%)
Alternative E			X				898	0	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Bitter Creek (33,488 acres)											
Proposed RMP	X			33,434		54		23,569 (70%)	33,399	33,399	33,399 (99%)
Alternative A	X			2,419	30,980	89		23,569 (70%)	33,399	33,399	33,399 (99%)
Alternative B	X			13,609	19,790	89		23,569 (70%)	33,399	33,399	33,399 (99%)
Alternative C	X			32	1,073		32,383	23,569 (70%)	23,569	23,569	23,569 (70%)
Alternative D (No Action)	X			25,509	7,239	740		23,569 (70%)	32,748	32,748	32,748 (98%)
Alternative E	X						33,488	23,569 (70%)	23,569	23,569	23,569 (70%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Bourdette Draw (13,335 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				13,335	5,744 (43%)	0	0	0 (0%)
Alternative A			X	3,224	10,036	75		5,744 (43%)	0	0	0 (0%)
Alternative B			X	6,828	6,432	75		5,744 (43%)	0	0	0 (0%)
Alternative C			X		13,258	77		5,744 (43%)	0	0	0 (0%)
Alternative D (No Action)			X	13,094	22	239		5,744 (43%)	0	0	0 (0%)
Alternative E			X				13,335	5,744 (43%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Bull Canyon (2,483 acres)											
Proposed RMP (Managed for wilderness characteristics.)		X					2,483	2,221 (89%)	0	0	0 (0%)
Alternative A		X		12	2,468		3	2,221 (89%)	0	0	0 (0%)
Alternative B		X		13	2,466		4	2,221 (89%)	0	0	0 (0%)
Alternative C		X			2,479		4	2,221 (89%)	0	0	0 (0%)
Alternative D (No Action)		X		2,479			4	2,221 (89%)	0	0	0 (0%)
Alternative E		X					2,483	2,221 (89%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Cold Spring Mountain (8,764 acres)											
Proposed RMP (Managed for wilderness characteristics.)		X	X				8,764	0 (0%)	0	0	0 (0%)
Alternative A		X	X	115	8,400	171	78	0 (0%)	0	0	0 (0%)
Alternative B		X	X	2,994	5,521	171	78	0 (0%)	0	0	0 (0%)
Alternative C		X	X		8,515	171	78	0 (0%)	0	0	0 (0%)
Alternative D (No Action)		X	X		5,189	3,500	75	0 (0%)	0	0	0 (0%)
Alternative E		X	X				8,764	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Cripple Cowboy (13,603 acres)											
Proposed RMP	X	X		13,598			5	11,519 (85%)	13,599	13,599	13,599 (100%)
Alternative A	X	X			13,599		4	11,519 (85%)	13,599	13,599	13,599 (100%)
Alternative B	X	X		6,943	6,657		3	11,519 (85%)	13,600	13,600	13,600 (100%)
Alternative C	X	X		9	57		13,537	11,519 (85%)	11,519	11,519	11,519 (85%)
Alternative D (No Action)	X	X		3,640	9,525	435	3	11,519 (85%)	13,165	13,165	13,165 (97%)
Alternative E	X	X					13,603	11,519 (85%)	11,519	11,519	11,519 (85%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Daniels Canyon (3,045 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				3,045	322 (11%)	0	0	0 (0%)
Alternative A			X		3,045			322 (11%)	0	0	0 (0%)
Alternative B			X	1,923	1,122			322 (11%)	0	0	0 (0%)
Alternative C			X		3,004	41		322 (11%)	0	0	0 (0%)
Alternative D (No Action)			X	2,980	16	49		322 (11%)	0	0	0 (0%)
Alternative E			X				3,045	322 (11%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Dead Horse Pass (6,994 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				6,994	0 (0%)	0	0	0 (0%)
Alternative A			X	3,594	3,400			0 (0%)	0	0	0 (0%)
Alternative B			X	5,727	1,267			0 (0%)	0	0	0 (0%)
Alternative C			X	3,594	3,400			0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	3,261	2,086	1,647		0 (0%)	0	0	0 (0%)
Alternative E			X				6,994	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Desolation Canyon (63,118 acres)											
Proposed RMP	X	X		36,954	8,336	17,828		41,949 (66%)	45,337	45,337	45,337 (72%)
Alternative A	X	X		38,007	7,330	17,781		41,949 (66%)	45,337	45,337	45,337 (72%)
Alternative B	X	X		50,474	12,507	137		41,949 (66%)	62,981	62,981	62,981 (100%)
Alternative C	X	X		17,076	3,953		42,089	41,949 (66%)	41,949	41,949	41,949 (66%)
Alternative D (No Action)	X	X		19,652	25,669	17,763		41,949 (66%)	45,321	45,321	45,321 (72%)
Alternative E	X	X					63,118	41,949 (66%)	41,949	41,949	41,949 (66%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Diamond Breaks (4,539 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				4,539	0 (0%)	0	0	0 (0%)
Alternative A			X	3,241	1,241		57	0 (0%)	0	0	0 (0%)
Alternative B			X	4,225	257		57	0 (0%)	0	0	0 (0%)
Alternative C			X		4,482		57	0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	3,036	1,425	21	57	0 (0%)	0	0	0 (0%)
Alternative E			X				4,539	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Diamond Mountain (27,238 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				27,238	5,475 (20%)	0	0	0 (0%)
Alternative A			X	3,291	23,477	470		5,475 (20%)	0	0	0 (0%)
Alternative B			X	4,760	22,008	470		5,475 (20%)	0	0	0 (0%)
Alternative C			X	3,393	20,431	3,414		5,475 (20%)	0	0	0 (0%)
Alternative D (No Action)			X	2,260	19,274	5,704		5,475 (20%)	0	0	0 (0%)
Alternative E			X				27,238	5,475 (20%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Hell's Hole Canyon (2,709 acres)											
Proposed RMP	X	X		2,709				2,260 (83%)	2,709	2,709	2,709 (100%)
Alternative A	X	X			2,709			2,260 (83%)	2,709	2,709	2,709 (100%)
Alternative B	X	X		2,419	290			2,260 (83%)	2,709	2,709	2,709 (100%)
Alternative C	X	X		570	16		2,123	2,260 (83%)	2,260	2,260	2,260 (83%)
Alternative D	X	X		7	2,438	264		2,260 (83%)	2,445	2,445	2,445 (90%)
Alternative E	X	X					2,709	2,260 (83%)	2,260	2,260	2,260 (83%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Hideout Canyon (1,113 acres)											
Proposed RMP	X	X		1,113				154 (14%)	1,113	1,113	1,113 (100%)
Alternative A	X	X			1,113			154 (14%)	1,113	1,113	1,113 (100%)
Alternative B	X	X		8	1,105			154 (14%)	1,113	1,113	1,113 (100%)
Alternative C	X	X		1,113				154 (14%)	1,113	1,113	1,113 (100%)
Alternative D (No Action)	X	X		42	1,071			154 (14%)	1,113	1,113	1,113 (100%)
Alternative E	X	X					1,113	154 (14%)	154	154	154 (14%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Lower Bitter Creek (11,417 acres)											
Proposed RMP	X			11,307	110			8,039 (70%)	11,417	11,417	11,417 (100%)
Alternative A	X			4,761	6,656			8,039 (70%)	11,417	11,417	11,417 (100%)
Alternative B	X			4,761	6,656			8,039 (70%)	11,417	11,417	11,417 (100%)
Alternative C	X			4,761	6,656			8,039 (70%)	11,417	11,417	11,417 (100%)
Alternative D (No Action)	X			10,398		1,019		8,039 (70%)	10,398	10,398	10,398 (91%)
Alternative E	X						11,417	8,039 (70%)	8,039	8,039	8,039 (70%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Lower Flaming Gorge (17,810 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				17,810	0 (0%)	0	0	0 (0%)
Alternative A			X	89	6,432	2	11,287	0 (0%)	0	0	0 (0%)
Alternative B			X	12,840	3,184	1,786		0 (0%)	0	0	0 (0%)
Alternative C			X	18	6,495		11,297	0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	3,455	4,999	9,356		0 (0%)	0	0	0 (0%)
Alternative E			X				17,810	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Mexico Point (1,277 acres)											
Proposed RMP	X	X		1,277				635 (50%)	1,277	1,277	1,277 (100%)
Alternative A	X	X			1,277			635 (50%)	1,277	1,277	1,277 (100%)
Alternative B	X	X		10	1,267			635 (50%)	1,277	1,277	1,277 (100%)
Alternative C	X	X		1,277				635 (50%)	1,277	1,277	1,277 (100%)
Alternative D (No Action)	X	X		1	1,276			635 (50%)	1,277	1,277	1,277 (100%)
Alternative E	X	X					1,277	635 (50%)	635	635	635 (50%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Moonshine Draw (4,513 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				4,513	0 (0%)	0	0	0 (0%)
Alternative A			X	12	4,377	120	4	0 (0%)	0	0	0 (0%)
Alternative B			X	2,197	2,192	120	4	0 (0%)	0	0	0 (0%)
Alternative C			X		3,043	1,466	4	0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	4,509			4	0 (0%)	0	0	0 (0%)
Alternative E			X				4,513	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Mountain Home (7,083 acres)											
Proposed RMP (Managed for wilderness characteristics.)	X	X					7,083	4,524 (64%)	0	0	0 (0%)
Alternative A	X	X		208	6,674	201		4,524 (64%)	0	0	0 (0%)
Alternative B	X	X		1,822	5,060	201		4,524 (64%)	0	0	0 (0%)
Alternative C	X	X			6,875	208		4,524 (64%)	0	0	0 (0%)
Alternative D (No Action)	X	X		254	3,185	3,644		4,524 (64%)	0	0	0 (0%)
Alternative E	X	X					7,083	4,524 (64%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Rat Hole (11,367 acres)											
Proposed RMP	X	X		11,367				8,288 (73%)	11,367	11,367	11,367 (100%)
Alternative A	X	X			11,367			8,288 (73%)	11,367	11,367	11,367 (100%)
Alternative B	X	X		11,367				8,288 (73%)	11,367	11,367	11,367 (100%)
Alternative C	X	X			164		11,203	8,288 (73%)	8,288	8,288	8,288 (73%)
Alternative D (No Action)	X	X		3,864	7,023	480		8,288 (73%)	10,887	10,887	10,887 (96%)
Alternative E	X	X					11,367	8,288 (73%)	8,288	8,288	8,288 (73%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Stuntz Draw (1,992 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				1,992	0 (0%)	0	0	0 (0%)
Alternative A			X		1,992			0 (0%)	0	0	0 (0%)
Alternative B			X	636	1,356			0 (0%)	0	0	0 (0%)
Alternative C			X		983	1,009		0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	1,992				0 (0%)	0	0	0 (0%)
Alternative E			X				1,992	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Sweet Water Canyon (6,994 acres)											
Proposed RMP	X	X		6,994				5,143 (74%)	6,994	6,994	6,994 (100%)
Alternative A	X	X			6,994			5,143 (74%)	6,994	6,994	6,994 (100%)
Alternative B	X	X		723	6,271			5,143 (74%)	6,994	6,994	6,994 (100%)
Alternative C	X	X		34			6,960	5,143 (74%)	5,143	5,143	5,143 (74%)
Alternative D (No Action)	X	X		6,387		583		5,143 (74%)	6,387	6,387	6,387 (91%)
Alternative E	X	X					6,994	5,143 (74%)	5,143	5,143	5,143 (74%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Vivas Cake Hill (277 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				277	0 (0%)	0	0	0 (0%)
Alternative A			X	9	268			0 (0%)	0	0	0 (0%)
Alternative B			X		277			0 (0%)	0	0	0 (0%)
Alternative C			X		27	250		0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	277				0 (0%)	0	0	0 (0%)
Alternative E			X				277	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
White River (21,210 acres)											
Proposed RMP (6,680 acres managed for wilderness characteristics.)	X			7,042	4,394	9,774		9,626 (45%)	11,436	11,436	11,436 (54%)
Alternative A	X			8,812	5,971	6,367		9,626 (45%)	14,783	14,783	14,783 (70%)
Alternative B	X			8,812	5,971	6,367		9,626 (45%)	14,783	14,783	14,783 (70%)
Alternative C	X			7,644	3,140	3,538	6,888	9,626 (45%)	10,784	10,784	10,784 (51%)
Alternative D (No Action)	X			10,911		10,299		9,626 (45%)	10,911	10,911	10,911 (51%)
Alternative E	X						21,210	9,626 (45%)	9,626	9,626	9,626 (45%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Wild Mountain (527 acres)											
Proposed RMP (Managed for wilderness characteristics.)			X				527	0 (0%)	0	0	0 (0%)
Alternative A			X	427	100			0 (0%)	0	0	0 (0%)
Alternative B			X	439	88			0 (0%)	0	0	0 (0%)
Alternative C			X	428	52			0 (0%)	0	0	0 (0%)
Alternative D (No Action)			X	348	179			0 (0%)	0	0	0 (0%)
Alternative E			X				527	0 (0%)	0	0	0 (0%)

Table 4.10.1 Proposed RMP and Alternative Impacts to Non-WSA Lands with Wilderness Characteristics

Name of Area	Oil & Gas as Development Potential			Proposed Lease Stipulations (Acres)				Currently under Lease (Acres)	Wilderness Characteristic Lost (Acres)		
	H	M	U	Standard Stipulations	Timing and Controlled Surface Use	NSO	Closed to Leasing		Direct loss of natural characteristics during life of the Plan (acres)	Reduction (directly or indirectly) in quality of the opportunities for solitude and primitive and unconfined recreation due to sights and sounds of development (acres)	Total area affected during life of the plan (acres and %)
Wolf Point (11,802 acres)											
Proposed RMP	X	X		4,782	6,940	71	9	6,288 (53%)	11,733	11,722	11,722 (99%)
Alternative A	X	X			11,733	65	4	6,288 (53%)	11,733	11,733	11,733 (99%)
Alternative B	X	X			11,733	65	4	6,288 (53%)	11,733	11,733	11,733 (99%)
Alternative C	X	X		3	29		11,770	6,288 (53%)	6,288	6,288	6,288 (53%)
Alternative D (No Action)	X	X		9,483	1,636	679	4	6,288 (53%)	11,119	11,119	11,119 (94%)
Alternative E	X	X					11,802	6,288 (53%)	6,288	6,288	6,288 (53%)

4.10.2.6. Impacts of Non-WSA Lands with Wilderness Characteristics Decisions on Non-WSA Lands with Wilderness Characteristics

There are 25 areas outside of existing WSAs totaling 277,596 acres that were inventoried and found to have wilderness characteristics. See Table 3.10.1 for a list of areas by name and acreage with wilderness characteristics (Figure 26).

4.10.2.6.1. Proposed RMP

Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under Proposed RMP, 15 non-WSA lands with wilderness characteristics, totaling 106,178 acres (see Table 2.1.10, Proposed RMP and Alternatives), would be managed with the following prescription to ensure the presence of their wilderness characteristics:

- Visual resource management (VRM) Class II objectives
- OHV use limited to designated routes
- Closed to oil and gas leasing, except in White River non-WSA lands with wilderness characteristics. There leases would be offered with a no surface occupancy (NSO) stipulation
- No geophysical exploration permitted except with hand-carried geophone lines
- Closed to solid mineral leasing
- Closed to disposal of mineral materials
- Open to mineral entry under the mining laws
- Public lands retained in federal ownership
- Avoidance for location of utility ROWs
- Closed to woodland products (firewood, posts/poles, Christmas trees) harvest
- No cross country travel (up to 300 feet) to access camp sites
- When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics:
    - Vegetation and fuel treatments permitted using prescribed fire and mechanical and chemical methods
    - Construction of wildlife waters, livestock facilities, and minimal recreation facilities permitted
    - Excavation of cultural resources sites permitted
    - Excavation of fossils permitted
- Wildfire suppression permitted. Fire lines and other disturbances would be reclaimed following suppression activities.

Many elements of the prescription to protect the wilderness characteristics of the 15 non-WSA lands with wilderness characteristics would prevent surface disturbances that would degrade the

natural characteristics of these areas. Closure of the 15 non-WSA lands with wilderness characteristics to oil and gas leasing (except in White River, which would be leased with an NSO stipulation), closure to solid mineral leasing, closure to mineral material sales, and closure to harvest of woodland products would all prevent surface disturbances that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Protection of the undeveloped nature of the non-WSA lands with wilderness characteristics would also maintain the setting needed to support primitive forms of recreation and experiences of solitude.

Other elements of the prescription to protect the wilderness characteristics of the non-WSA lands with wilderness characteristics would permit, when compatible with the management objectives of the non-WSA lands with wilderness characteristics, limited or minimal degrees of surface disturbance and construction of human-made facilities. Management to visual resource management Class II objectives, ROW avoidance objectives, and allowance for construction of minimal livestock, wildlife, and recreation facilities would result in some small amount of surface disturbance and placement of minimal structures in the non-WSA lands with wilderness characteristics, but not to the degree that these changes would be readily apparent on the land.

Other permitted actions in the 15 non-WSA lands with wilderness characteristics being managed to protect those characteristics would result in temporary surface disturbance and degradation of the natural characteristics for the benefit of resource management, science, and education. Excavation of cultural resource sites and fossil sites would yield important information about the cultural and natural resources of the non-WSA lands with wilderness characteristics. Upon completion of excavations, sites would be rehabilitated, and the natural characteristics of the lands restored. The presence and noise of these excavation operations would diminish opportunities for solitude, and depending on methods, conflict with primitive forms of recreation. These impacts, however, would end upon completion of excavation and restoration of the sites.

While limiting motorized (OHV) travel to designated routes in the non-WSA lands with wilderness characteristics would prevent expansion of OHV use and surface disturbance that degrade the natural characteristics of these lands, the noise and presence of motor vehicles would degrade opportunities for solitude and conflict with primitive forms of recreation like hiking, backpacking, wildlife viewing, and nature study.

Use of prescribe fire to maintain and restore vegetation communities, reduce fuel loading, rehabilitate watershed condition, and maintain or restore forage for wildlife and livestock would result, primarily, in naturally appearing disturbances to the land (fire). In the long term, restoration of desired vegetation communities would benefit the natural characteristics of the non-WSA lands with wilderness characteristics. The prescribed burning operation, however, would also temporarily reduce opportunities for solitude and conflict with primitive recreation opportunities, caused by the presence and noise of personnel, vehicles, and equipment needed to manage the fire. Fire lines and other surface disturbances would be rehabilitated following the burning operation, restoring the natural characteristics of the non-WSA lands with wilderness characteristics.

Retaining public lands in non-WSA lands with wilderness characteristics in public ownership would ensure BLM would have the continued ability to manage these lands to protect their wilderness characteristics.

Under the Proposed RMP, the 15 non-WSA lands with wilderness characteristics managed to protect those characteristics, however, would remain open to entry (mining claim staking, exploration, and production) under the 1872 Mining Law. This action would result in an occasional small to moderate sized surface mining operation that would degrade the natural characteristics and opportunities for solitude and primitive recreation.

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under the Proposed RMP, no specific actions are prescribed to directly protect or enhance the wilderness characteristics of all or portions of 11 non-WSA lands with wilderness characteristics. Thus, there would be no effect on the wilderness characteristics of the non-WSA lands with wilderness characteristics.

4.10.2.6.2. Alternatives A, B, C, and D (No Action)

Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under these alternatives, there would be no specific actions prescribed to directly protect or enhance the wilderness characteristics of all 25 of the non-WSA lands with wilderness characteristics that have those values (277,596 acres). Thus, there would be no effect on the wilderness characteristics of the non-WSA lands with wilderness characteristics.

4.10.2.6.3. Alternative E

Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under Alternative E, all 25 non-WSA lands with wilderness characteristics, totaling 277,596 acres (see Table 2.1.10 Proposed RMP and Alternatives), would be managed by the following prescription to protect their wilderness characteristics:

- Visual resource management (VRM) Class I objectives
- Closed to OHV use
- Closed to oil and gas leasing
- Closed to solid mineral leasing
- Closed to disposal of mineral materials
- Proposed for withdrawal from mineral entry
- Public lands retained in federal ownership
- Avoidance from location of utility ROWs

- Closed to permitted commercial and personal-use wood cutting and seed collecting
- Closed to new road construction
- Maintenance of existing facilities permitted
- When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics:
    - Vegetation and fuel treatments permitted using prescribed fire
    - Construction of wildlife waters, livestock facilities, and minimal recreation facilities permitted
    - Excavation of cultural resources sites permitted
    - Excavation of paleontological resources permitted
- No actions would be allowed that would degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics.

Under Alternative E, the management prescription prescribed to protect the wilderness characteristics of the 25 non-WSA lands with wilderness characteristics would have the same effect on those characteristics as described under the Proposed RMP, with the following exceptions.

The visual resource management objective would be Class I. The objective of Class I is to preserve the characteristic landscape. This objective would strictly limit, or even prohibit, actions that cause surface disturbances and result in the degradation of the natural characteristics of the non-WSA lands with wilderness characteristics.

Closure of the non-WSA lands with wilderness characteristics to motorized vehicle (OHV) use would protect not only the natural characteristics of the non-WSA lands with wilderness characteristics, but also opportunities for solitude and primitive forms of recreation. Closure to OHV use would prevent surface disturbance caused by motor vehicles. Closure to OHV use would also prevent the noise and presence of people and vehicles that degrade opportunities for solitude and conflict with other primitive forms of recreation.

Under Alternative E, all non-WSA lands with wilderness characteristics would be recommended for withdrawal from mineral entry under the mining laws. Under withdrawal, no mining would be permitted and there would be no resultant surface that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics or opportunities for solitude or primitive forms of recreation.

Under this alternative, no road construction would be permitted. This would maintain roadless and natural characteristics of the non-WSA lands with wilderness characteristics, prevent surface disturbance that degrades the natural characteristics of the non-WSA lands with wilderness characteristics, prevent degradation of opportunities for solitude, and prevent conflicts with primitive forms of recreation.

This management prescription would protect the wilderness characteristics of all of the non-WSA lands with wilderness characteristics with those values.

4.10.2.7. Impacts of Recreation Decisions on Non-WSA Lands with Wilderness Characteristics

4.10.2.7.1. Proposed RMP

4.10.2.7.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The Proposed RMP would manage 2,831 acres along the White River as an SRMA for river-related recreation opportunities, including float boating, camping, and hiking. The SRMA includes portions of the White River immediately downstream the non-WSA lands with wilderness characteristics. Coupled with the lands managed for their wilderness characteristics, the SRMA would generally retain the natural characteristics of the landscape, allowing minor development consistent with VRM Class II objectives. Retaining the natural characteristics of the setting would support opportunities for solitude and primitive forms of recreation.

Under the Proposed RMP, Blue Mountain (42,729 acres) would be managed as a SRMA with recreation focus on hang-gliding, rock climbing, historic interpretation, and OHV use of designated routes. The SRMA includes 13,335 acres of the Bourdette Draw non-WSA lands with wilderness characteristics. The management prescription for that portion of the SRMA that includes the non-WSA lands with wilderness characteristics would limit OHV use to designated routes, manage landscapes as VRM Class II, and close the area to oil and gas leasing. Management to VRM Class II objectives (to retain the landscape character) would limit surface disturbance that would impact the natural characteristics of the non-WSA lands with wilderness characteristics. While parts of the non-WSA lands with wilderness characteristics are leased, oil and gas occurrence potential is undetermined, and development is not anticipated. Limiting OHV use to designated routes (about 4 miles) would prevent further surface disturbance of the landscape, and thus its natural characteristics, but the noise and presence of motorized vehicles would degrade opportunities for solitude and conflict with primitive recreation activities found in the non-WSA lands with wilderness characteristics.

The Proposed RMP would manage 18,490 acres in Browns Park as an SRMA with recreation focus on outstanding scenic vistas and enhancement of resources, including riparian, fish, special status species, and water quality, and the associated recreation uses, including water-based recreation, hunting, hiking, biking, horseback riding, OHV driving, camping, and cultural interpretation; as well as the construction of facilities needed to support these activities. The SRMA includes all or portions of the Mountain Home (507 acres), Cold Springs Mountain (3,225 acres), and Lower Flaming Gorge (4,318 acres) non-WSA lands with wilderness characteristics. The management prescription for that portion of the SRMA that includes the three non-WSA lands with wilderness characteristics would close the area to leasing. The prescription for OHV travel in the non-WSA lands with wilderness characteristics within the SRMA would limit travel to designated routes. And, the non-WSA lands with wilderness characteristics in the SRMA would be managed by VRM Class II objectives. In the northern portion of the SRMA (that includes part of Mountain Home non-WSA lands with wilderness characteristics), mineral occurrence potential is moderate to high, but interest in exploration and production has not been demonstrated. No surface disturbance connected with exploration and production is anticipated that would alter the natural characteristics of the non-WSA lands with

wilderness characteristics. Limiting motorized travel to about 3 miles of designated routes in the Mountain Home and Cold Spring Mountain non-WSA lands with wilderness characteristics would prevent expansion of surface disturbance that would degrade the natural landscape. However, the noise and presence of vehicles would temporarily diminish opportunities for solitude and conflict with primitive forms of recreation.

4.10.2.7.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The Proposed RMP would manage 44,168 acres in Nine Mile Canyon as a SRMA to protect high-value cultural resources and scenic vistas. The SRMA includes a portion (23,058 acres) of the Desolation Canyon non-WSA lands with wilderness characteristics. OHV travel in the non-WSA lands with wilderness characteristics portion of the SRMA would be limited to designated routes and the area would be managed with VRM Class II objectives (retention of the characteristic landscape) in the canyon bottom and Class III objectives (partial retention) on the table lands above the canyon. Mineral resources would be leased with a no surface occupancy stipulation for the canyon bottom and standard stipulation on the table lands. Portions of the non-WSA lands with wilderness characteristics are already leased, the potential for mineral occurrence is moderate to high, and development is anticipated. No surface occupancy on future leases in the canyon bottom would prevent further landscape modifications that would degrade the natural characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics. But, exploration and development on existing leases and new leases with standard stipulations would result in surface disturbance that would alter the natural characteristics of the table lands above the canyon. Limiting motorized travel to designated routes (19 miles) would prevent surface disturbance from expansion of OHV use that would adversely impact the natural characteristics of the non-WSA lands with wilderness characteristics. The noise and presence of vehicles on these routes, however, would degrade opportunities for solitude and conflict with primitive, non-motorized recreation uses of the area. While management of the area for VRM Class II objectives would minimize surface disturbance and impacts to the natural characteristics of the non-WSA lands with wilderness characteristics, it would not prevent that disturbance.

4.10.2.7.2. ALTERNATIVE A

4.10.2.7.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative A would manage 24,183 acres along the White River as an SRMA for river-related recreation opportunities, including float boating, camping, wildlife viewing, hunting, fishing, hiking, and historic interpretation. The SRMA includes portions of the White River non-WSA lands with wilderness characteristics. In the canyon, the SRMA prescription would generally retain the natural characteristics of the landscape, allowing minor development consistent with VRM Class II objectives, except where the ROW corridor crosses the river canyon. Generally, retaining a natural setting would support opportunities for solitude and primitive forms of recreation. Location of a utility line in the proposed corridor would change that portion of the

landscape to a more developed character, and would not be conducive to opportunities for solitude or primitive recreation activities.

Under this alternative, Blue Mountain (42,758 acres) would be managed as a SRMA with recreation focus on hang-gliding, wildlife viewing, hunting, sight seeing, photography, horseback riding, camping, hiking, rock climbing, historic interpretation, and OHV use of designated routes. The SRMA includes Bourdette Draw non-WSA lands with wilderness characteristics. The management prescription for that portion of the SRMA that includes the non-WSA lands with wilderness characteristics would limit OHV use to designated routes, manage landscapes as VRM Classes I, II, and IV, and allow for oil and gas leasing with timing and controlled surface use stipulations. Management to VRM Class I (preservation of the characteristic landscape) and II (retain the landscape) would limit surface disturbance that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Areas along the Miners Draw Road would be managed VRM Class IV and would permit development that would alter the landscape and natural characteristics of the non-WSA lands with wilderness characteristics. Oil and gas leasing with timing and controlled surface use would allow exploration and development that would alter the landscape. However, while parts of the non-WSA lands with wilderness characteristics are leased, oil and gas occurrence potential is undetermined, so development is not anticipated. Limiting OHV use to designated routes (about 4 miles) would prevent further surface disturbance of the landscape, and thus its natural characteristics, but the noise and presence of motorized vehicles would degrade opportunities for solitude and conflict with primitive recreation activities found in the non-WSA lands with wilderness characteristics.

Alternative A would manage 273,486 acres in the Book Cliffs as a SRMA with emphasis on a frontier mystique of adventure and discovery; opportunities for unconfined recreation with limited facilities. Activities would include wildlife viewing, hunting, hiking, backpacking, OHV driving, camping, viewing cultural sites, picnicking, mountain biking, photography, and horseback riding. This SRMA includes all or portions of the Bitter Creek, Rat Hole Ridge, Cripple Cowboy, Hells Hole Canyon, Sweet Water Canyon, and Wolf Point non-WSA lands with wilderness characteristics. The management prescription for that portion of the SRMA that includes the non-WSA lands with wilderness characteristics would limit OHV use to approximately 34 miles of designated routes, manage landscapes as VRM Classes II and III, and allow for oil and gas leasing with timing and controlled surface use stipulations (also a small area of standard stipulations in Bitter Creek non-WSA lands with wilderness characteristics). Management to VRM Class II would limit surface disturbance that would generally protect the natural characteristics of the non-WSA lands with wilderness characteristics. Management to VRM Class III would allow for surface disturbance and development that would alter the landscape and natural characteristics of the non-WSA lands with wilderness characteristics. Wolf Point, Sweetwater Canyon, Cripple Cowboy, Hells Hole Canyon, and Rat Hole Ridge would be managed by VRM Class II objectives. Bitter Creek would be managed under both Class II and III objectives. Oil and gas leasing with timing and controlled surface use stipulations would allow exploration and development that would alter the landscape. Because the SRMA is located in an area with moderate and high potential for oil and gas occurrence, development is likely. Limiting OHV use to designated routes would prevent further surface disturbance of the landscape and thus degradation of the natural characteristics, but the noise and presence of

motorized vehicles would degrade opportunities for solitude and conflict with primitive recreation activities found in the non-WSA lands with wilderness characteristics.

Alternative A would manage 52,720 acres in Browns Park as an SRMA with recreation focus on outstanding scenic vistas and enhancement of resources and associated activities including riparian, fish, special status species, water quality, water-based recreation, hunting, hiking, biking, horseback riding, OHV driving, camping, and cultural interpretation, as well as the construction of facilities needed to support these activities. The SRMA includes all or portions of the Mountain Home, Cold Springs Mountain, Lower Flaming Gorge, and Dead Horse Pass non-WSA lands with wilderness characteristics. The management prescription for that portion of the SRMA that includes Lower Flaming Gorge non-WSA lands with wilderness characteristics would close the area to leasing, while the other non-WSA lands with wilderness characteristics would allow leasing with timing and controlled surface use stipulations in the SRMA. The prescription for OHV travel in the non-WSA lands with wilderness characteristics within the SRMA would limit travel to designated routes, except Lower Flaming Gorge, which would be closed to OHV use. And, the non-WSA lands with wilderness characteristics in the SRMA would be managed by VRM Class II objectives. The area south of the Green River between Little Hole and Fire Flat, extending around the Taylor Flat subdivision to Rye Grass Draw, would be managed for primitive recreation opportunities, closed to OHV use, and closed to surface-disturbing activities. This prescription would protect the wilderness characteristics (natural characteristics, and opportunities for solitude and primitive recreation) in the Lower Flaming Gorge non-WSA lands with wilderness characteristics. In the northern portion of the SRMA (that includes parts of Mountain Home and Cold Spring Mountain non-WSA lands with wilderness characteristics), mineral occurrence potential is moderate. Interest in exploration and development, however, has not been demonstrated and surface disturbance that would alter the natural characteristics of the non-WSA lands with wilderness characteristics is not anticipated. Limiting motorized travel to about 3 miles of designated routes in the Mountain Home and Cold Spring Mountain non-WSA lands with wilderness characteristics would prevent expansion of surface disturbance that would degrade the natural landscape. However, the noise and presence of vehicles would temporarily impact opportunities for solitude and conflict with primitive forms of recreation. There are no routes designated for OHV travel in the Dead Horse Pass non-WSA lands with wilderness characteristics.

Alternative A would manage 81,168 acres in Nine Mile Canyon as a SRMA to protect high-value cultural resources and scenic vistas. The SRMA includes a portion (20,989 acres) of the Desolation Canyon non-WSA lands with wilderness characteristics. OHV travel in the non-WSA lands with wilderness characteristics portion of the SRMA would be limited to designated routes and the area would be managed with VRM Class II objectives in the canyon bottom and Class III objectives on the table lands above the canyon. Mineral resources would be leased with a no surface occupancy stipulation for the canyon bottom and standard stipulation on the table lands. Portions of the non-WSA lands with wilderness characteristics are already leased, and potential for mineral occurrence is moderate to high. So, development is anticipated. No surface occupancy on future leases in the canyon bottom would prevent further landscape modifications that would degrade the natural characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics. But, exploration and development on existing leases and new leases with standard stipulations would result in surface disturbance that would alter the natural

characteristics of the table lands above the canyon. Limiting motorized travel to designated routes (19 miles) would prevent surface disturbance from expansion of OHV use that would adversely impact the natural characteristics of the non-WSA lands with wilderness characteristics. The noise and presence of vehicles on these routes, however, would degrade opportunities for solitude and conflict with primitive, non-motorized recreation uses of the area. While management of the area for VRM Class II objectives would minimize surface disturbance and impacts to the natural characteristics of the non-WSA lands with wilderness characteristics, it would not prevent that disturbance.

4.10.2.7.3. ALTERNATIVE B

4.10.2.7.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, the White River would be managed for recreation use with minimal management oversight. OHV use would be closed along the river and limited to routes elsewhere. As a result, the river itself would provide opportunities for non-motorized recreation like floating, fishing, camping, hunting, and wildlife viewing. Motor vehicles, however, would have point access to the river on existing routes, providing for OHV driving and vehicle-supported camping, fishing, and picnicking, but this would also create some conflict with non-motorized river users. Motorized recreation uses and unlimited visitor group sizes would detract from opportunities for solitude and conflict with primitive and unconfined recreation uses.

Under this alternative, Blue Mountain would not be managed as a SRMA, but the area would be managed as part of the field office Extensive Recreation Management Area (ERMA). Dispersed motorized and non-motorized recreation uses would continue with minimal facility construction. Non-motorized, undeveloped forms of recreation would enhance opportunities for solitude and primitive and unconfined recreation and would not create surface disturbances that would degrade the natural characteristics of the Bourdette Draw non-WSA lands with wilderness characteristics. However, where motorized recreation uses occurred in the non-WSA lands with wilderness characteristics, and if even minimal facilities were constructed to support recreation activities, the resulting surface disturbance of construction of facilities would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Further, the noise and presence of vehicles and facilities would impact opportunities for solitude and conflict with primitive and unconfined forms of recreation.

Under this alternative, like Blue Mountain, the Book Cliffs region would not be managed as a SRMA, but the area would be managed as part of the field office ERMA. Dispersed motorized and non-motorized recreation uses would continue with minimal facility construction. Non-motorized, undeveloped forms of recreation would enhance opportunities for solitude and primitive and unconfined recreation and would not create surface disturbances that would degrade the natural characteristics of the Bitter Creek, Rat Hole Ridge, Hells Hole Canyon, Sweetwater, Cripple Cowboy, and Wolf Point non-WSA lands with wilderness characteristics. However, where motorized recreation uses occurred in the non-WSA lands with wilderness characteristics, and if even minimal facilities were constructed to support recreation activities, the resulting surface disturbance of construction of facilities would degrade the natural

characteristics of the non-WSA lands with wilderness characteristics. Further, the noise and presence of vehicles and facilities would diminish opportunities for solitude and conflict with primitive and unconfined forms of recreation.

Under Alternative B, Browns Park would be managed as an 17,000-acre SRMA with recreation focus on outstanding scenery, riparian, fisheries, special status species, and water quality, and the associated recreation uses, including water-based recreation, hunting, hiking, biking, horseback riding, OHV driving, camping, and cultural interpretation; and construction of facilities would be needed to support these activities. The SRMA includes portions of the Mountain Home (507 acres), Cold Springs Mountain (3,226 acres), and Lower Flaming Gorge (4,312 acres) non-WSA lands with wilderness characteristics. The impacts to non-WSA lands with wilderness characteristics would be the same as those described for Alternative A, for those non-WSA lands with wilderness characteristics located in the slightly smaller SRMA.

Under this alternative, Nine Mile Canyon would be managed as a 44,181-acre SRMA to protect areas of high cultural resource site density and scenic vistas. The SRMA would include part of the Desolation Canyon non-WSA with wilderness characteristics (23,053 acres), with impacts to the non-WSA lands with wilderness characteristics as described under the Proposed RMP.

4.10.2.7.4. ALTERNATIVE C

4.10.2.7.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values

Alternative C would manage 47,130 acres along the White River as an SRMA, with impacts that same as described for Alternative A, but include all of the White River non-WSA lands with wilderness characteristics.

Under this alternative, Blue Mountain would be managed as a 42,758-acre SRMA, with impacts that are the same as those described under Alternative A.

Alternative C would manage 273,486 acres within the Book Cliffs as a SRMA. The impacts would be the same as those described for Alternative A, except the Wolf Creek and Bitter Creek drainages and the head of Sweetwater Canyon would be closed to oil and gas leasing. Closure to leasing would prevent surface disturbance from exploration and development, protecting the natural characteristics of the Wolf Point, Cripple Cowboy, Bitter Creek, Rat Hole Ridge, and Sweetwater non-WSA lands with wilderness characteristics. However, portions of these non-WSA lands with wilderness characteristics are already leased, and given the moderate to high potential for mineral occurrence, impacts to their roadless character, natural characteristics, and opportunities for solitude and primitive recreation would be the same as those described under Alternative A.

Under Alternative C, Browns Park would be managed as a 52,720-acre SRMA, with impacts to non-WSA lands with wilderness characteristics being the same as those described for Alternative A.

Under this alternative, Nine Mile Canyon would be managed as an 81,168-acre SRMA, with impacts to non-WSA lands with wilderness characteristics being the same as those described for Alternative A.

4.10.2.7.5. ALTERNATIVE D (NO ACTION)

4.10.2.7.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Designation of Browns Park and Nine Mile Canyon SRMAs under Alternative D (No Action) would be very similar to that proposed under Proposed RMP, with impacts being the same as those described for Proposed RMP. No SRMAs would be designated for the Book Cliffs, White River, or Blue Mountain under this alternative. Recreation use in the non-WSA lands in these areas would be managed as part of the VFO Extensive Recreation Management Areas (ERMA) with impacts that same as described under Alternative B above.

4.10.2.7.6. ALTERNATIVE E

4.10.2.7.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Designation of SRMAs under Alternative E would be the same as that proposed under Alternative A, with impacts being the same as those described for Alternative A. Designation of the White River SRMA, however, would be the same as proposed under Alternative C, with impacts that same as described for Alternative C. Under this alternative, however, non-WSA lands with wilderness characteristics located in any of the SRMAs would be managed to protect their wilderness characteristics and to provide for primitive and non-motorized/non-mechanized forms of recreation, and the settings needed to support those types of activities (undeveloped and unmodified landscapes) and experiences. As a result, the roadless and natural characteristics of the non-WSA lands with wilderness characteristics would be preserved, as would the opportunities for solitude and primitive recreation it provides.

4.10.2.7.7. SUMMARY

In summary, management of SRMAs under Alternative E would provide the greatest level of protection to the wilderness characteristics of the non-WSA lands with wilderness characteristics, followed by the Proposed RMP and Alternatives A and C. Management of the non-WSA lands with wilderness characteristics portions of the SRMAs for natural landscapes, non-motorized uses, and opportunities for solitude and primitive recreation would protect the wilderness characteristics of these areas under the Proposed RMP and Alternative E. Alternatives B and D (No Action) would provide less protection of wilderness characteristics.

4.10.2.8. Impacts of Travel, Roads, and Trails Decisions on Non-WSA Lands with Wilderness Characteristics

4.10.2.8.1. Proposed RMP

4.10.2.8.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The Proposed RMP would improve and develop up to 400 miles of trails for non-motorized uses. Mechanized use (mountain bikes) would also be permitted. Developing additional trails for hiking and horseback riding would provide added opportunities for primitive forms of recreation, where the trails are located in non-WSA lands with wilderness characteristics. Trails are planned in many non-WSA lands with wilderness characteristics managed for protection of those characteristics, including Daniels Canyon, Lower Flaming Gorge, Mountain Home, and others. Development of trails for mountain bikes would be in conflict with the primitive forms of recreation typically found, and managed for, in lands with wilderness characteristics. If there were substantial levels of use on the trails (by foot, horse, and/or bike) in the non-WSA lands with wilderness characteristics, the visitor's ability to find and experience solitude would be reduced. Construction of new trails would create surface disturbance that would detract from the natural characteristics of the landscape and non-WSA lands with wilderness characteristics, depending on the type of landform and vegetation cover. The change to the natural landscape, however, would be expected to be minimal, and new trails would provide added opportunities for primitive recreation activities.

The Proposed RMP would not allow motorized use off roads or trails to retrieve big game taken while hunting. Where this activity might occur in non-WSA lands with wilderness characteristics, this management action would reduce surface disturbance cause by OHV use that directly reduces the natural characteristics of non-WSA lands with wilderness characteristics. Further, this action would reduce the presence and noise of vehicles and the impacts to opportunities for solitude and primitive and unconfined recreation uses.

Under Proposed RMP, 6,202 acres would be designated as "open" to cross-country OHV travel. None of these open areas are located in non-WSA lands with wilderness characteristics, so there would be no impact of motor vehicles or use on wilderness characteristics.

Under the Proposed RMP, 1,643,475 acres would be designated "limited" to OHV travel. The limitation would require vehicles to travel on designated routes (4,860 miles). Except for portions of the Lower Flaming Gorge and White River non-WSA lands with wilderness characteristics, OHV use in most of the other non-WSA lands with wilderness characteristics (258,074 acres) would be limited to designated routes. This limitation would confine disturbance to soils and vegetation caused by motor vehicle use to the existing 113 miles of routes and result in no additional degradation of the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of vehicles using these routes, however, would reduce the opportunity of visitors to find solitude in the non-WSA lands with wilderness characteristics, especially in proximity to the routes. And, motorized uses would conflict with primitive and unconfined recreation opportunities sought in the non-WSA lands with wilderness characteristics.

Under the Proposed RMP, 75,845 acres would be closed to OHV use, including portions of the Lower Flaming Gorge (11,245 acres) and White River (6,833 acres) non-WSA lands with wilderness characteristics. This closure would prevent surface disturbance caused by motorized travel and the resultant impacts to the natural characteristics of the non-WSA lands with wilderness characteristics. Further, closure to OHV use would protect opportunities for solitude and prevent motorized uses that conflict with primitive forms of recreation in these areas. The wilderness characteristics of these two non-WSA lands with wilderness characteristics would be unaffected by OHV travel.

4.10.2.8.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Development of 400 miles of additional trails for hiking and horseback riding would provide added opportunities for primitive forms of recreation, where the trails are located in non-WSA lands with wilderness characteristics. Trails are planned in many non-WSA lands with wilderness characteristics, including Bitter Creek, Cripple Cowboy, and others. Development of trails for mountain bikes would be in conflict with the primitive forms of recreation typically found, and managed for, in lands with wilderness characteristics. Substantial levels of use on the trails (by foot, horse, and/or bike) would reduce the visitor's ability to find and experience solitude. Construction of new trails would create surface disturbance that would detract from the natural characteristics of the landscape and non-WSA lands with wilderness characteristics, depending on the type of landform and vegetation cover. The change to the natural landscape, however, would be expected to be minimal.

Under the Proposed RMP, new permitted roads would be rehabilitated after serving their intended purposes. In the short-term, new roads constructed in non-WSA lands with wilderness characteristics would reduce the roadless character of the non-WSA lands with wilderness characteristics. Depending on the location of the road, it may even reduce the size of the non-WSA lands with wilderness characteristics, as lands with wilderness characteristics are roadless. Motor vehicle use of these newly constructed roads would also reduce a visitor's ability to find solitude and conflict with primitive, non-motorized forms of recreation. Depending on the purpose of the road, the impacts would be long-term, as well. For example, a newly constructed road to a producing oil or gas well would remain in place for an average of 25 years (Mineral Report, June 2004). However, upon successful reclamation, the natural characteristics of the non-WSA lands with wilderness characteristics would return. The nature of the landform and vegetation would affect the success of the reclamation efforts (partial or total). Cuts and fills for road construction on steep slopes and removal of old growth forest vegetation would be more difficult to restore and would take longer to return to a natural condition than a road constructed through a grassland or sage brush flat.

The Proposed RMP would also allow for the improvement or development of 800 miles of motorized trails. Trail improvement or construction would create surface disturbance that would have direct, adverse impacts on the landscape and natural quality of the non-WSA lands with wilderness characteristics, if any of the trails were developed in the non-WSA lands with wilderness characteristics (that decision would be made at the activity-level stage of planning following completion of the RMP). Development of motorized trails would conflict with the

primitive forms of recreation typically found, and managed for, in lands with wilderness characteristics. And, the presence and noise of dirt bikes or ATVs would reduce opportunities for solitude visitors seek in areas with wilderness characteristics. Construction of new trails would create surface disturbance that would detract from the natural characteristics of the landscape and non-WSA lands with wilderness characteristics, depending on the type of landform and vegetation cover. Indirect, long-term, adverse impacts would be produced by soil erosion, trail widening, and unmanaged extension of the trail system by OHVs.

The Proposed RMP would not allow motorized use off roads or trails to retrieve big game taken while hunting. Where this activity might occur in non-WSA lands with wilderness characteristics, this management action would reduce surface disturbance cause by OHV use that directly reduces the natural characteristics of non-WSA lands with wilderness characteristics. Further, this action would reduce the presence and noise of vehicles and the impacts to opportunities for solitude and primitive and unconfined recreation uses.

Under Proposed RMP, 6,202 acres would be designated as "open" to cross-country OHV travel. None of these open areas are located in non-WSA lands with wilderness characteristics, so there would be no impact of motor vehicles or use on wilderness characteristics.

Under the Proposed RMP, 1,643,475 acres would be designated "limited" to OHV travel. The limitation would require vehicles to travel on designated routes (4,860 miles). Use in most all of the non-WSA lands with wilderness characteristics (258,074 acres) would be limited to designated routes. This limitation would confine disturbance to soils and vegetation caused by motor vehicle use to the existing 113 miles of routes and result in no additional degradation of the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of vehicles using these routes, however, would reduce the opportunity of visitors to find solitude in the non-WSA lands with wilderness characteristics, especially in proximity to the routes. And, motorized uses would conflict with primitive and unconfined recreation opportunities sought in the non-WSA lands with wilderness characteristics.

Under the Proposed RMP, 75,845 acres would be closed to OHV use. This closure would prevent surface disturbance caused by motorized travel and the resultant impacts to the natural characteristics of the non-WSA lands with wilderness characteristics. Further, closure to OHV use would protect opportunities for solitude and prevent motorized uses that conflict with primitive forms of recreation in these areas.

4.10.2.8.2. ALTERNATIVE A

4.10.2.8.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative A, the impact of travel, roads, and trails decision on the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as described for the Proposed RMP, except that no non-WSA lands with wilderness characteristics would be managed with emphasis on protection of wilderness characteristics.

4.10.2.8.3. ALTERNATIVE B

4.10.2.8.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, hiking, horseback riding, and mechanized (non-motorized) trails would not be improved or developed. Thus, there would be no benefit to primitive and unconfined forms of recreation (hiking and horseback riding) sought by visitors to areas with wilderness characteristics. However, there would also be no conflict between mountain bike users of trails and hikers and horseback riders.

Under this alternative, new permitted roads would not be rehabilitated after serving their intended purposes. They would be left as parts of the transportation system on public lands. If these roads were constructed in non-WSA lands with wilderness characteristics, they would reduce the roadless character of the affected non-WSA lands with wilderness characteristics and reduce the size of the area with wilderness characteristics because lands with wilderness characteristics are roadless. The presence and noise of continued motor vehicle use of these newly constructed roads would also reduce a visitor's ability to find solitude and conflict with primitive, non-motorized forms of recreation.

This alternative, like the Proposed RMP and Alternative A, would also allow the improvement or development of 800 miles of motorized trails. If these trails were developed in non-WSA lands with wilderness characteristics, the impacts would be the same as described under the Proposed RMP and Alternative A.

Alternative B would allow motorized use off roads or trails to retrieve big game taken while hunting. Where this activity occurs in non-WSA lands with wilderness characteristics, it would result in a one-time pass, in and out of the area, and generally minor amounts of surface disturbance cause by motor vehicles that would reduce the natural characteristics of non-WSA lands with wilderness characteristics. Because the use would be a one-time event, depending on the terrain and vegetation type, surface disturbance should be temporary and naturally rehabilitate. The presence and noise of vehicles, however, would diminish opportunities for solitude and conflict with primitive and unconfined recreation uses of the non-WSA lands with wilderness characteristics.

Under Alternative B, 5,434 acres in the VPA would be designated as "open" to cross country OHV travel. None of these open areas are located in non-WSA lands with wilderness characteristics, so there would be no impacts of motor vehicles on wilderness characteristics.

Under this alternative, 1,659,901 acres would be designated "limited" to OHV travel. The limitation would require vehicles to travel on designated routes (4,861 miles). Except for portions of the White River non-WSA lands with wilderness characteristics, OHV use in most all of the other non-WSA lands with wilderness characteristics (274,022 acres) would be limited to 114 miles of designated routes, with impacts the same as those described under the Proposed RMP and Alternative A for areas designated limited to OHV travel.

Under this alternative, 60,187 acres would be closed to OHV use, including portions of the White River non-WSA lands with wilderness characteristics (2,948 acres), with impacts the same as those described under the Proposed RMP and Alternative A, for areas closed to OHV travel.

4.10.2.8.4. ALTERNATIVE C

4.10.2.8.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative C proposes to improve and develop up to 400 miles of trail for non-motorized uses, including hiking, horseback riding, and mountain biking. The impacts of this action on the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as those described for the Proposed RMP and Alternative A.

Under this alternative, new permitted roads would be rehabilitated after serving their intended purposes. The impacts to the wilderness characteristics of non-WSA lands with wilderness characteristics of this action would be the same as described under the Proposed RMP and Alternative A.

Under this alternative, motorized trails would not be developed, and consequently this decision would result in no impacts to the natural characteristics of the non-WSA lands with wilderness characteristics, nor opportunities for solitude or primitive recreational activities.

Alternative C would not allow motorized use off road or trail to retrieve big game taken while hunting. The impacts to the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as those described under the Proposed RMP and Alternative A.

Under Alternative C, 5,434 acres in the VPA would be designated as "open" to cross-country OHV travel. None of these open areas are located in non-WSA lands with wilderness characteristics, so there would be no impacts of motor vehicles on wilderness characteristics.

Under this alternative, 1,353,529 acres would be designated "limited" to OHV travel. The limitation would require vehicles to travel on designated routes (4,707 miles), including the Bitter Creek, Bourdette Draw, Desolation Canyon, Diamond Mountain, Hells Hole Canyon, and Mountain Home non-WSA lands with wilderness characteristics. The impacts of limiting motorized travel on 26,266 acres to 57 miles of designated routes on the wilderness characteristics of these areas would be the same as those described for the Proposed RMP and Alternative A.

Under Alternative C, 366,559 acres would be closed to OHV use, including most of the Lower Flaming Gorge, Cold Spring Mountain, Diamond Breaks, Diamond Mountain, Wild Mountain, Moonshine Draw, Bourdette Draw, Daniels Canyon, Bull Canyon, White River, Bitter Creek, Lower Bitter Creek, Bitter Creek, Rat Hole Ridge, Cripple Cowboy, Sweetwater Canyon, Wolf Point, and Desolation Canyon non-WSA lands with wilderness characteristics. The effect of OHV closure of 250,716 acres on the wilderness characteristics of these non-WSA lands with

wilderness characteristics would be the same as those described for Proposed RMP and Alternative A, but would include more lands with wilderness characteristics.

4.10.2.8.5. ALTERNATIVE D (NO ACTION)

4.10.2.8.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative D (No Action) proposes 55 miles of hiking and horseback riding trails and 2 miles of mountain bike trails. If these trails are located in any non-WSA lands with wilderness characteristics, the impacts to wilderness characteristics would be the same as those described for the Proposed RMP and Alternative A. As with the Proposed RMP and other alternatives, off-road or off-trail use of OHVs to retrieve game taken while hunting would not be permitted, with impacts as described for the Proposed RMP and Alternative A.

This alternative would maintain a total of 787,859 acres as open to cross country OHV travel, including all, or portions of the Beach Draw, Bourdette Draw, Cold Spring Mountain, Desolation Canyon, Wolf Point, Cripple Cowboy, Bitter Creek, Rat Hole Ridge, Lower Bitter Creek, Sweet Water, Hideout Canyon, White River, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Dead Horse Pass, Mountain Home, and Wild Mountain non-WSA lands with wilderness characteristics. Cross-country motorized travel in these non-WSA lands with wilderness characteristics would result in surface disturbance to soils and vegetation that would alter the landscape and diminish the natural characteristics of these non-WSA lands with wilderness characteristics. Further, the presence and noise of motorized vehicles would degrade a visitor's opportunity for solitude and conflict with opportunities for primitive and unconfined recreation activities.

Under this alternative, 887,275 acres would be limited to OHV use, including small to substantial parts of every non-WSA lands with wilderness characteristics. Limiting OHV use on 143,887 acres of non-WSA lands with wilderness characteristics to 228 miles of existing routes would confine soil and vegetation disturbance caused by motor vehicles to those routes and would result in no additional change to the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of vehicles using these routes, however, would reduce the opportunity of visitors to find solitude in the non-WSA lands with wilderness characteristics, especially in proximity to the routes. And, motorized uses would conflict with primitive and unconfined recreation opportunities sought in the non-WSA lands with wilderness characteristics.

Alternative D (No Action) would close 50,388 acres to OHV use, including parts of every non-WSA lands with wilderness characteristics (34,331 acres), except Hideout Canyon. This closure would prevent surface disturbance caused by motorized travel and would protect the natural characteristics of the non-WSA lands with wilderness characteristics. Further, closure to OHV use would eliminate the presence and noise of OHV travel and preserve opportunities for solitude and primitive forms of recreation in these areas. The wilderness characteristics of the non-WSA lands with wilderness characteristics would be unaffected by OHV travel.

4.10.2.8.6. ALTERNATIVE E

4.10.2.8.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Alternative E proposes to improve and develop up to 400 miles of trails for non-motorized uses, including hiking and horseback riding. The impacts of this action on the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as those described for the Proposed RMP and Alternative A, except that mountain biking would not be permitted, and thus, the conflicts with primitive forms of recreation would not occur.

Under this alternative, new permitted roads would be rehabilitated after serving their intended purposes. The impacts to the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as those described under Alternative A.

No motorized routes would be improved or developed under Alternative E. This decision, therefore, would result in no impacts to the natural characteristics of the non-WSA lands with wilderness characteristics nor opportunities for solitude or primitive recreational opportunities.

This alternative would not allow motorized use off-road or off-trail to retrieve big game taken while hunting. The impacts to the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as those described under the Proposed RMP and Alternative A.

Under Alternative E, 5,434 acres in the VPA would be designated as "open" to cross-country OHV travel. None of these open areas are located in non-WSA lands with wilderness characteristics, so there would be no impacts of motor vehicles on wilderness characteristics.

Under this alternative, 1,326,024 acres would be designated "limited" to OHV travel. The limitation would require vehicles to travel on designated routes (4,654 miles). None of the areas limited to motorized travel include non-WSA lands with wilderness characteristics, so there would be no impacts of limited motor vehicle use on wilderness characteristics.

Under Alternative E, 392,818 acres would be closed to OHV use, including all of the non-WSA lands with wilderness characteristics (277,596 acres). The effect of OHV closure on the wilderness characteristics of these non-WSA lands with wilderness characteristics would be the same as those described for the Proposed RMP and Alternative A, but it would affect more acres, including all of the non-WSA lands with wilderness characteristics.

4.10.2.8.7. SUMMARY

In summary, the Proposed RMP and Alternative A, C, and E travel decisions would have the greatest benefit to the wilderness characteristics of non-WSA lands with wilderness characteristics. Alternative D (No Action) would have greater OHV impacts on wilderness characteristics than the Proposed RMP and other alternatives because more acres would be designated open to cross-country OHV travel.

4.10.2.9. Impacts of Riparian/Soils/Watershed Decisions on Non-WSA Lands with Wilderness Characteristics

4.10.2.9.1. Proposed RMP

4.10.2.9.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Surface-disturbing activities on slopes between 21% and 40% would not be approved without an approved erosion-control strategy. While the strategy would prevent unnecessary and undue degradation of the environment, it would not prevent soil and vegetation disturbance that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Further, the presence and noise of people and equipment connected with the proposed project would diminish opportunities for solitude and primitive and unconfined types of recreation typically sought in areas with wilderness characteristics.

The prohibition of surface disturbance on slopes greater than 40% would prevent surface disturbance that would degrade the natural condition of non-WSA lands with wilderness characteristics. The prohibition on disturbance would also protect opportunities for both solitude and primitive forms of recreation.

Restrictions on surface disturbance in active flood plains or within 100 meters of riparian zones would reduce surface disturbance that would degrade the natural characteristics of non-WSA lands with wilderness characteristics that contain floodplains and riparian zones, including Lower Flaming Gorge, Cold Spring Mountain, Mountain Home, White River, and others.

4.10.2.9.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Surface-disturbing activities on slopes between 21% and 40% would not be approved without an approved erosion-control strategy. This strategy would prevent unnecessary and undue degradation of the environment, but it would not prevent soil and vegetation disturbance that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of people and equipment connected with a surface-disturbing project would diminish opportunities for solitude and primitive and unconfined types of recreation typically sought in areas with wilderness characteristics.

The prohibition of surface disturbance on slopes greater than 40% would prevent surface disturbance that would degrade the natural condition of non-WSA lands with wilderness characteristics, and protect opportunities for both solitude and primitive forms of recreation.

Restrictions on surface disturbance in active flood plains or within 100 meters of riparian zones would reduce surface disturbance in flood plains and riparian zones that would degrade the natural characteristics of non-WSA lands with wilderness characteristics, including Desolation Canyon, Bitter Creek, and others.

4.10.2.9.2. ALTERNATIVES A AND C

4.10.2.9.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under these alternatives, the effects of limiting surface disturbance on steep slopes and in floodplains and riparian zones would have the same effects on the wilderness characteristics of non-WSA lands with wilderness characteristics as under the Proposed RMP.

4.10.2.9.3. ALTERNATIVE B

4.10.2.9.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Surface-disturbing activities on slopes greater than 20% would not be approved without an approved erosion control strategy, resulting in impacts the same as those described for the Proposed RMP on slopes between 21% and 40%. Restrictions on surface disturbance in active flood plains or within 100 meters of riparian zones would have the same effects on the wilderness characteristics of non-WSA lands with wilderness characteristics as described for the Proposed RMP.

4.10.2.9.4. ALTERNATIVE D (NO ACTION)

4.10.2.9.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under this alternative, no surface disturbance or occupancy for mineral development would be allowed on slopes greater than 40%. The effects of this action on non-WSA lands with wilderness characteristics would be the same as those described for the Proposed RMP. Restrictions on surface disturbance in active flood plains or within 100 meters of riparian zones would have the same effects on the wilderness characteristics of non-WSA lands with wilderness characteristics as the Proposed RMP.

4.10.2.9.5. ALTERNATIVE E

4.10.2.9.5.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

As with the Proposed RMP and Alternatives A and C, no surface disturbance would be permitted on slopes between 21% and 40% without an approved erosion-control strategy. Further, surface disturbance would not be allowed on slopes over 40%. However, under this alternative, no surface disturbance would be permitted that would impact the natural characteristics of the non-WSA lands with wilderness characteristics. The effects of these actions would preserve the wilderness characteristics of non-WSA lands with wilderness characteristics. Further, restrictions on surface disturbance in active flood plains or within 100 meters of riparian zones would have

the same effects on the wilderness characteristics of non-WSA lands with wilderness characteristics as the Proposed RMP.

4.10.2.9.6. SUMMARY

Alternative E would provide the most protection of the wilderness characteristics of non-WSA lands with wilderness characteristics because surface disturbance would not be permitted in these areas. The Proposed RMP and Alternatives A and C would mitigate the effects of soil erosion on slopes greater than 20%, but the mitigation would not prevent surface disturbance that degrades the natural characteristics of non-WSA lands with wilderness characteristics.

4.10.2.10. IMPACTS OF SPECIAL DESIGNATION DECISIONS ON NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

For the purposes of this analysis, "Special Designations" include ACECs established under the Proposed RMP and each alternative, rivers suitable for inclusion in the Wild and Scenic Rivers System under the Proposed RMP and each alternative, and WSAs being managed to protect their wilderness characteristics under the Proposed RMP and each alternative.

Tables 4.10.2 through 4.10.4 show which special designations would be established or recommended under the Proposed RMP and each alternative, their acreage or length, and the non-WSA lands with wilderness characteristics that are wholly or partially located in the special designations.

Table 4.10.2 Non-WSA Lands with Wilderness Characteristics Located in Special Designations

Areas of Critical Environmental Concern (ACECs)						
ACEC	**Proposed RMP**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D (No Action)**	**Alternative E**
Bitter Creek – PR Spring						
Acres	0	68,834	0	147,425	0	147,425
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations		Bitter Creek, Rat Hole Ridge, and Cripple Cowboy		Bitter Creek, Rat Hole Ridge, Cripple Cowboy, and Sweet Water Canyon		Bitter Creek, Rat Hole Ridge, Cripple Cowboy, and Sweet Water Canyon
Four Mile Wash						
Acres	0	0	0	50,280	0	50,280
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations				Desolation Canyon		Desolation Canyon
Lower Green River						
Acres	8,470	10,170	8,470	10,170	8,470	10,170
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon
White River						
Acres	0	17,810	0	47,130	0	47,130
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations		White River		White River		White River
Browns Park						
Acres	18,490	52,721	18,474	52,721	52,721	52,721

Table 4.10.2 Non-WSA Lands with Wilderness Characteristics Located in Special Designations

Areas of Critical Environmental Concern (ACECs)						
ACEC	**Proposed RMP**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D (No Action)**	**Alternative E**
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations	Lower Flaming Gorge, Mountain Home, and Cold Spring Mountain	Lower Flaming Gorge, Mountain Home, Cold Spring Mountain, and Dead Horse Pass	Lower Flaming Gorge, Mountain Home, and Cold Spring Mountain	Lower Flaming Gorge, Mountain Home, Cold Spring Mountain, and Dead Horse Pass	Lower Flaming Gorge, Mountain Home, Cold Spring Mountain, and Dead Horse Pass	Lower Flaming Gorge, Mountain Home, Cold Spring Mountain, and Dead Horse Pass
Nine Mile Canyon						
Acres	44,168	48,000	44,181	81,168	44,181	81,168
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon
Main Canyon						
Acres	0	0	0	100,915	0	100,915
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations				Wolf Point		Wolf Point
Red Creek Watershed						
Acres	24,475	24,475	24,475	24,475	24,475	24,475
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations	Cold Spring Mountain and Mountain Home	Cold Spring Mountain and Mountain Home	Cold Spring Mountain and Mountain Home	Cold Spring Mountain and Mountain Home	Cold Spring Mountain and Mountain Home	Cold Spring Mountain and Mountain Home

Table 4.10.3 Non-WSA Lands with Wilderness Characteristics Located in Special Designations

Wild and Scenic Rivers						
River	**Proposed RMP**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D (No Action)**	**Alternative E**
White River						
Miles/Classification	0	34 / Scenic and Wild	0	44 / Scenic, Wild, and Scenic	0	0
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations		White River		White River		
Nine Mile Creek						
Miles/Classification	0	0	0	19 / Scenic and Recreational	0	19 / Scenic and Recreational
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations				Desolation Canyon		Desolation Canyon
Bitter Creek						
Miles/Classification	0	0	0	22 / Scenic	0	22 / Scenic
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations				Bitter Creek, Cripple Cowboy, Rat Hole Ridge, and Hells Hole Canyon		Bitter Creek, Cripple Cowboy, Rat Hole Ridge, and Hells Hole Canyon
Upper Green River						
Miles/Classification	22 / Scenic	22 / Scenic	22 / Scenic	22 / Scenic	22 / Scenic	22 / Scenic
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations	Lower Flaming Gorge and Cold Spring Mountain	Lower Flaming Gorge and Cold Spring Mountain	Lower Flaming Gorge and Cold Spring Mountain	Lower Flaming Gorge and Cold Spring Mountain	Lower Flaming Gorge and Cold Spring Mountain	Lower Flaming Gorge and Cold Spring Mountain
Lower Green River						
Miles/Classification	30 / Scenic	30 / Scenic	30 / Scenic	30 / Scenic	30 / Scenic	30 / Scenic

Table 4.10.3 Non-WSA Lands with Wilderness Characteristics Located in Special Designations

Wild and Scenic Rivers						
River	**Proposed RMP**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D (No Action)**	**Alternative E**
Non-WSA Lands with Wilderness Characteristics Located in the Special Designations	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon	Desolation Canyon

Table 4.10.4 Non-WSA Lands with Wilderness Characteristics Located in Special Designations

Wilderness Study Areas (WSAs)		
WSA	**Acres**	**Contiguous Non-WSA Lands with Wilderness Characteristics**
Book Cliffs Mountain Browse ISA	400	Cripple Cowboy
Bull Canyon	600	Bull Canyon
Daniels Canyon	2,496	Daniels Canyon
Diamond Breaks	3,900	Diamond Breaks
West Cold Springs	3,200	Cold Spring Mountain
Winter Ridge	42,462	None

4.10.2.10.1. PROPOSED RMP

4.10.2.10.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under the Proposed RMP, two existing ACECs that include non-WSA lands with wilderness characteristics would be carried forward to protect a variety of relevant and important values. Those ACECs are Red Creek Watershed and Browns Park. The management prescriptions for these ACECs would protect wilderness characteristics in portions of non-WSA lands with wilderness characteristics.

The Red Creek Watershed ACEC (24,475 acres) would be managed to protect high-value wetland and wildlife habitat, including the regionally significant watershed (part of the Green River drainage system) and a Class 1 fishery. Protection of this watershed would help preserve the natural characteristics of those portions of the Cold Spring Mountain (76 acres) and Mountain Home (4,976 acres) non-WSA lands with wilderness characteristics that lie within the

ACEC. Protection of the fishery would enhance the natural values of the non-WSA lands with wilderness characteristics and ensure opportunities for primitive recreational activities (fishing).

In the 18,490-acre Browns Park ACEC, part of the Lower Flaming Gorge non-WSA lands with wilderness characteristics would be closed to leasing and OHV use. The Green River through Browns Park would be open to leasing but with an NSO stipulation. The area of NSO includes a small part of the south end of the Mountain Home non-WSA lands with wilderness characteristics. Otherwise, most of the ACEC would be open to leasing with timing and controlled surface use; OHV use would be limited to designated routes; and visual resource objectives would be Class II. This prescription would limit surface disturbance and would protect the natural characteristics of the Lower Flaming Gorge non-WSA lands with wilderness characteristics. It would also preclude the noise and presence of motorized vehicles and equipment that would reduce opportunities for solitude and conflict with the primitive forms of recreation sought by visitors to lands with wilderness characteristics. The NSO leasing stipulation along the Green River would prevent surface disturbance in small parts of the Mountain Home non-WSA lands with wilderness characteristics. Otherwise, this ACEC prescription would allow for surface disturbances that would alter the landscape and natural characteristics of the non-WSA lands with wilderness characteristics. However, the ACEC is located in an area of undetermined mineral potential, and mineral development is not expected to be substantial. Further, compliance with VRM Class II objectives would minimize surface disturbances and impacts to the natural characteristics of the non-WSA lands with wilderness characteristics. Motorized use of designated routes, however, would adversely impact opportunities for solitude and primitive recreation. The presence and noise of vehicles would detract from the experience of solitude and conflict with primitive recreational uses.

Under the Proposed RMP, 22 miles of the Upper Green River would be recommended for designation as a Wild and Scenic River with a classification of "scenic." Protection of the river (until Congress acts) would preserve the wilderness characteristics of the Lower Flaming Gorge and Cold Spring Mountain non-WSA lands with wilderness characteristics.

Managing the wilderness study areas (WSAs) under the BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Bull Canyon, Daniels Canyon, Diamond Breaks, and Cold Spring Mountain non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under the Proposed RMP, two ACECs that include non-WSA lands with wilderness characteristics would be established to protect a variety of relevant and important values. Those ACECs are Nine Mile Canyon and the Lower Green River. The management prescriptions for these ACECs would protect wilderness characteristics in portions of non-WSA lands with wilderness characteristics.

In the 44,168-acre Nine Mile Canyon ACEC, the canyon would be open to oil and gas leasing with an NSO stipulation, while the table lands above the canyon would be open with timing and controlled surface use stipulations. The ACEC prescription would limit OHV travel in the entire ACEC to designated routes, and visual resources management objectives would be Class II in the lower canyon and Class III in the upper canyon and on the tablelands. This prescription would generally prevent surface disturbance to the canyon bottom, protecting its natural characteristics. Given the mineral potential, current industry interest, and production history, however, surface disturbances would be expected in much of the rest of the ACEC and would detract from the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of OHV travel and oil and gas development would diminish the opportunities for solitude on the non-WSA lands with wilderness characteristics and would conflict with primitive forms of recreation typically found in non-WSA lands with wilderness characteristics.

The 8,470-acre Lower Green River Corridor ACEC would be available for oil and gas leasing with timing and controlled surface use stipulations and an NSO stipulation, managed by VRM Class II objectives, and limited to OHV use on designated routes. This prescription would prevent large-scale landscape modifications from oil and gas development in an area of high potential and industry interest, but would allow some developments within VRM objectives, generally protecting the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of OHV use on designated routes would temporarily reduce opportunities for solitude and conflict with opportunities for primitive forms of recreation sought in areas with wilderness characteristics, when vehicles were traveling the routes.

Under the Proposed RMP, 30 miles of the Lower Green River would be recommended for designation as a wild and scenic river with a classification of "scenic." Protection of river values (until Congress acts) would preserve the wilderness characteristics of a portion of the Desolation Canyon non-WSA lands with wilderness characteristics.

Managing the wilderness study areas (WSAs) under the BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Cripple Cowboy non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.2. ALTERNATIVE A

4.10.2.10.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative A, six ACECs that include non-WSA lands with wilderness characteristics would be established to protect a variety of relevant and important values. Those ACECs are Bitter Creek-PR Spring, Lower Green River, White River, Browns Park, Nine Mile Canyon, and Red Creek Watershed. The management prescriptions for these ACECs would protect wilderness characteristics in portions of non-WSA lands with wilderness characteristics.

In the 68,834-acre Bitter Creek-PR Spring ACEC, the 160-acre parcel around the old growth pinyon forest and the Book Cliffs Mountain Browse Natural Areas (400 acres) would be NSO and closed to oil and gas leasing, closed to wood cutting and OHV use, and would be managed by VRM Class I objectives. This prescription would prevent surface disturbances and motorized uses and would protect the natural characteristics of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive recreation. Most of the ACEC, however, would be available for leasing, forest treatments, firewood cutting, and OHV use on designated routes. These actions would result in surface disturbances that alter the landscape and natural characteristics of non-WSA lands with wilderness characteristics. The presence and noise of vehicles and equipment would diminish opportunities for solitude and would conflict with more primitive forms of recreation.

The 10,170-acre Lower Green River ACEC would be open for oil and gas leasing with an NSO stipulation, managed by VRM Class II objectives, and limited to OHV use on designated routes. This prescription would prevent large-scale landscape modifications from oil and gas development in an area of high potential and industry interest, but would allow some developments within VRM objectives, generally protecting the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of OHV use on designated routes would temporarily reduce opportunities for solitude and conflict with opportunities for primitive forms of recreation sought in areas with wilderness characteristics, when vehicles were traveling the routes.

Most of the 17,810-acre White River ACEC would be closed to oil and gas leasing or available only with an NSO stipulation. The uplands of the eastern half of the ACEC would be open to leasing with timing and controlled surface use stipulations. The western half of the ACEC would be closed to OHV use, while OHV use in the eastern half of the ACEC would be limited to designated routes. The interior river canyon in the western half of the ACEC would be managed by VRM Class I objectives, while the remainder of the ACEC would be managed VRM Class II. This prescription would generally prevent surface disturbances that reduce the natural characteristics of the White River non-WSA lands with wilderness characteristics, except in the uplands of the eastern half of the ACEC. Here oil and gas leasing is permitted and would lead to surface disturbance due to the high potential for and industry interest in developing oil and gas resources. VRM Class II objectives in the eastern half of the ACEC would permit some surface disturbances that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of OHV use on designated routes in the eastern half of the ACEC would reduce opportunities for solitude and would conflict with primitive forms of recreation when vehicles were traveling the designated routes.

In the 52,721-acre Browns Park ACEC, much of the Lower Flaming Gorge non-WSA lands with wilderness characteristics would be closed to leasing and OHV use. The Green River through Browns Park would be open to leasing but with an NSO stipulation. The area of NSO includes a very small part of the north end of the Dead Horse Pass non-WSA lands with wilderness characteristics and a very small part of the south end of the Mountain Home non-WSA lands with wilderness characteristics. Otherwise, most of the ACEC would be open to leasing with timing and controlled surface use; OHV use would be limited to designated routes; and visual resource objectives would be Class II. This prescription would prevent surface disturbance and

would protect the natural characteristics of the Lower Flaming Gorge non-WSA lands with wilderness characteristics. It would also preclude the noise and presence of motorized vehicles and equipment that would reduce opportunities for solitude and conflict with the primitive forms of recreation sought by visitors to lands with wilderness characteristics. The NSO leasing stipulation along the Green River would prevent surface disturbance in very small parts of the Mountain Home and Dead Horse Pass non-WSA lands with wilderness characteristics. Otherwise, this ACEC prescription would allow for surface disturbances that would alter the landscape and natural characteristics of the non-WSA lands with wilderness characteristics. However, the ACEC is located in an area of undetermined mineral potential, and mineral development is not expected to be substantial. Further, compliance with VRM Class II objectives would minimize surface disturbances and impacts to the natural characteristics of the non-WSA lands with wilderness characteristics. Motorized use of designated routes, however, would adversely impact opportunities for solitude and primitive recreation. The presence and noise of vehicles would detract from the experience of solitude and conflict with primitive recreational uses.

In the 48,000-acre Nine Mile Canyon ACEC, the canyon would be open to oil and gas leasing with an NSO stipulation, while the table lands above the canyon would be open with timing and controlled surface use stipulations. The ACEC prescription would limit OHV travel in the entire ACEC to designated routes, and visual resources management objectives would be Class II in the lower canyon and Class III in the upper canyon and on the tablelands. This prescription would generally prevent surface disturbance to the canyon bottom, protecting its natural characteristics. Given the mineral potential, current industry interest, and production history, however, surface disturbances would be expected in much of the rest of the ACEC and would detract from the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of OHV travel and oil and gas development would diminish the opportunities for solitude on the non-WSA lands with wilderness characteristics and would conflict with primitive forms of recreation typically found in non-WSA lands with wilderness characteristics.

The Red Creek Watershed ACEC (24,475 acres) would be managed to protect high-value wetland and wildlife habitat, including the regionally significant watershed (part of the Green River drainage system) and a Class 1 fishery. Protection of this watershed would help preserve the natural characteristics of those portions of the Cold Spring Mountain (76 acres) and Mountain Home (4,976 acres) non-WSA lands with wilderness characteristics that lie within the ACEC. Protection of the fishery would enhance the natural values of the non-WSA lands with wilderness characteristics and ensure opportunities for primitive recreational activities (fishing).

Under Alternative A, 22 miles of the White River would be recommended suitable for Wild and Scenic River designation with a classification of "wild" in the upper end of the river canyon and "scenic" in the lower end. Protection of river values (until Congress acts on BLM's recommendation) would prevent uses and surface disturbances that would detract from the natural characteristics of 22 miles of the recommended river canyon in the White River non-WSA lands with wilderness characteristics or that would impact opportunities for solitude and primitive recreation in the river canyon. Under this alternative, 22 miles of the Upper Green River would be recommended for designation as a Wild and Scenic River with a classification of

"scenic." As in the case of the White River, protection of the river (until Congress acts) would preserve the wilderness characteristics of the Lower Flaming Gorge non-WSA lands with wilderness characteristics. Further, 30 miles of the Lower Green River would be recommended for designation as a wild and scenic river with a classification of "scenic." Protection of river values (until Congress acts) would preserve the wilderness characteristics of a portion of the Desolation Canyon non-WSA lands with wilderness characteristics.

Managing the wilderness study areas (WSAs) under the BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Cripple Cowboy, Bull Canyon, Daniels Canyon, Diamond Breaks, and Cold Spring Mountain non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.3. ALTERNATIVE B

4.10.2.10.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, four ACECs that include non-WSA lands with wilderness characteristics would be established to protect a variety of relevant and important values. Those ACECs are Red Creek Watershed, Browns Park, Nine Mile Canyon, and the Lower Green River. The management prescriptions for these ACECs would protect wilderness characteristics in portions of the non-WSA lands with wilderness characteristics.

The effects of ACEC management in the Red Creek Watershed ACEC on the wilderness characteristics of Cold Spring Mountain and Mountain Home non-WSA lands with wilderness characteristics would be the same as described under the Proposed RMP.

In the 18,474-acre Browns Park ACEC, part of the Lower Flaming Gorge non-WSA lands with wilderness characteristics would be open to oil and gas leasing subject to an NSO stipulation. The Green River through Browns Park would be open to leasing, also with an NSO stipulation. In Browns Park, the NSO area would include a small part of the south end of the Mountain Home non-WSA lands with wilderness characteristics. Otherwise, most of the ACEC would be open to leasing with timing and controlled surface use, OHV use would be limited to designated routes, and visual resource objectives would be VRM Class I, II, III, and IV.

This prescription would generally prevent surface disturbance and protect the natural characteristics of the riverine parts of the Lower Flaming Gorge, Mountain Home, and Cold Spring Mountain non-WSA lands with wilderness characteristics. However, the noise and presence of motorized vehicles and equipment would reduce opportunities for solitude and would conflict with the primitive forms of recreation sought by visitors to lands with wilderness characteristics. This ACEC prescription would allow for surface disturbances that would alter the landscape and natural characteristics of the non-WSA lands with wilderness characteristics. However, the ACEC is located in an area of undetermined mineral potential, and mineral development is not expected to be substantial. Motorized use of designated routes would

adversely impact opportunities for solitude and primitive recreation. The presence and noise of vehicles would detract from the experience of solitude and would conflict with primitive recreational uses, both opportunities sought by visitors to lands with wilderness characteristics.

In the 44,181-acre Nine Mile Canyon ACEC, the canyon would be open to oil and gas leasing with timing and controlled surface use stipulations and NSO, whereas the table lands above the canyon would be open with standard stipulations. The ACEC prescription would limit OHV travel in the entire ACEC to designated routes, and visual resources management objectives would be VRM Class II in the canyon and VRM Class III and IV on the tablelands. This prescription would generally prevent surface disturbance to the canyon bottom, protecting its natural characteristics. Given the mineral potential, current industry interest, and production history, however, surface disturbances would be expected in much of the rest of the ACEC, detracting from the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of OHV travel and oil and gas development would diminish the opportunities for solitude on the non-WSA lands with wilderness characteristics, and conflict with primitive forms of recreation typically found in lands with wilderness characteristics.

The impacts of the Lower Green River ACEC on Desolation Canyon non-WSA lands with wilderness characteristics would be the same as described under the Proposed RMP.

Under this alternative, 22 miles of the Upper Green River would be recommended for designation as a Wild and Scenic River with a classification of "scenic." Protection of river values (until Congress acts on BLM's recommendation) would prevent uses and surface disturbances that would detract from the natural characteristics of the Lower Flaming Gorge and Cold Spring Mountain non-WSA lands with wilderness characteristics or impact opportunities for solitude and primitive recreation in the river canyon. In addition, 30 miles of the Lower Green River would be recommended for designation as a wild and scenic river with a classification of "scenic." Protection of river values (until Congress acts) would preserve the wilderness characteristics of a portion of the Desolation Canyon non-WSA lands with wilderness characteristics.

Managing the wilderness study areas (WSAs) under BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Cripple Cowboy, Bull Canyon, Daniels Canyon Diamond Breaks, and Cold Spring Mountain non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.4. ALTERNATIVE C

4.10.2.10.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative C, eight ACECs that include non-WSA lands with wilderness characteristics would be established to protect a variety of relevant and important values. Those ACECs are

Bitter Creek-PR Spring, Four Mile Wash, Lower Green River, White River, Browns Park, Nine Mile Canyon, Main Canyon, and Red Creek Watershed. The management prescriptions for these ACECs would protect wilderness characteristics in portions of the non-WSA lands with wilderness characteristics.

In the 147,425-acre Bitter Creek-PR Spring ACEC, the 160-acre parcel around the old growth pinyon forest and the Bitter Creek, Rat Hole Ridge, Hells Hole Canyon, Cripple Cowboy, and Sweet Water Canyon non-WSA lands with wilderness characteristics would be closed to oil and gas leasing, closed to OHV use (except Hells Hole Canyon non-WSA lands with wilderness characteristics), and managed by VRM Class I objectives. This prescription would prevent surface disturbances and motorized uses and would protect the natural characteristics of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive recreation. The rest of the ACEC would be available for leasing, forest treatments, firewood cutting, and OHV use on designated routes, but there are no lands with wilderness characteristics in the remainder of the ACEC, so the wilderness characteristics of non-WSA lands with wilderness characteristics would not be affected by these uses.

The 50,280-acre Four Mile Wash ACEC would be closed to oil and gas leasing. The visual resources of the ACEC would be managed for VRM Class II, Class III, and Class IV objectives. The ACEC prescription would limit off-highway vehicles to designated routes. This prescription would generally limit surface disturbance and would maintain the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of vehicle use on designated routes would diminish opportunities for solitude, and conflict with opportunities for primitive and unconfined recreation sought by visitors to lands with wilderness characteristics.

Under this alternative, the 10,170-acre Lower Green River ACEC would be the same area as that described in Alternative A and would be managed by the same prescription. The effect on non-WSA lands with wilderness characteristics, therefore, would be the same as that described under Alternative A.

The river canyon of the 47,130-acre White River ACEC would be closed to oil and gas leasing or available with an NSO stipulation. The uplands would be open to leasing with timing and controlled surface use and standard stipulations. The western half of the ACEC would be closed to OHV use, whereas OHV use in the eastern half of the ACEC would be limited to designated routes. The river canyon in the western half of the ACEC would be managed by VRM Class I objectives, whereas the river canyon in the eastern half of the ACEC would be managed by VRM Class II objectives. The uplands would be managed under VRM Class III and IV objectives. This prescription would generally prevent surface disturbances that reduce the natural characteristics along the river corridor of the White River non-WSA lands with wilderness characteristics, but not in the uplands of the ACEC. Here oil and gas leasing would be permitted and would lead to surface disturbance due to the high potential, industry interest, and production history. VRM Class II objectives in the eastern half of the ACEC would permit some surface disturbances that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of OHV use of designated routes in the

eastern half of the ACEC would reduce opportunities for solitude and would conflict with primitive forms of recreation when vehicles were traveling the designated routes.

Under this alternative, the 52,721-acre Browns Park ACEC would be the same area as that described in Alternative A and would be managed by the same prescription. The effect on non-WSA lands with wilderness characteristics, therefore, would be the same as that described under Alternative A.

In the 81,168-acre Nine Mile Canyon ACEC, the lower canyon in the Desolation Canyon non-WSA lands with wilderness characteristics would be closed to oil and gas leasing, while the remainder of the canyon would be open to leasing subject to NSO or timing and controlled surface use stipulations. The table lands above the canyon would generally be open subject to standard stipulations. OHV use in the ACEC would be limited to designated routes. Visual resources in the canyon portion of the ACEC would be managed under VRM Class II, whereas the uplands would be managed under VRM Class III and IV objectives. This prescription would generally prevent surface disturbance to the Desolation Canyon non-WSA lands with wilderness characteristics because the non-WSA lands with wilderness characteristics would be closed to oil and gas leasing. OHV use, however, would be limited to designated routes. Use of those routes would diminish opportunities for solitude and conflict with primitive recreational activities.

The Main Canyon ACEC (100,915 acres) would be managed to protect important cultural and historic resources and natural systems. Protection of natural systems would help preserve the natural characteristics of those portions of the Wolf Point non-WSA lands with wilderness characteristics (11,783 acres) that lie within the ACEC. Protection of prehistoric and historic cultural resources would enhance the natural characteristics of the non-WSA lands with wilderness characteristics and provide opportunities for primitive recreational activities (study and viewing cultural resources).

Under this alternative, the Red Creek Watershed ACEC would be open to oil and gas leasing subject to an NSO stipulation. OHV use would be permitted, but only on designated routes. This prescription would prevent surface disturbance associated with oil and gas production that would degrade the natural characteristics of the Cold Spring Mountain and Mountain Home non-WSA lands with wilderness characteristics. While limiting motor vehicle use to designated routes would prevent expansion of surface disturbance in the non-WSA lands with wilderness characteristics, allowing use on designated routes would result in the noise and presence of motor vehicles that would diminish opportunities for solitude and conflict with primitive forms of recreation.

Under Alternative C, 44 miles of the White River would be recommended suitable for Wild and Scenic River designation with segment classifications of "scenic," "wild," and "scenic" in the upper, middle, and lower portions of the river canyon, respectively. Further, under this alternative, 19 miles of Nine Mile Creek would be recommended suitable for designation as "scenic" and "recreational." Twenty-two miles of Bitter Creek would be recommended suitable for designation as a "scenic" river. Twenty-two miles of the Upper Green River would be recommended suitable for designation as a "scenic" river. Thirty miles of the Lower Green River would be recommended suitable for designation as a "scenic" river. Protection of river values

(until Congress acts on BLM's recommendation) would prevent uses and surface disturbances that would detract from the natural characteristics of the White River, Desolation Canyon, Bitter Creek, Rat Hole Ridge, Cripple Cowboy, Hells Hole Canyon, Lower Flaming Gorge, and Cold Spring Mountain non-WSA lands with wilderness characteristics. The presence and noise of motor vehicle use of designated routes in the recommended "scenic" and "recreational" segments would reduce opportunities for solitude and would conflict with primitive recreation in these river segments. The impacts would be temporary, however, occurring only when vehicles were present.

Managing the WSAs under BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Cripple Cowboy, Bull Canyon, Daniels Canyon, Diamond Breaks, and Cold Spring Mountain non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.5. ALTERNATIVE D (NO ACTION)

4.10.2.10.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative D (No Action), four ACECs that include non-WSA lands with wilderness characteristics would be established to protect a variety of relevant and important values. Those ACECs are the Lower Green River Corridor, Browns Park, Nine Mile Canyon, and Red Creek Watershed. The management prescriptions for these ACECs would protect wilderness characteristics in portions of the non-WSA lands with wilderness characteristics.

The 8,470-acre Lower Green River Corridor ACEC would be available for oil and gas leasing with timing and controlled surface use and NSO stipulations, managed by VRM Class II objectives, and OHV use would be closed or limited to designated routes. Most of the ACEC would be available for leasing with NSO, and this prescription would prevent large-scale landscape modifications from oil and gas development in an area of high potential, industry interest, and production history, generally protecting the natural characteristics of this portion of the Desolation Canyon non-WSA lands with wilderness characteristics. VRM Class II objective would generally retain the existing character of the landscape, protecting the natural characteristics of the non-WSA lands with wilderness characteristics. The presence and noise of OHV use on designated routes would temporarily reduce opportunities for solitude and conflict with opportunities for primitive forms of recreation sought in areas with wilderness characteristics, when vehicles were traveling the routes. This effect would not occur in areas closed to OHV use.

In the 52,721-acre Browns Park ACEC, lands along the Green River would be generally open to oil and gas leasing subject to NSO stipulations, closed to OHV use, and managed under VRM Class II objectives. Outside the river, the ACEC would be open to leasing subject to timing and controlled surface use stipulations; OHV use would be limited to designated routes; and visual resources would be managed for partial retention of the landscape and for landscape

modification. This prescription would generally protect the natural characteristics of the Lower Flaming Gorge non-WSA with wilderness characteristics, a small portion of the Mountain Home non-WSA lands with wilderness characteristics, and a portion of the Cold Spring Mountain non-WSA lands with wilderness characteristics in proximity to the river. The portions of the Lower Flaming Gorge non-WSA lands with wilderness characteristics closed to OHV use would preserve opportunities for solitude because there would be no noise or presence of motorized vehicles. In those parts of the Mountain Home and Cold Spring Mountain non-WSA lands with wilderness characteristics where OHV use is limited to designated routes, the presence and noise of motor vehicles would reduce opportunities for solitude and primitive forms of recreation.

Under this alternative, the 44,181-acre Nine Mile Canyon ACEC would be the same area as that described in Alternative B and would be managed by the same prescription. The effect on non-WSA lands with wilderness characteristics, therefore, would be the same as that described under Alternative B.

The effects of ACEC management in the Red Creek Watershed ACEC on the wilderness characteristics of Cold Spring Mountain and Mountain Home non-WSA lands with wilderness characteristics would be the same as described under Proposed RMP.

Under this alternative, 22 miles of the Upper Green River would be recommended for designation as a Wild and Scenic River with a classification of "scenic." Thirty miles of the Lower Green River would be recommended as a "scenic" river. Protection of river values (until Congress acts on BLM's recommendation) would prevent uses and surface disturbances that would detract from the natural characteristics of the Lower Flaming Gorge, Cold Spring Mountain, and Desolation Canyon non-WSA lands with wilderness characteristics. The presence and noise of motor vehicle use of designated routes in the recommended "scenic" segment would reduce opportunities for solitude and would conflict with primitive recreation in these river segments. The impacts would be temporary, however, lasting only when vehicles were present.

Managing the WSAs under BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Cripple Cowboy, Bull Canyon, Daniels Canyon, Diamond Breaks, and Cold Spring Mountain non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.6. ALTERNATIVE E

4.10.2.10.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under this alternative, the Bitter Creek-PR Spring, Four Mile Wash, Lower Green River, White River, Browns Park, Nine Mile Canyon, Main Canyon, and Red Creek Watershed ACECs would be the same areas as that described in Alternative C and would be managed by essentially the same prescription. In the non-WSA lands with wilderness characteristics portions of the ACECs, the natural characteristics, opportunities for solitude, and opportunities for primitive recreation

would be protected by the management actions prescribed for the non-WSA lands with wilderness characteristics. The effect would be protection of the wilderness characteristics of non-WSA lands with wilderness characteristics.

Under this alternative, the segments of the White River, Nine Mile Creek, Bitter Creek, Upper Green River, and Lower Green River recommended suitable for Wild and Scenic River designation would be the same area as that described in Alternative C and would be managed by the same prescription, except in White River. The segments of the White River would not be recommended suitable for wild and scenic river designation, but would be managed as eligible pending review of a dam construction permit. The effect on non-WSA lands with wilderness characteristics, however, would be the same as that described under Alternative C.

Managing the WSAs under BLM's Interim Management Policy to protect their wilderness values would expand opportunities for solitude and primitive forms of recreation found in the Cripple Cowboy, Bull Canyon, Daniels Canyon, Diamond Breaks, and Cold Spring Mountain non-WSA lands with wilderness characteristics to larger land areas, including both the WSAs and contiguous non-WSA lands with wilderness characteristics. This would enhance the opportunities for solitude and primitive recreation.

4.10.2.10.7. Summary

Alternatives C and E would provide the most long-term protection of wilderness characteristics of non-WSA lands with wilderness characteristics by designating the most acres as ACECs and by recommending the longest stretches of waterways for protection in the National Wild and Scenic Rivers System, followed by Alternative A. The Proposed RMP and Alternatives B and D would provide some protection of wilderness characteristics of non-WSA lands with wilderness characteristics but less than that provided by Alternative C or E, because they designate a smaller number of ACEC acres and recommend protecting fewer waterways under the Wild and Scenic River System.

4.10.2.11. Impacts of Vegetation Decisions on Non-WSA Lands with Wilderness Characteristics

Vegetation treatments are proposed under the Proposed RMP and each alternative in both the Fire Management and Rangeland Improvements Sections of Chapter 2 (see Table 2.1.5 and Table 2.1.12 Proposed RMP and Alternatives). For the purposes of this analysis, it is assumed that the acreages proposed for treatment in the Rangeland Improvement section are in addition to the acreages proposed in the Fire Management section.

4.10.2.11.1. Proposed RMP

4.10.2.11.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under the Proposed RMP, 156,425 acres of vegetation would be treated by prescribed fire per decade. The purpose of these treatments would be to reduce fuel loads, restore fire to the

ecosystem, restore native vegetation communities, and enhance livestock and wildlife forage conditions. In the long term, vegetation treatments with fire would restore native vegetation communities and a more natural composition of grasses, forbs, shrubs, and/or trees in those communities. If these treatments occurred in non-WSA lands with wilderness characteristics managed to protect those characteristics, this objective would enhance the natural characteristics of the non-WSA lands with wilderness characteristics. In the short term, however, operation of a prescribed burning operation would result in disturbance of the landform and vegetation through fire line construction and other activities (e.g., staging areas) needed to manage the fire. Further, the presence and noise of people, vehicles, equipment, and aircraft would eliminate opportunities for solitude and primitive and unconfined recreation in proximity to the fire. The impacts on opportunities for solitude and primitive recreation would be temporary, lasting for the duration of the prescribed burning operation and reclamation. When the fire and reclamation operations are complete, these opportunities would return. Soil and vegetation disturbance from fire line construction and other activities (e.g. staging areas) would diminish the natural characteristics of the non-WSA lands with wilderness characteristics, but reclamation would restore those characteristics in a relatively short period of time.

Also under the Proposed RMP, 34,460 acres of vegetation would be treated to enhance forage condition for livestock grazing. The methods of treatment for this purpose would vary but would most often include fire and/or mechanical treatments (heavy equipment and chainsaws). If these treatments were planned for non-WSA lands with wilderness characteristics, the effects of treatment with fire would be the same as described above. Mechanical treatments, however, would have long-term impacts on the natural characteristics of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive and unconfined recreation, and would likely not be permitted on a large scale on 106,178 acres of non-WSA lands with wilderness characteristics managed to protect those characteristics under the Proposed RMP. While restoration of native vegetation communities would be beneficial to the natural characteristics of non-WSA lands with wilderness characteristics, the presence and noise of people and equipment would diminish opportunities for solitude and conflict with primitive recreation activities in proximity to the treatment area, in the short-term. In the long term, the noise and presence of people and equipment would be removed and opportunities for both solitude and primitive recreation would return.

4.10.2.11.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The effects of vegetation treatments in non-WSA lands with wilderness characteristics that are managed for resource values and uses other than wilderness characteristics would be the same as described above (for non-WSA lands with wilderness characteristics managed to protect those characteristics), except that more surface-disturbing fire line construction could be permitted. Chain saws could be used to create fuel breaks for fire line construction, resulting in more substantial evidence of human manipulation of the land (cut logs, stumps, and cleared lines through vegetation). This type of surface disturbance would remain evident on the land for longer periods of time, reducing the natural characteristics of the non-WSA lands with wilderness characteristics.

Also, in non-WSA lands with wilderness characteristics that are managed for other resource values and uses, mechanical treatments (heavy equipment and chainsaws) would be used to meet vegetation objectives. Mechanical treatments (chaining or chipping) would have long-term impacts on the natural characteristics of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive and unconfined recreation. While restoration of native vegetation communities would be beneficial to the natural characteristics of non-WSA lands with wilderness characteristics, the use of chainsaws, bull dozers, and brush hogs to accomplish the objective would leave an obvious imprint of human activity on the land, an adverse effect on the natural characteristics of non-WSA lands with wilderness characteristics. Also in the short term, the presence and noise of people and equipment would eliminate opportunities for solitude and primitive forms of recreation in proximity to the treatment area. In the long term, a setting clearly manipulated by humans would diminish the opportunities for both solitude and primitive recreation.

4.10.2.11.2. ALTERNATIVE A

4.10.2.11.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative A, 156,425 acres of vegetation would be treated by prescribed fire per decade. The impacts to the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as described under the Proposed RMP for non-WSA lands with wilderness characteristics that are managed for resource values and uses others than wilderness characteristics.

Also under this alternative, 34,460 acres of vegetation would be treated to enhance forage condition for livestock grazing. The methods of treatment for this purpose would vary but would often include fire and/or mechanical treatments (heavy equipment and chainsaws). The effect of these treatment methods on the wilderness characteristics of non-WSA lands with wilderness characteristics would be the same as described under the Proposed RMP for non-WSA lands with wilderness characteristics that are managed for resource values and uses others than wilderness characteristics.

4.10.2.11.3. ALTERNATIVE B

4.10.2.11.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The effects of vegetation treatments with prescribed fire would be the same as those described under Alternative A. The effects of vegetation treatments to enhance livestock forage would also be the same as those described under Alternative A, except under this alternative 50,900 acres would be treated (16,260 more acres than under Alternative A).

4.10.2.11.4. ALTERNATIVE C

4.10.2.11.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The effects of vegetation treatments with prescribed fire would be the same as those described under Alternative A. The effects of vegetation treatments to enhance livestock forage would also be the same as those described under Alternative A, except that under this alternative 45,860 acres would be treated (11,220 more acres than under Alternative A).

4.10.2.11.5. ALTERNATIVE D (NO ACTION)

4.10.2.11.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative D (No Action), 50,900 acres of pinyon-juniper woodlands and sagebrush communities would be treated with prescribed fire with effects matching those described under Alternative A. The effects of vegetation treatments to enhance livestock forage would also be the same as those described under Alternative A, except that under this alternative 40,390 acres would be treated (5,750 more acres than under Alternative A).

4.10.2.11.6. ALTERNATIVE E

4.10.2.11.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The effects of vegetation treatments with prescribed fire would be the same as those described under the Proposed RMP for non-WSA lands with wilderness characteristics managed to protect those characteristics. The effects of vegetation treatments to enhance livestock forage would also be the same as those described under the Proposed RMP for non-WSA lands with wilderness characteristics managed to protect those characteristics, but on all 277,596 acres of non-WSA lands with wilderness characteristics.

4.10.2.11.7. SUMMARY

The Proposed RMP and all of the alternatives would have similar effects of vegetation treatments on non-WSA lands with wilderness characteristics. The difference would be the number of acres treated, and the method of treatment. Mechanical treatment methods typically would not be used in non-WSA lands with wilderness characteristics managed to protect those characteristics. Alternatives B and C would treat the same number of acres with prescribed fire and comparable numbers of acres to enhance livestock forage. The Proposed RMP and Alternatives A and E would treat the same number of acres with prescribed fire, but would treat the fewest acres to enhance livestock forage, due to limitations required to protect wilderness characteristics. Alternative D (No Action) treats the fewest acres with prescribed fire but comparable acreages for livestock forage improvement.

4.10.2.12. Impacts of Visual Resource Management Decisions on Non-WSA Lands with Wilderness Characteristics

There are four objectives for visual resource management (VRM Classes I–IV) that provide for various levels of landscape protection and change. The objective of Class I is to preserve the characteristic landscape whereas the objective of Class IV provides for landscape modifications (see Chapter 3 of the Proposed RMP/Final EIS, Section 3.19, Visual Resources). Land use planning decisions to manage areas by VRM Class I objectives would preserve the characteristics of the landscape. In non-WSA lands with wilderness characteristics, this objective would preserve the natural characteristics of the area. VRM Class II objectives would retain the characteristics landscape, allowing for minor changes to the landform and vegetation. This objective would generally protect the natural characteristics of the land in non-WSA lands with wilderness characteristics. VRM Class III objectives provide for partial retention of the existing character of the landscape, allowing for moderate changes to land and vegetation. This objective is not compatible with preserving the natural characteristics of non-WSA lands with wilderness characteristics. VRM Class IV objectives provide for major modification of the landscape, and this is incompatible with preservation of the natural characteristics of non-WSA lands with wilderness characteristics.

Table 4.10.5 shows the VRM Class I–IV objectives by non-WSA lands with wilderness characteristics, in acres, by the Proposed RMP and alternative.

Table 4.10.5 Visual Resource Management Objectives by Non-WSA Lands with Wilderness Characteristics Areas

Non-WSA Lands with Wilderness Characteristics	Proposed RMP (Acres)	Alternative A (Acres)	Alternative B (Acres)	Alternative C (Acres)	Alternative D (No Action) (Acres)	Alternative E (Acres)
Beach Draw						
Class I						898
Class II	898	898	208	898	208	
Class III						
Class IV			690		690	
Bitter Creek						
Class I				32,363		33,488
Class II		12,764		68		
Class III	33,488	20,724		1,057		
Class IV			33,488		33,488	
Bourdette Draw						
Class I		4,342				13,335
Class II	13,335	7,170		13,335		
Class III		1,798	4,365		4,365	
Class IV		25	8,970		8,970	
Bull Canyon						
Class I		1	4	1	4	2,483

Table 4.10.5 Visual Resource Management Objectives by Non-WSA Lands with Wilderness Characteristics Areas

Non-WSA Lands with Wilderness Characteristics	Proposed RMP (Acres)	Alternative A (Acres)	Alternative B (Acres)	Alternative C (Acres)	Alternative D (No Action) (Acres)	Alternative E (Acres)
Class II	2,483	2,482		2,482		
Class III						
Class IV			2,479		2,479	
Cold Spring Mountain						
Class I		75	75	75	75	8,764
Class II	8,764	8,574	367	8,689	367	
Class III		115	4,580		4,580	
Class IV			3,742		3,742	
Cripple Cowboy						
Class I	4	4	3	13,537	3	13,603
Class II		13,599	6,687	66	6,657	
Class III	13,599		1,720		1,720	
Class IV			5,193		5,223	
Daniels Canyon						
Class I						3,045
Class II	3,045	3,045		3,045		
Class III						
Class IV			3,045		3,045	
Dead Horse Pass						
Class I						6,994
Class II	6,994	3,042	676	3,402	676	
Class III		2,965	2,111	2,965	2,111	
Class IV		627	4,207	627	4,207	
Desolation Canyon						
Class I	1,311					63,118
Class II	20,632	23,903	12,273	24,321	12,273	
Class III	16,477	14,510	20,475	14,101	20,475	
Class IV	24,698	24,705	30,370	24,696	30,370	
Diamond Breaks						
Class I	72	57	59		59	4,539
Class II	4,467	1,160		4,536		
Class III		3,322	2,652	3	2,652	
Class IV			1,828		1,828	
Diamond Mountain						
Class I				1,042		27,238
Class II	27,238	3,300	6,399	5,131	6,399	
Class III		23,938	1,051	21,039	1,051	

Table 4.10.5 Visual Resource Management Objectives by Non-WSA Lands with Wilderness Characteristics Areas

Non-WSA Lands with Wilderness Characteristics	Proposed RMP (Acres)	Alternative A (Acres)	Alternative B (Acres)	Alternative C (Acres)	Alternative D (No Action) (Acres)	Alternative E (Acres)
Class IV			19,778		19,778	
Hells Hole Canyon						
Class I						
Class II		2,709		2,119		2,709
Class III			289	590	289	
Class IV	2,709		2,420		2,420	
Hideout Canyon						
Class I						1,113
Class II		1,113	1,103	1,113	1,103	
Class III	1,113					
Class IV			10		10	
Lower Bitter Creek						
Class I						11,417
Class II						
Class III	58	26				
Class IV	11,360	11,391	11,417	11,417	11,417	
Lower Flaming Gorge						
Class I						17,810
Class II	17,810	17,700	1,257	17,770	1,257	
Class III		33	1,875	33	1,875	
Class IV		77	14,678	77	14,678	
Mexico Point						
Class I						1,277
Class II			1,277	1,277	1,277	
Class III	1,277	1,277				
Class IV						
Moonshine Draw						
Class I			4		4	4,513
Class II	4,513	4,513	1,735	4,513	1,735	
Class III						
Class IV			2,774		2,774	
Mountain Home						
Class I						7,083
Class II	7,083	4,875	117	4,875	117	
Class III		2,208	1,354	2,208	1,354	
Class IV			5,612		5,612	
Rat Hole Ridge						

Table 4.10.5 Visual Resource Management Objectives by Non-WSA Lands with Wilderness Characteristics Areas

Non-WSA Lands with Wilderness Characteristics	Proposed RMP (Acres)	Alternative A (Acres)	Alternative B (Acres)	Alternative C (Acres)	Alternative D (No Action) (Acres)	Alternative E (Acres)
Class I				11,175		11,367
Class II	11,367	11,367		192		
Class III			3,240		3,240	
Class IV			8,127		8,127	
Stuntz Draw						
Class I						1,992
Class II	1,992	1,992	1,362	1,992	1,362	
Class III						
Class IV			630		630	
Sweet Water Canyon						
Class I				6,950		6,994
Class II		6,994	6,272	44	6,272	
Class III	6,994					
Class IV			722		722	
Vivas Cake Hill						
Class I						277
Class II	277	277	277	277	277	
Class III						
Class IV						
White River						
Class I		4,980		9,027		21,210
Class II	11,930	7,360	12,339	4,528	12,219	
Class III	2,481	464	464	3,210	464	
Class IV	6,799	8,406	8,406	4,445	8,527	
Wild Mountain						
Class I				515		527
Class II	527	58	42	6	42	
Class III		469	16	6	16	
Class IV			469		469	
Wolf Point						
Class I	10	10	9	11,746	9	11,802
Class II				56		
Class III	11,792	11,792	242		242	
Class IV			11,551		11,551	

4.10.2.12.1. PROPOSED RMP

4.10.2.12.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under the Proposed RMP, 106,178 acres of 15 non-WSA lands with wilderness characteristics would be managed with visual resource management Class II objectives (see Table 4.10.5 above). The objective of this class is to retain the characteristic landscape, while allowing for some minor level of development or change to the landscape. This landscape objective would generally protect the undeveloped (natural) characteristics of the 15 non-WSA lands with wilderness characteristics managed to protect those characteristics.

4.10.2.12.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under the Proposed RMP, 132,845 acres of 11 non-WSA lands with wilderness characteristics would be managed by VRM Class III and IV objectives. These objectives would allow for activities that would alter the landscape, and diminish the natural characteristics of these non-WSA lands with wilderness characteristics (see Table 4.10.5 above). However, in four of the non-WSA lands with wilderness characteristics that are proposed for management of resources and uses other than wilderness characteristics (Cripple Cowboy, Desolation Canyon, Rat Hole Ridge, and Wolf Point), 33,324 acres would be managed by Class I and II objectives. These objectives would limit surface disturbance and protect the natural characteristics of these non-WSA lands with wilderness characteristics.

4.10.2.12.2. ALTERNATIVE A

4.10.2.12.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative A, 148,364 acres would be managed by VRM Class I and II objectives in all or parts of 23 non-WSA lands with wilderness characteristics, limiting surface disturbance and protecting the natural characteristics of those lands in the non-WSA lands with wilderness characteristics. However, 127,595 acres would be managed by Class III and IV objectives in all or parts of 13 non-WSA lands with wilderness characteristics with impacts as described under the Proposed RMP.

4.10.2.12.3. ALTERNATIVE B

4.10.2.12.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, 52,777 acres would be managed by VRM Class I and II objectives in all or parts of 20 non-WSA lands with wilderness characteristics, limiting surface disturbance and protecting the natural characteristics of those lands in the non-WSA lands with wilderness characteristics. However, 224,819 acres would be managed by Class III and IV objectives in all

or parts of 23 non-WSA lands with wilderness characteristics with impacts as described under the Proposed RMP.

4.10.2.12.4. ALTERNATIVE C

4.10.2.12.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative C, 191,657 acres would be managed by VRM Class I and II objectives in all or parts of 24 non-WSA lands with wilderness characteristics, limiting surface disturbance and protecting the natural characteristics of those lands in the non-WSA lands with wilderness characteristics. However, 85,939 acres would be managed by Class III and IV objectives in all or parts of 10 non-WSA lands with wilderness characteristics with impacts as described under the Proposed RMP.

4.10.2.12.5. ALTERNATIVE D (NO ACTION)

4.10.2.12.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative D (No Action), 52,626 acres would be managed by VRM Class I and II objectives in all or parts of 20 non-WSA lands with wilderness characteristics, limiting surface disturbance and protecting the natural characteristics of those lands in the non-WSA lands with wilderness characteristics. However, 224,970 acres would be managed by Class III and IV objectives in all or parts of 23 non-WSA lands with wilderness characteristics with impacts as described under the Proposed RMP.

4.10.2.12.6. ALTERNATIVE E

4.10.2.12.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under Alternative E, 277,596 acres would be managed by VRM Class I objectives in all of the 25 non-WSA lands with wilderness characteristics, limiting surface disturbance and protecting the natural characteristics of those lands in the non-WSA lands with wilderness characteristics.

4.10.2.12.7. SUMMARY

The visual resource management objectives proposed in Alternative E would provide protection of the natural characteristics of all the non-WSA lands with wilderness characteristics. VRM objectives in Alternative C would provide protection to the natural characteristics of the 191,657 acres in 24 non-WSA lands with wilderness characteristics, followed by Alternative A with 148,364 acres protected in 23 areas. The Proposed RMP would provide protection to natural characteristics on 106,178 acres of 15 non-WSA lands with wilderness characteristics. Visual resource objectives in Alternatives B and D (No Action) provide the least protection to the natural characteristics of the non-WSA lands with wilderness characteristics.

4.10.2.13. Impacts of Wild Horse Decisions on Non-WSA Lands with Wilderness Characteristics

There are three wild horse herd management/herd areas in the VPA: Bonanza, Winter Ridge, and Hill Creek. A portion of the White River non-WSA lands with wilderness characteristics (7,449 acres) is located in the Bonanza herd management area. The Wolf Point non-WSA lands with wilderness characteristics is located in the Winter Ridge herd area and a portion of the Desolation Canyon non-WSA lands with wilderness characteristics (16,396 acres) is located in the Hill Creek herd management area.

4.10.2.13.1. Proposed RMP

4.10.2.13.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under the Proposed RMP, no horse herd would be maintained in the Bonanza Herd Area. Any wild or feral horses present would be gathered and removed. An area with wilderness characteristics is natural and provides opportunities for either solitude or primitive recreation. Areas with wilderness characteristics may also possess supplemental values (interesting, special, or unique natural or cultural resource values) in addition to the requisite wilderness characteristics. Wild horses, for example, would be considered a supplemental value. The presence of this resource value would supplement the wilderness characteristics of the White River non-WSA lands with wilderness characteristics. Because a herd would not be maintained in this area, there would be no supplemental benefit to the wilderness characteristics of the non-WSA lands with wilderness characteristics. Further, the primitive recreational activity of viewing wild horses would also be lost.

Because wild horses would be gathered and removed under the Proposed RMP, there would be no need for facilities (fences and water developments) to manage the herd. Thus, there would be no introduction of human-made facilities on the landscape that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Further, there would be no temporary disruption of opportunities for solitude or primitive recreation activities resulting from the noise and presence of people and equipment used during construction of these facilities. However, there would be temporary disruption of opportunities for solitude or primitive recreation from gathering operations due to the noise and presence of people, structures (fences, corrals, or pens), vehicles, and aircraft.

4.10.2.13.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under the Proposed RMP, no wild horse herd would be established in the Hill Creek or Winter Ridge herd areas. Any wild or feral horses present would be gathered and removed. The presence of this resource value would supplement the wilderness characteristics of the Desolation Canyon and Wolf Point non-WSA lands with wilderness characteristics. Because herds would not be maintained in these herd areas, there would be no supplemental benefit to the wilderness

characteristics of the non-WSA lands with wilderness characteristics. Further, the primitive recreational activity of viewing wild horses would also be lost.

Because wild horses would be gathered and removed under the Proposed RMP, there would be no need for facilities (fences and water developments) to manage the herds. Thus, there would be no introduction of human-made facilities on the landscape that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics. Further, there would be no temporary disruption of opportunities for solitude or primitive recreation activities resulting from the noise and presence of people and equipment used during construction of these facilities. However, there would be a temporary disruption of opportunities for solitude or primitive recreation from gathering operations due to the noise and presence of people, structures (fences, corrals, or pens), vehicles, and aircraft.

4.10.2.13.2. ALTERNATIVE A

4.10.2.13.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative A, a horse herd would not be re-established in the Bonanza herd management area. Thus, there would be no impacts (beneficial or adverse) on the wilderness characteristics of the White River non-WSA lands with wilderness characteristics.

In the Winter Ridge herd area, a horse herd of 50 to 100 animals would be re-established. An area with wilderness characteristics is natural and provides opportunities for either solitude or primitive recreation. Areas with wilderness characteristics may also possess supplemental values (interesting, special, or unique natural or cultural resource values) in addition to the requisite wilderness characteristics. Wild horses, for example, would be considered a supplemental value. The presence of this resource value would supplement the wilderness characteristics of the Wolf Point non-WSA lands with wilderness characteristics.

In the Hill Creek herd management area, a 70- to 145-animal horse herd would be re-established. Again, the presence of this resource value would supplement the wilderness characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics. In order to re-establish the herd, however, fences would have to be constructed to mange the herds. Construction of fences in the non-WSA lands with wilderness characteristics (if that location was necessary) would add further development of humans to the landscape and degrade the natural characteristics of the land. During construction, the presence and noise of people and equipment building the fences would detract from opportunities for solitude and primitive recreation. When construction ended, the adverse impact on opportunities for solitude and primitive recreation would improve, but the long-term presence of human-made structures on the land would detract from the undeveloped setting needed to support these opportunities.

4.10.2.13.3. ALTERNATIVE B

4.10.2.13.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, the impacts of wild horse management on the wilderness characteristics of Wolf Point and White River non-WSA lands with wilderness characteristics would be the same as described under Alternative A. In the Hill Creek herd management area, including the Desolation Canyon non-WSA lands with wilderness characteristics, all horses would be removed and permits would be offered to the Northern Ute Tribe for up to 100 wild and feral horses. Under Alternative B, it would be necessary to build fences to manage the herd. The introduction of human-made structures on the land would diminish the natural characteristics and opportunities for solitude and primitive recreation in the Desolation Canyon non-WSA lands with wilderness characteristics, if the fences were located in the non-WSA lands with wilderness characteristics. There would also be a temporary disruption of opportunities for solitude or primitive recreation from gathering operations due to the noise and presence of people, structures (fences, corrals, or pens), vehicles, and aircraft. The presence of wild horses, however, would supplement the wilderness characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics and provide opportunities to view wild horses, a primitive recreation activity.

4.10.2.13.4. ALTERNATIVE C

4.10.2.13.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative C, a horse herd of 40 – 85 animals would be re-established in the Bonanza herd management area. The presence of this resource value would supplement the wilderness characteristics of the White River non-WSA lands with wilderness characteristics. With the herd, however, it would necessary to construct fences and water facilities to manage the horses. Construction of the facilities would further modify the landscape and detract from the natural characteristics of the landscape and would adversely impact opportunities for solitude and primitive recreation. If the facilities were located in the White River non-WSA lands with wilderness characteristics, they would degrade the natural characteristics of the non-WSA lands with wilderness characteristics.

In the Winter Ridge herd area, a 50- to 100-animal horse herd would be established. The effects to wilderness characteristics of the Wolf Point non-WSA lands with wilderness characteristics would be the same as those described for the White River non-WSA lands with wilderness characteristics above, but no fences or waters would be constructed.

In the Hill Creek herd management area, a 70- to 145-animal horse herd would be re-established with impacts to the Desolation Canyon non-WSA lands with wilderness characteristics the same as that described for the White River non-WSA lands with wilderness characteristics above.

4.10.2.13.5. ALTERNATIVE D (NO ACTION)

4.10.2.13.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

The effects of Alternative D (No Action) in the Bonanza herd management area would be the same as those described for Alternative A—a horse herd would not be re-established. The effects on the natural characteristics of the White River non-WSA lands with wilderness characteristics and opportunities for solitude and primitive recreation would be the same as those described for Alternative A.

In the Winter Ridge herd area, no herd would be established, with effects on the wilderness characteristics being the same as those described for Alternative B.

The Hill Creek herd management area would support a herd of 195 horses under Alternative D (No Action). The presence of wild horses would supplement the wilderness characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics. No facilities are proposed for management of the herd, so no adverse impacts to the natural characteristics of the Desolation Canyon non-WSA lands with wilderness characteristics would be anticipated.

4.10.2.13.6. ALTERNATIVE E

4.10.2.13.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

The impacts of wild and feral horses and horse management on the wilderness characteristics of the White River non-WSA lands with wilderness characteristics would be the same as described for Alternative C. The impacts of wild and feral horse management on the wilderness characteristics of the Wolf Point non-WSA lands with wilderness characteristics would be the same as Alternative A. The impacts on Desolation Canyon non-WSA lands with wilderness characteristics would be the same as those described for Alternative A.

4.10.2.13.7. SUMMARY

Under the Proposed RMP, BLM would no longer manage for wild and feral horses. While there would be no adverse impacts to the natural characteristics of the non-WSA lands with wilderness characteristics, there would also be no benefit to opportunities for primitive recreation (viewing wild horses) or supplemental benefit to wilderness characteristics.

Under Alternatives A, C, D, and E, the BLM would manage for wild and feral horses with the benefits that the presence of wild horses would have on wilderness characteristics and the adverse impacts fence and water construction would have on the natural landscape and opportunities for solitude and primitive recreation. Under Alternative B, the BLM would not manage for wild horses but would offer permits to the Northern Ute Tribe for up to 100 horses. The presence of Tribal horses would have the same benefits to the wilderness characteristics of

the Desolation Canyon non-WSA lands with wilderness characteristics in the Hill Creek herd management area as described under Alternatives A, C, D, and E.

4.10.2.14. Impacts of Woodland and Forest Decisions on Non-WSA Lands with Wilderness Characteristics

4.10.2.14.1. Proposed RMP

Under Proposed RMP, actions would be implemented to maintain and restore forest and woodlands ecosystems to a condition in which biodiversity is preserved, insects and disease are controlled to normal levels, relict stands are maintained, fuel loads are reduced, historic fire regimes are beginning to be restored, salvage is permitted, forests and woodlands are managed for multiple-use, and sustained yield is allowed through fire and mechanical treatments. Up to 546,152 acres would be treated or harvested. Salvage of forest and woodland products that are dead or dying due to fire, disease, insect kill, or other disturbance would be permitted throughout the VPA.

4.10.2.14.1.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Forest and woodland treatments with fire would restore native vegetation communities and a more natural composition of grasses, forbs, shrubs, and/or trees in those communities. If these treatments occurred in non-WSA lands with wilderness characteristics, this objective would enhance the natural characteristics of the non-WSA lands with wilderness characteristics. In the short term, however, prescribed burning would result in disturbance of the landform and vegetation through fire line construction needed to manage the fire. Further, the presence and noise of people, vehicles, equipment, and aircraft would eliminate opportunities for solitude and primitive and unconfined recreation in proximity to the fire. The impacts on opportunities for solitude and primitive recreation would be temporary, lasting for the duration of the prescribed burning operation and reclamation. When the fire and reclamation operations are complete, these opportunities would return. Soil and vegetation disturbance for fire line construction would diminish the natural characteristics of the non-WSA lands with wilderness characteristics, but reclamation would restore the natural conditions in a relatively short period of time.

Non-WSA lands with wilderness characteristics being managed to protect those characteristics would be closed to woodland products harvesting.

4.10.2.14.1.2. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Forest and woodland treatments with fire would restore native vegetation communities and a more natural composition of grasses, forbs, shrubs, and/or trees in those communities. If these treatments occurred in non-WSA lands with wilderness characteristics, this objective would enhance the natural characteristics of the non-WSA lands with wilderness characteristics. In the short term, however, prescribed burning would result in disturbance of the landform and vegetation through fire line construction needed to manage the fire. Further, the presence and

noise of people, vehicles, equipment, and aircraft would eliminate opportunities for solitude and primitive and unconfined recreation in proximity to the fire. The impacts on opportunities for solitude and primitive recreation would be temporary, lasting for the duration of the prescribed burning operation and reclamation. When the fire and reclamation operations are complete, these opportunities would return.

Forest and woodland treatment using mechanical methods (heavy equipment and chainsaws) would be allowed in non-WSA lands with wilderness characteristics that would not be managed to protect those characteristics under the Proposed RMP. If mechanical treatments were conducted, the surface disturbance would have long-term impacts on the natural characteristics of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive and unconfined recreation. While restoration of native vegetation communities would be beneficial to the natural characteristics of non-WSA lands with wilderness characteristics, the use of chainsaws, bull dozers, and brush hogs to accomplish the forest and woodland objectives would leave an obvious imprint of human activity on the land, having an adverse effect on the natural characteristics of the non-WSA lands with wilderness characteristics. Also, in the short term, the presence and noise of people and equipment would eliminate opportunities for solitude and primitive forms of recreation in proximity to the treatment area. In the long term, a setting clearly manipulated by humans would also diminish the opportunities for both solitude and primitive recreation.

In the other non-WSA lands with wilderness characteristics (not managed for their wilderness characteristics), salvage of forest and woodland products would be done by mechanical means with the same impacts to non-WSA lands with wilderness characteristics as described above.

4.10.2.14.2. ALTERNATIVE A

4.10.2.14.2.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative A, actions would be implemented to maintain and restore forest and woodlands ecosystems to a condition in which biodiversity is preserved, insects and disease are controlled to normal levels, relict stands are maintained, fuel loads are reduced, historic fire regimes are beginning to be restored, salvage is permitted, forests and woodlands are managed for multiple-use, and sustained yield is allowed through fire and mechanical treatments. Up to 552,152 acres would be treated or harvested. Salvage of forest and woodland products that are dead or dying due to fire, disease, insect kill, or other disturbance would be permitted throughout the VPA.

Forest and woodland treatments with fire would restore native vegetation communities and a more natural composition of grasses, forbs, shrubs, and/or trees in those communities. If these treatments occurred in non-WSA lands with wilderness characteristics, this objective would enhance the natural characteristics of the non-WSA lands with wilderness characteristics. In the short term, however, prescribed burning would result in disturbance of the landform and vegetation through fire line construction needed to manage the fire. Further, the presence and noise of people, vehicles, equipment, and aircraft would eliminate opportunities for solitude and

primitive and unconfined recreation in proximity to the fire. The impacts on opportunities for solitude and primitive recreation would be temporary, lasting for the duration of the prescribed burning operation and reclamation. When the fire and reclamation operations are complete, these opportunities would return. Soil and vegetation disturbance for fire line construction would diminish the natural characteristics of the non-WSA lands with wilderness characteristics, but reclamation would restore the natural conditions in a relatively short period of time. The use of chainsaws to clear vegetation for fire line construction, however, would result in more extensive surface disturbance that would degrade the natural characteristics of the non-WSA lands with wilderness characteristics and require a much longer period of time to rehabilitate.

If mechanical treatments (heavy equipment and chainsaws) were conducted for non-WSA lands with wilderness characteristics, the surface disturbance would have long-term impacts on the natural characteristics of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive and unconfined recreation. While restoration of native vegetation communities would be beneficial to the natural characteristics of non-WSA lands with wilderness characteristics, the use of chainsaws, bull dozers, and brush hogs to accomplish the forest and woodland objectives would leave an obvious imprint of human activity on the land, having an adverse effect on the natural characteristics of the non-WSA lands with wilderness characteristics. Also, in the short term, the presence and noise of people and equipment would eliminate opportunities for solitude and primitive forms of recreation in proximity to the treatment area. In the long term, a setting clearly manipulated by humans would also diminish the opportunities for both solitude and primitive recreation.

Salvage of forest and woodland products would be done by mechanical means with the same impacts to non-WSA lands with wilderness characteristics as described above.

4.10.2.14.3. ALTERNATIVE B

4.10.2.14.3.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative B, public use of forest and woodland products would be permitted to achieve desired future conditions (e.g., vegetation treatments). Harvest of forest and woodland species would be permitted by the public with emphasis on achieving the greatest output of products. Up to 554,108 acres would be treated or harvested. The emphasis of this alternative is on the production of forest and woodland products for public use. Under this alternative none of the non-WSA lands with wilderness characteristics would be managed to protect their wilderness characteristics. Thus, the effects of mechanical treatment of up to 554,108 acres on the wilderness characteristics of non-WSA lands with wilderness characteristics, that are not being managed to protect their wilderness characteristics, would be the same as those described under Alternative A. The effects of forest and woodland salvage on non-WSA lands with wilderness characteristics would also be the same as those described in Alternative A.

4.10.2.14.4. ALTERNATIVE C

4.10.2.14.4.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Alternative C would have the same effects from forest and woodland treatments and harvest on wilderness characteristics of non-WSA lands with wilderness characteristics as those described in Alternative A. The effects of forest and woodland salvage by mechanical means would be the same as those described for Alternative A, except that salvage would only be allowed in ACECs when forest and woodland resources were threatened. Otherwise, 242,760 acres of ACECs would not be affected by salvage. Because there are several areas of non-WSA lands with wilderness characteristics located in proposed ACECs, the exclusion of salvage from ACECs would prevent surface disturbance that would diminish the wilderness characteristics of non-WSA lands with wilderness characteristics (see Table 4.10.3, Non-WSA Lands with Wilderness Characteristics Located in Special designations).

4.10.2.14.5. ALTERNATIVE D (NO ACTION)

4.10.2.14.5.1. Non-WSA Lands with Wilderness Characteristics Managed for Other Resource Values and Uses

Under Alternative D (No Action), up to 88,200 acres of forest and 200,100 acres of woodlands would be treated or be harvested. If any of those treatments (fire or mechanical) occurred in non-WSA lands with wilderness characteristics, the effects would be the same as those described under Alternative A.

4.10.2.14.6. ALTERNATIVE E

4.10.2.14.6.1. Non-WSA Lands with Wilderness Characteristics Managed to Protect Wilderness Characteristics

Under Alternative E, forest and woodland treatment and harvests as well as salvage would not be permitted with mechanical means (e.g., chainsaws or bulldozers) in non-WSA lands with wilderness characteristics. Forest and woodland treatments, however, could be performed with prescribed fire if consistent with the objectives for management of the wilderness characteristics of the non-WSA lands with wilderness characteristics. As a result, there would be no surface disturbance from mechanical treatments, harvests, or salvage operations and no effects on the natural characteristics of the non-WSA lands with wilderness characteristics. With prescribed fire treatments, the presence and noise of people, vehicles, or equipment would temporarily reduce opportunities for solitude and primitive recreation during the fire operation. When the operation was complete and rehabilitated as needed, those opportunities would return. Forest and woodland treatments would restore native vegetation communities and composition that would benefit the natural characteristics of the non-WSA lands with wilderness characteristics.

4.10.2.14.7. SUMMARY

Forest and woodland management under the Proposed RMP and Alternative E would provide the greatest protection of wilderness characteristics in the non-WSA lands with wilderness characteristics. On the other hand, without treatments, in some cases there would be no benefit from the restoration of native plant communities or the composition of plants in those communities. The Proposed RMP and other alternatives would prescribe different areas of land for treatment, harvest, and salvage with similar beneficial effects to non-WSA lands with wilderness characteristics from restoration of native plant communities and similar adverse effects from surface disturbance.

4.10.2.14.8. SUMMARY

Alternatives A, B, C, and D (No Action) prescribe no specific actions that would affect (adversely or beneficially) the wilderness characteristics of non-WSA lands with wilderness characteristics. The Proposed RMP, however, prescribes a management scheme that would protect the wilderness characteristics of 15 of the non-WSA lands with wilderness characteristics with those values (106,178 acres) and Alternative E would prescribe measures to protect all of the non-WSA lands with wilderness characteristics (277,596 acres).

4.10.2.15. SUMMARY OF IMPACTS FROM THE PROPOSED RMP AND ALTERNATIVES

4.10.2.15.1. PROPOSED RMP

The Proposed RMP provides for management of natural landscapes and opportunities for solitude and primitive forms of recreation by:

- establishing cultural resource protection areas;
- proposing large acreages for protection in special designations (ACECs and Wild and Scenic Rivers);
- limiting surface disturbance on steep slopes;
- establishing a large number of acres for protection of landscapes (scenery) through VRM Class I and II objectives;
- using prescribed fire and mechanical treatments to restore vegetation communities and reduce wildfire hazard; and
- managing 15 non-WSA lands with wilderness characteristics for protection of their wilderness characteristics.

Under the Proposed RMP, however, protection of wilderness characteristics would be less than under Alternatives E.

4.10.2.15.2. ALTERNATIVE A

Alternative A provides for management of natural landscapes and opportunities for solitude and primitive forms of recreation by:

- establishing cultural resource protection areas;
- proposing large acreages for protection in special designations (ACECs and Wild and Scenic Rivers);
- limiting surface disturbance on steep slopes;
- establishing a large number of acres for protection of landscapes (scenery) through VRM Class I and II objectives; and
- using prescribed fire and mechanical treatments to restore vegetation communities and reduce wildfire hazard.

Under Alternative A, however, protection of wilderness characteristics would be less than under the Proposed RMP and Alternatives C and E.

4.10.2.15.3. ALTERNATIVE B

Alternative B provides less emphasis on management of natural landscapes and opportunities for solitude and primitive forms of recreation by:

- using prescribed fire and mechanical treatment to restore vegetation communities and reduce wildfire hazard and
- managing more acres for landscape change through VRM Class III and IV objectives.

4.10.2.15.4. ALTERNATIVE C

Alternative C places emphasis on management of natural landscapes and opportunities for solitude and primitive forms of recreation by:

- establishing cultural resource protection areas;
- leasing fewer acres for mineral and hydrocarbon development;
- using prescribed fire and mechanical treatment to restore vegetation communities and reduce wildfire hazard;
- proposing larger acreages for special designations (ACECs and Wild and Scenic Rivers); and
- managing large acreages for landscape protection through VRM Class I and II objectives (the most protective VRM classes).

4.10.2.15.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) provides the least emphasis on management of natural characteristics and opportunities for solitude and primitive recreation by:

- establishing no cultural resource protection areas;
- using prescribed fire and mechanical treatment to restore vegetation communities and reduce wildfire hazard;
- managing the fewest acres for special designations (ACECs and Wild and Scenic Rivers); and

- managing the most acres for VRM Class III and IV objectives (the least protective VRM classes), the same as Alternative B.

4.10.2.15.6. ALTERNATIVE E

Alternative E focuses on protection to the natural characteristics and opportunities for solitude and primitive recreation activities of all non-WSA lands with wilderness characteristics by:

- closing the non-WSA lands with wilderness characteristics to OHV use;
- closing the non-WSA lands with wilderness characteristics to oil and gas leasing, solid mineral leasing, and mineral material sales;
- proposing the non-WSA lands with wilderness characteristics for withdrawal from mineral entry;
- avoiding the non-WSA lands with wilderness characteristics for ROW development;
- closing the non-WSA lands with wilderness characteristics to permitted commercial and personal-use wood cutting;
- managing the non-WSA lands with wilderness characteristics for landscape protection through VRM Class I objectives;
- closing the non-WSA lands with wilderness characteristics to road construction; and
- allowing vegetation and fuel treatments with prescribed fire, when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics.

4.10.3. MITIGATION MEASURES

There are a number of actions proposed under the Proposed RMP and all alternatives that would limit surface disturbance, focus on primitive forms of recreation, and maintain or restore vegetation condition, all of which would maintain and enhance the wilderness characteristics of portions of non-WSA lands with wilderness characteristics. Under the Proposed RMP and Alternatives A, B, C, and E, withdrawals from entry under the mining laws would prevent surface disturbance along parts of the Green and White Rivers and would protect the natural condition of the landscape in the Lower Flaming Gorge, White River, and Desolation Canyon non-WSA lands with wilderness characteristics. Under Alternative D (No Action), mineral withdrawals are also proposed for portions of the Green River through Browns Park and the lower Green River, again, protecting the natural condition of the river canyon parts of Lower Flaming Gorge and Desolation Canyon non-WSA lands with wilderness characteristics. Protecting the natural characteristics of the river canyons would enhance the setting required to support opportunities for solitude and primitive forms of recreation.

Under the Proposed RMP and all alternatives, actions to prohibit surface disturbance within floodplains and within 100 meters of riparian zones would protect the natural condition of riparian portions of non-WSA lands with wilderness characteristics. Protection of the natural condition of these areas would also enhance the setting needed to provide opportunities for both solitude and primitive forms of recreation. Further, managing riparian zones to achieve proper functioning condition would maintain and restore vegetation condition and water quality that would enhance the natural condition of riparian portions of the non-WSA lands with wilderness

characteristics and settings that support primitive forms of recreation like floating, hiking, and wildlife viewing.

Under the Proposed RMP and all alternatives, prescribed burning to restore vegetation communities would maintain and enhance the natural characteristics of non-WSA lands with wilderness characteristics, enhance wildlife habitat for hunting, photography, and wildlife viewing, and enhance the visual appeal by introducing variety to the landscape. Under the Proposed RMP, 15 non-WSA lands with wilderness characteristics would be managed to VRM Class II standards. Managing areas by VRM Class II objectives would maintain the natural characteristics of portions of the non-WSA lands with wilderness characteristics. Under Alternative E, all of the non-WSA lands with wilderness characteristics would be managed to VRM Class I standards, providing even more protection of the natural characteristics of these areas, than Class II objectives. Under the Proposed RMP and other alternatives, portions of the non-WSA lands would continue to be managed to that standard, preserving the natural characteristics of the lands. All surface-disturbing activities, regardless of the Proposed RMP and alternative or management action, would be subject to the VRM objectives of the area within which the activity takes place. The visual resource contrast rating system would be used as a tool to analyze the potential site-specific impacts of surface disturbance as well as facility design and placement. Surface-disturbing activities and facilities would then be designed to mitigate their visual impacts and conform to the area's VRM objective. Mitigation would include painting, facility design, and placement/location.

Under the Proposed RMP and Alternatives A, C, and E, recreation management objectives for portions of the White River, Blue Mountain, Book Cliffs, Browns Park, and Nine Mile Canyon SRMAs would provide activities, settings, and experiences for primitive forms of recreation. These objectives would provide protection of the natural characteristics and opportunities for solitude and primitive forms of recreation in portions of the White River, Bourdette Draw, Lower Flaming Gorge, Desolation Canyon, and the Bitter Creek non-WSA lands with wilderness characteristics. These objectives would provide the same benefits to wilderness characteristics for the Desolation Canyon and Lower Flaming Gorge non-WSA lands with wilderness characteristics under Alternative D (No Action). Further, actions to construct up to 400 miles of non-motorized trails under the Proposed RMP and Alternatives A, C, and E and 55 miles of trails under Alternative D (No Action) would provide further opportunities for primitive forms of recreation.

Management of ACEC or wild and scenic river values in Browns Park, Nine Mile Canyon, and the Lower Green River under the Proposed RMP and all alternatives would maintain and enhance wilderness characteristics in portions of the Lower Flaming Gorge and Desolation Canyon non-WSA lands with wilderness characteristics. Management of the ACEC and wild and scenic river values in White River under Alternatives A, C, and E would have the same effect on the wilderness characteristics of portions of the White River non-WSA lands with wilderness characteristics.

4.10.4. UNAVOIDABLE ADVERSE IMPACTS

Under the Proposed RMP and Alternatives A, B, C, and D (No Action), minerals exploration and development, power line and pipeline construction, road and trail construction, and vegetation treatment with mechanical methods would result in surface disturbances and placement of human-made structures on the landscape that would cause unavoidable adverse impacts on the natural characteristics of non-WSA lands with wilderness characteristics. Further, the noise and presence of people and equipment to implement these treatments and construct these facilities would diminish opportunities for solitude and conflict with primitive recreation activities. The human presence on the landscape would also alter the setting needed to support these opportunities. These impacts to wilderness characteristics would not be mitigated through project location and design.

Under Alternative E, 277,596 acres of non-WSA lands with wilderness characteristics would be closed to OHV travel and surface disturbances that would degrade or diminish the wilderness characteristics of these lands. However, even under this alternative and these prescriptions to protect wilderness characteristics, 117,470 acres would lose their natural characteristics and opportunities for solitude and primitive recreation due to exploration, development, and production of oil and gas resources in the VPA. Existing oil and gas leases and the exercise of valid existing rights under those leases would eliminate the wilderness characteristics in portions of 11 non-WSA lands with wilderness characteristics (see Section 4.10.2.5.6.1 above).

4.10.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Under the Proposed RMP and all alternatives, construction of oil and gas exploration access roads and well pads would produce a long-term loss of naturalness and opportunities for solitude and primitive recreation in portions of up to 11 non-WSA lands with wilderness characteristics. Similarly, under the Proposed RMP and Alternatives A, B, C, and D (No Action), OHV driving, woodcutting, and seismic exploration would cause long-term losses of natural characteristics and opportunities for solitude and primitive recreation.

Under the Proposed RMP and all alternatives, the use of prescribed fire for vegetation treatments would, in the long term, enhance vegetation condition and the natural characteristics of non-WSA lands with wilderness characteristics. A more natural landscape would improve opportunities for both solitude and primitive forms of recreation. Further, construction of riparian exclosure fences needed for restoration of riparian areas would degrade the natural characteristics of non-WSA lands with wilderness characteristics in the short term but would enhance the riparian vegetation community in the long term, providing for a more natural landscape and settings for primitive recreational activities. Upon restoration, the exclosure fences would be removed.

Protection of ACEC or wild and scenic river values in Browns Park, Nine Mile Canyon, and the Lower Green River under the Proposed RMP and all alternatives would maintain and enhance wilderness characteristics in portions of the Lower Flaming Gorge and Desolation Canyon non-WSA lands with wilderness characteristics in the long term. Management of the ACEC and wild and scenic river values in White River under Alternatives A, C, and E would have the same long-

term effect on the wilderness characteristics of portions of the White River non-WSA lands with wilderness characteristics.

4.10.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Under Alternatives A, B, C, and D, oil and gas wells and well fields that are currently producing; above-ground pipeline and power line corridors and communication sites; forest and woodland treatments by mechanical means (bull dozers and chainsaws); construction of livestock and wildlife waters and fences; construction of roads and trails; allocation of open areas and designated routes for motorized vehicle use; and allocation of areas for the harvesting of forest and woodland products (e.g., timber production and fire wood) would all result in irretrievable degradation of the natural characteristics of non-WSA lands with wilderness characteristics. Further, implementation of these structures, land treatments, and uses would change the natural, undeveloped setting to a more developed and industrial landscape that is not conducive to primitive recreation activities and experiences of solitude. Land and vegetation disturbance, the presence of human-made structures on the land, and the noise and presence of people, equipment, and vehicles would not support an experience of solitude and would conflict with primitive recreational activities.

Under the Proposed RMP, however, 106,178 acres in 15 separate non-WSA lands with wilderness characteristics and under Alternative E, 277,596 acres in 25 separate non-WSA lands with wilderness characteristics would be managed to protect natural characteristics and opportunities for solitude and primitive recreation activities. These areas would be limited and closed to motorized uses and surface-disturbing activities that would degrade or diminish wilderness characteristics. Despite this long-term commitment to protecting undeveloped landscapes, opportunities for solitude, and primitive recreational activities, there would still be an irretrievable loss of wilderness characteristics on 117,740 acres in portions of 11 of the non-WSA lands with wilderness characteristics under Alternative E (see Section 4.10.2.5.6.1 above). Although currently undeveloped, portions of these non-WSA lands with wilderness characteristics have been leased for oil and gas production. Because it is anticipated that the lease holders will exercise their rights under their leases and develop these areas for oil and gas production, the wilderness characteristics of portions of these 11 areas would be irretrievably lost. No irreversible impacts are anticipated.

4.11. PALEONTOLOGY

The BLM has identified four objectives for the management of fossil resources on lands it administers. They are: 1) locating, evaluating, managing, and protecting fossil resources; 2) facilitating appropriate scientific, educational, and recreational uses of fossils; 3) ensuring that proposed land uses do not inadvertently damage or destroy important fossil resources; and 4) fostering public awareness of the nation's rich paleontological heritage (BLM 1998:01).

Actions proposed in the Proposed RMP and each of the alternatives for other resources are analyzed here and the possible effects of these actions on paleontological resources are discussed. Because the total number of acres affected by other resource management decisions is not known, qualitative analysis is used to determine which alternative best meets the four goals and objectives identified in the BLM Manual and Handbook H-8270-1 (1998).

In situations where qualitative analyses are used to determine which alternative best meets the BLM's four goals and objectives identified above, a reasonably foreseeable action (RFA) may be used to help predict impacts. The RFAs are potential future actions, such as oil and gas well placement or any other surface-disturbing activity, where specific decisions (e.g., actual location of oil and gas wells) cannot be determined at the programmatic level of this RMP/EIS. The RFAs are not specified allocations or decisions, but a best estimate or a guideline for what actions might be taken in the future. Predictions of potential projects are based on professional judgment regarding approximate project locations, general locality conditions, and design features commonly applied to such projects. These predictions do not definitively determine the outcome of site-specific analysis required prior to implementation of any project.

For the purpose of this RMP, all vertebrate and vertebrate trace fossil (tracks, trails, or other indicators of vertebrate activity) localities were identified as to section, township, and range. The total area included in sections containing one or more vertebrate or vertebrate trace fossil localities within the VPA is approximately 147,062 acres (Class 4 and 5 areas).

Outcrops of geologic units such as the Morrison, Mesaverde, Mancos, Moenkopi, Green River, Uinta, Wasatch, Chinle, Cedar Mountain, and Navajo/Nugget Formations should be considered as Class 3 areas in the VPA. All of these units contain vertebrate fossils in other locations and may require further assessment where they are exposed in the VPA. Areas where these units are covered or obscured are not Class 3 areas. The total area in which vertebrate or other scientifically significant fossils would be expected to occur is approximately 1,173,741 acres. Class 1 and 2 areas make up approximately 446,946 acres of the VPA.[12]

Within the VPA, paleontological resources are most often found where there are outcrops of the Morrison, Mesaverde, Mancos, Moenkopi, Green River, Uinta, Wasatch, Chinle, and Navajo/Nugget Formations. Impacts to paleontological resources result from natural weathering and erosion and from surface disturbance caused by people or animals. Adverse impacts to the resource would be mitigated or avoided through the careful application of mitigation measures prior to surface disturbance. Where mitigation is necessary, fossils are collected and taken to

[12] Calculations for PFYC Class acreages do not include state, tribal, or private lands.

secure repositories, along with contextual data, which preserves the paleontological record. The beneficial impacts of mitigation include the potential for advances in scientific understanding and regional perspectives that would not be known otherwise. Other beneficial impacts result from public education about the resource and involvement in its protection, from partnerships and from the efforts of permitted researchers.

4.11.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

Management decisions related to air quality, cultural resources, human health and safety, soils and watersheds, riparian, special status species, special designations, vegetation, wild horses, and wildlife and fisheries would have negligible impacts on paleontological resources, and therefore these decisions will not be further analyzed. The impacts of these actions would be negligible because protecting air quality, protecting cultural resources under section 106, maintaining safety around AML sites and reducing the risks of hazardous materials spills, protecting sensitive soils and water resources, protecting federally listed species and their habitat, restoring and maintaining native vegetation communities, and protecting non-listed wildlife and fish habitats would neither inhibit nor enhance opportunities for the scientific study of important fossil resources nor the opportunities for recreational collection of fossils.

4.11.1.1. FIRE MANAGEMENT AND WOODLAND/FOREST

Actions related to fire management and woodland/forest management could have long-term direct adverse impacts on paleontological resources due to surface-disturbing activities such as creating fire lines and road building.

4.11.1.2. LIVESTOCK AND GRAZING

Livestock can have dispersed long-term direct adverse impacts on paleontological resources. Trampling damages and destroys fossils where animals range across outcrops of fossiliferous formations. Livestock could adversely affect paleontological resources in areas of concentration around stock ponds, salt blocks, bedding areas, and along animal trails. Where livestock are eliminated from certain areas, adverse impacts to paleontological resources could occur due to changes in movement patterns.

4.11.1.3. MINERALS

Exploration for and development of mineral resources can have short-term and long-term adverse effects on paleontological resources. Surface disturbance that results from mineral exploration (including seismic surveys) and development can affect paleontological resources by damaging or destroying them. Adverse effects include physical damage to or destruction of fossils, as well as increased vandalism and theft that result from improved access to fossil localities. However, following the procedures for assessment and mitigation found in the BLM Manual H-8270-1, Chapter III (1998) would reduce or remove the potential for most of these adverse impacts. Public education and, where necessary, law-enforcement actions would reduce unauthorized fossil collecting.

Exploration for and development of mineral resources would also have a potentially beneficial impact on paleontological resources by alerting paleontologist to discoveries in areas that are not currently being researched, potentially resulting in the collection of specimens and data that would not otherwise be recovered.

4.11.1.4. PALEONTOLOGY

The Proposed RMP and the range of alternatives proposed for managing paleontological resources would have both long- and short-term beneficial effects. The Proposed RMP and all of the alternatives propose appropriate assessment to facilitate scientific research, to encourage partnerships, to manage access to significant fossils, to reduce unauthorized collection of paleontological resources, and to mitigate potential adverse impacts, where necessary, to protect the resources. They also beneficially propose management for recreational collection and use of common invertebrate and plant fossils, with public education on and interpretation of paleontological resources.

4.11.1.5. RANGELAND IMPROVEMENTS

Management decisions that allow the concentration of livestock in areas where there are significant fossils would cause long-term adverse impacts to paleontological resources. Fences and water sources where animals congregate, if they are placed on or near areas where there are significant fossils, would result in damage or destruction of fossils. However, through required assessment of rangeland improvement projects, paleontological resources would be identified and improvements would be mitigated where the potential for resource damage exists.

4.11.1.6. RECREATION

The management goals and objectives for recreation would have both adverse and beneficial long-term impacts on paleontological resources. For example, allowing motorized vehicles up to 300 feet from a designated route increases the likelihood that important or major fossil localities in Classes 4 and 5 or Class 3 areas would be inadvertently damaged or vandalized, if discovered. The management goals and objectives for recreation also have the potential to benefit paleontological resources. By implementing public education and environmental awareness programs, such as the BLM's Tread Lightly and Leave No Trace programs, added recreational activities in the VPA would reduce illegal fossil collection, vandalism, or accidental destruction of the resource. Developed recreation sites are closed to recreational fossil collection (see 43 CFR 8365.1-5[b]), and closing developed recreation sites to surface-disturbing activities would reduce the adverse impacts to paleontological resources.

4.11.2. PROPOSED RMP AND ALTERNATIVES IMPACTS

This section summarizes the effects of the management actions (Proposed RMP and all alternatives) proposed in Chapter 2 for paleontological resources. Because the analyses of the management decisions presented in this chapter do not reflect specific projects or actions, some effects can only be expressed qualitatively. Quantitative analysis has been included when possible, based on specific decisions proposed in Chapter 2, as well as estimates of RFAs

described below. In most cases, site-specific analyses would be required to implement resource management decisions affecting paleontological resources. More detailed or locality-specific studies and appropriate environmental documents would be prepared in compliance with NEPA and its implementing regulations, as needed.

Effects analyzed in this chapter include direct, indirect, and cumulative effects of the proposed management decisions to the extent that they were identifiable for analysis. Where applicable, the short-term or long-term nature of these effects is described. Direct effects result from activities planned or authorized by the BLM and occur at the same time and place. Indirect effects are caused by these decisions and occur later in time or farther removed in distance, but are still reasonably foreseeable.

Cumulative effects occur when there are multiple effects on the same resources. They are incremental effects of proposed activities or projects when combined with past, present, and future actions. As stated in 40 CFR 1508.7 (1997), a "'cumulative impact' is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." The cumulative effects discussed in this chapter address resources for which direct and indirect impacts have been described earlier.

Where surface disturbance occurs within the VPA, the effects on paleontological resources can be beneficial or adverse. Beneficial impacts to paleontological resources would be due to advances in scientific understanding and knowledge of the spatial distribution of significant fossil resources. Adverse impacts would be due to disturbances that are uncontrolled or that increase public access to areas containing important or valuable fossils. Subsurface disturbance would also be detrimental to paleontological resources.

4.11.2.1. Impacts of Fire Management Decisions on Paleontological Resources

4.11.2.1.1. Proposed RMP and Alternatives A, B, C, and E

Under the Proposed RMP and all of the action alternatives prescribed, fire would be allowed on approximately 156,425 acres per decade. Because a far greater number of acres are proposed for prescribed fire under the Proposed RMP and the action alternatives relative to Alternative D (No Action), the Proposed RMP and all of the action alternatives are likely to have greater adverse direct impact on paleontological resources relative to the current management situation.

4.11.2.1.2. Alternative D (No Action)

Under the current management situation, Alternative D (No Action); 27,950 acres in the Book Cliffs RMP; and 22,950 acres in the Diamond Mountain RMP would be treated with prescribed fire and related activities for a total of 50,900 acres. This alternative is likely to have less adverse direct impact on paleontological resources as compared to the Proposed RMP and the action

alternatives, because fewer acres are proposed for treatment that could surface disturbances to the resource.

4.11.2.2. Impacts of Lands and Realty Decisions on Paleontological Resources

4.11.2.2.1. Proposed RMP

Under the Proposed RMP, the BLM would pursue assess to the White River at Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. It would also pursue the acquisition of Indian Trust Lands near the confluence of South and Sweetwater Canyons and in the Bitter Creek and Willow Creek areas. These actions would have potential direct, long- and short-term beneficial effects on paleontological resources as compared to Alternative D (No Action), if resources were present and significant paleontological resources were thus brought under BLM management. Easements such as that proposed at the mouth of Cowboy Canyon would affect paleontological resources by increasing public access to areas that contain geological units that are very rich in fossil localities. Public access to these areas could result in increased unauthorized use or vandalism, which would have more adverse impacts than Alternative D (No Action).

Land withdrawal decisions would preclude mineral entry on 22,814 acres under the Proposed RMP. This would provide some resource protection from minerals-related surface disturbances, but less than Alternative D (No Action) because Alternative D (No Action) would withdraw more acreage (35,900 acres).

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would be closed to oil and gas leasing and designated as avoidance areas for ROWs. This would have more long-term, beneficial impacts on paleontological resources by reducing surface disturbance-related impacts to the resource as compared to Alternative D (No Action).

4.11.2.2.2. Alternative A

The impacts to paleontological resources would be the same as discussed under the Proposed RMP because the management decisions would be the same.

4.11.2.2.3. Alternative B

Under this alternative, the BLM would pursue only administrative access across Indian trust lands in Bitter Creek, and near the confluence of South and Sweetwater Canyon. Land withdrawal decisions would be the same as under the Proposed RMP.

Under Alternative B, there would be no direct, long- or short-term impacts to paleontological resources within Indian trust lands because public access to potential paleontological resources would not be allowed. Mineral entry land withdrawal decisions would have the same impacts as the Proposed RMP because the decisions are the same. This would provide some resource protection, but less than Alternative D (No Action) because Alternative D (No Action) would withdraw more acreage.

4.11.2.2.4. ALTERNATIVE C

Lands and realty decisions under Alternative C would be the same as under the Proposed RMP, except that the BLM would also pursue an easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Wash. Potential long- and short-term direct impacts to paleontological resources from land acquisition decisions under Alternative C would be similar to those described under the Proposed RMP, but with additional beneficial and adverse impacts discussed under the Proposed RMP that includes the railroad bed easement.

Land withdrawal decisions would be similar to the Proposed RMP, except that additional acres in the Lower Green River ACEC and along the White River would also be precluded from mineral entry. Compared to Alternative D (No Action), the short-term and long-term indirect impacts of Alternative C would be more beneficial by providing greater resource protection than Alternative D (No Action) because more acreage would be withdrawn from mineral entry (a total of 36,265 acres).

4.11.2.2.5. ALTERNATIVE D (NO ACTION)

Lands and realty decisions under Alternative D (No Action) are unspecified in the current management plan. Any proposal to acquire or dispose of land would be reviewed to determine its potential to effect paleontological resources.

Land withdrawal decisions would preclude mineral entry on 35,900 acres. This would provide the paleontological resource protection from minerals-related surface disturbances.

4.11.2.2.6. ALTERNATIVE E

Proposed lands and realty decisions under Alternative E would be similar to Alternative C, with potential long- and short-term direct impacts to paleontological resources from land acquisition decisions similar to those described under the Proposed RMP, except that approximately 277,596 acres of non-WSA lands with wilderness characteristics within the VPA would be designated as ROW exclusion areas to protect the wilderness characteristics values in these areas. This would have more long-term, beneficial impacts on paleontological resources by reducing surface disturbance-related impacts to the resource as compared to Alternative D (No Action).

Land withdrawal decisions and impacts on paleontology under Alternative E would be the same as discussed under Alternative C. The short-term and long-term indirect impacts of Alternative E would be beneficial by providing greater resource protection than Alternative D (No Action).

4.11.2.3. IMPACTS OF MINERAL DECISIONS ON PALEONTOLOGICAL RESOURCES

Minerals decisions under the Proposed RMP and each of the alternatives have the potential to have both beneficial and adverse impacts on paleontological resources within the VPA, as all decisions would involve surface-disturbing activities. The difference between the Proposed RMP and alternatives is in the numbers of acres open to minerals development. For the Proposed RMP and each alternative the number of acres open to surface-disturbing activities is less important than the total size of Class 4 and 5 and Class 3 areas actually disturbed. All proposed actions and

projects related to minerals development would be subject to site-specific NEPA analysis and documentation, as well as agency guidance (i.e., BLM Handbook H-8270-1). Assessment of possible impacts to paleontological resources and recommendations for any necessary mitigation would be required. Because paleontological resources must be assessed and any required mitigation performed by a permitted paleontologist, specimens and data could be collected in areas of mineral development that would otherwise have gone unnoticed, which would be a beneficial impact of minerals development.

4.11.2.3.1. PROPOSED RMP

In general, the direct effects to paleontological resources resulting from minerals decisions would be related to the level of surface disturbances in Class 4 and 5 or Class 3 areas that occur under the decisions. The greater the level of permitted surface disturbance, the greater would be the potential for encountering paleontological resources in these areas. Under the Proposed RMP, 1,640,569 acres of BLM administered land would be open for oil and gas development and surface disturbances within the VPA under Standard and Timing and Controlled Surface Use leasing stipulations. Potential indirect adverse effects on paleontological resources under the Proposed RMP would include vandalism and unauthorized fossil collection that result from increased human activity within areas of mineral development in Class 4 and 5 and Class 3 areas. Compared to the other alternatives, the Proposed RMP has the third highest number of acres open to surface disturbance related to oil and gas development and the third lowest number of acres closed to surface occupancy or development (273,706). As such, the Proposed RMP has a greater potential for impacts to paleontological resources within the VPA than Alternative D (No Action) and Alternatives C and E, but lower than Alternatives A and B, but only if this disturbance takes place in Class 4 and 5 or Class 3 areas.

4.11.2.3.2. ALTERNATIVE A

The types of direct and indirect impacts of minerals leasing within the VPA on paleontological resources would be the same as discussed above under the Proposed RMP, but to a greater degree. This is because Alternative A would permit 1,776,782 acres under Standard and Timing and Controlled Surface Use leasing stipulations for oil and gas development. Compared to the other alternatives, Alternative A has the second highest number of acres open to surface disturbances related to minerals oil and gas development and the fifth lowest number of acres closed to surface occupancy or development. So, Alternative A has a greater potential for impacts to paleontological resources within the VPA than Alternative D (No Action), the Proposed RMP alternative, and Alternatives C and E; it would have a lower potential impact than Alternative B, but only if this disturbance takes place in Class 4 and 5 or Class 3 areas.

4.11.2.3.3. ALTERNATIVE B

The types of long- and short-term direct effects under Alternative B would be the same as those described under the Proposed RMP but of greater magnitude, because management decisions under this alternative would open the largest area for oil and gas minerals leasing (1,819,435 acres). This alternative would manage for the smallest area that would be closed to surface occupancy or any form of minerals development (94,603 acres), as compared to the other action

alternatives and to Alternative D (No Action). So, Alternative B would have a greater potential for adverse impacts to paleontological resources than Alternative D (No Action) and the other action alternatives.

4.11.2.3.4. ALTERNATIVE C

Direct effects to paleontological resources resulting from mineral decisions under Alternative C are related to the level of surface disturbance in Class 4 and 5 and Class 3 areas that is permitted under the decisions. The greater the level of permitted surface disturbance in these areas, the greater the potential for impact to paleontological resources. Under Alternative C, 1,627,197 acres of BLM administered lands would be open to minerals development. Compared to the Proposed RMP and the other action alternatives, Alternative C would have the third smallest area open to surface disturbance related to oil and gas development and the second highest number of acres closed to surface occupancy or development (286,916). The types of long term and short term direct and indirect impacts to paleontological resources would be the same as discussed above under the Proposed RMP, but to a lesser degree, because a smaller area would potentially be affected. However, the impacts would be greater than Alternative D (No Action). The impacts to the resource, either adverse or beneficial, would depend on the number of Class 4 and 5 and Class 3 acres that would be developed under this alternative.

4.11.2.3.5. ALTERNATIVE D (NO ACTION)

The direct impacts to paleontological resources resulting from mineral decisions under Alternative D (No Action) are related to the level of surface disturbances in Class 4 and 5 and Class 3 areas that are permitted by minerals decisions. Under Alternative D (No Action), 1,535,974 acres within the VPA would be open to oil and gas development. Alternative D (No Action) would have the second lowest number of acres open to surface disturbance related to oil and gas development and the fourth lowest number of acres closed to surface occupancy or development (189,470).

The types of long- and short-term direct and indirect impacts from minerals surface disturbances under Alternative D (No Action) would be the same as those described under the Proposed RMP.

Indirect impacts to paleontological resources based upon minerals decisions under Alternative D (No Action) are similar to those described for Alternative A but would be of smaller magnitude owing to the lower number of acres available for use and the higher number of acres closed to surface occupancy for oil and gas development (except for Alternative C).

4.11.2.3.6. ALTERNATIVE E

Under Alternative E, 1,385,454 acres of BLM administered lands would be open to oil and gas minerals development under Standard and Timing and Controlled Surface Use leasing stipulations. The types of impacts would be the same as discussed under the Proposed RMP above, but would be of lesser magnitude than the other alternatives because this alternative would allow the development of the smallest area for minerals development and the largest area

as closed to surface occupancy or any form of minerals development and subsequent surface disturbances.

Compared to the Proposed RMP and the other action alternatives, Alternative E minerals decisions would manage for the smallest area as open to surface disturbance related to oil and gas development and the largest area closed to surface occupancy or minerals surface occupancy or development (414,666 acres).The impacts to the resource, either adverse or beneficial, would depend on the number of Class 4 and 5 and Class 3 acres that would be developed under this alternative.

In summary, the highest adverse impacts to paleontological resources would occur under Alternative B, due to the greatest number of acres open to surface disturbance. Alternative A would have the second highest degree of adverse impacts, followed by Alternatives C and the Proposed RMP. Alternatives D and E would have the lowest levels of adverse impacts to paleontological resources.

4.11.2.4. Impacts of Non-WSA Lands with Wilderness Characteristics Decisions on Paleontological Resources

4.11.2.4.1. Proposed RMP

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would be managed under VRM II class objectives, closed to oil and gas leasing and mineral materials disposal, closed to woodland harvesting, and OHV use would be limited to designated routes. All of these decisions would either prohibit or restrict surface disturbances to paleontological resources, which would have long-term, beneficial impacts on the resource. The Proposed RMP would have more beneficial impacts on the resource than Alternative D (No Action) because these non-WSA areas would not be managed to protect their wilderness values under Alternative D (No Action). However, the reduction in potential surface disturbances from other resource uses may also reduce the likelihood that fossils would be discovered and collected, adversely affecting paleontological resources.

4.11.2.4.2. Alternatives A, B, C, and D

There are no proposed management decisions and no acres would be managed as non-WSA areas with wilderness characteristics under any of these alternatives, so there would be no impacts to paleontological resources from these decisions.

4.11.2.4.3. Alternative E

Under Alternative E, non-WSA lands with wilderness characteristics would be managed under VRM I class objectives, closed to OHV use, closed to oil and gas leasing and mineral materials disposal, closed to woodland harvesting, and excluded from ROWs designation. All of these decisions would either prohibit or restrict surface disturbances to paleontological resources, which would have long-term, preservation-related, beneficial impacts on the resource. This alternative would have more beneficial impacts on the resource than Alternative D (No Action)

because approximately 277,596 acres of non-WSA lands with wilderness characteristics would be managed to protect their wilderness values within the VPA, which would also preserve paleontological resources. However, the reduction in potential surface disturbances would also reduce the likelihood that fossils would be discovered and collected, adversely affecting paleontological resources.

4.11.2.5. Impacts of Paleontological Decisions on Paleontological Resources

4.11.2.5.1. Proposed RMP, and Alternatives A, B, C, D (No Action), and E

Paleontological resource decisions for each of the alternatives would have direct, beneficial impacts on paleontological resources within the VPA. Alternatives C and E would provide the greatest protection for paleontological resources through predictive modeling and broad-scale sampling, also requiring assessment (and where needed, mitigation) in all Class 4 and 5 areas, and in Class 3 areas as needed. Under the Proposed RMP and Alternative A, the use of predictive modeling and broad-scale sampling would streamline the process of assessment and the mitigation of potentially adverse impacts caused by surface disturbance and would make it more effective. The Proposed RMP and Alternative A would provide the second highest degree of protection to paleontological resources. The management decisions under Alternatives B and D are similar, with mitigation of impacts as fossils are found. These alternatives would provide the least protection for paleontological resources.

Paleontological Resource Use Permits administered by the BLM Utah State Office for scientific study would provide important information to the VPA about the location and kinds of significant paleontological resources. Providing websites, local interpretive sites, and written information to the public about fossils and hobby collection has the potential to directly increase the public knowledge of the earth sciences and encourage good stewardship, reduce illegal collection, and increase the likelihood that important discoveries would be reported to the BLM.

4.11.2.6. Impacts of Rangelands Improvement Decisions on Paleontological Resources

Paleontological resources would be affected by rangeland improvements if they were placed in areas with fossiliferous units. Generally, the areas proposed for rangeland improvements would be evaluated for significant fossils if they were in areas likely to contain fossils (those areas designated as Class 4 and 5 and Class 3). Those areas containing significant paleontological resources would be protected from damage by placing rangeland fences and other proposed improvements away from fossil localities. In those areas with known fossiliferous units, rangeland improvements structures or projects that would not or could not be moved, such as reservoirs, would be assessed and the potential impacts mitigated, which could beneficially lead to new discoveries and increase scientific knowledge.

4.11.2.6.1. Proposed RMP

Under the Proposed RMP, 34,640 acres of vegetation treatment, 69 miles of fencing, 38 miles of water pipeline, 51 spring developments, and 812 guzzler or reservoir projects would be

completed. These proposed improvements would cause surface disturbances, therefore beneficially increasing the probability of new discoveries. These acreages, miles and numbers of facilities are roughly comparable to those proposed under Alternative D (No Action). It is anticipated that the primary indirect impact would be to increase the potential for adverse, concentrated trampling of paleontological localities located in areas adjacent to fencing or reservoirs on barren bedrock. Where cattle, sheep, or other grazers gather, they could damage or destroy fossils in Class 4 and 5 or Class 3 areas.

4.11.2.6.2. ALTERNATIVE A

The impacts of rangeland improvements on paleontological resources would be the same as discussed under the Proposed RMP because the management decisions are the same.

4.11.2.6.3. ALTERNATIVE B

The overall direct adverse impacts from rangeland improvement decisions on paleontological resources under Alternative B would be greater than those described for the Proposed RMP. Under Alternative B, 50,900 acres of would be subject to vegetation treatment, 369 miles of fencing would be installed, 51 miles of water pipeline would be installed, 78 well/spring developments would be undertaken, and 1,165 guzzler or reservoir projects would be completed. These improvements would likely impact more surface area than D (No Action), therefore creating a greater probability that paleontological resources would be beneficially discovered and studied, if improvements are in Class 4 and 5 and Class 3 localities. Long- and short-term direct and indirect impacts to paleontological resources from rangeland improvement decisions would be similar to those described for direct impacts under the Proposed RMP, but would be greater under Alternative B if the increased surface disturbance takes place in Class 4 and 5 or Class 3 areas.

4.11.2.6.4. ALTERNATIVE C

Under Alternative C a total of 45,860 acres would be subject to vegetation treatment, 129 miles of fencing would be installed, 30 miles of water pipeline would be installed, 87 well/spring developments would be undertaken, and 811 guzzler or reservoir projects would be completed. The direct and indirect, short term and long term impacts of rangeland improvement decisions on paleontological resources under Alternative C would be similar to that described for the Proposed RMP, but would be increased slightly in magnitude under Alternative C owing to the overall greater potential for impacts to the resource from range improvement surface disturbances. As Alternative C would affect more area, it also would beneficially increase the probability of new discoveries, when compared to Alternative D (No Action).

4.11.2.6.5. ALTERNATIVE D (NO ACTION)

The impacts of rangeland improvement decisions on paleontological resources under Alternative D (No Action) would be similar to that described for the Proposed RMP and the other alternatives. Under Alternative D (No Action) a total of 40,390 acres of would be subject to vegetation treatment, 65 miles of fencing would be installed, 35 miles of water pipeline would be

installed, 74 well/spring developments would be undertaken and 775 guzzler or reservoir projects would be completed.

The types of long- and short-term direct and indirect impacts to paleontological resources from rangeland improvement decisions would be the same as to those described under the Proposed RMP, but would be slightly greater under Alternative D (No Action), because more area would be disturbed from vegetation treatments, if Class 4 and 5 and Class 3 areas are affected.

4.11.2.6.6. ALTERNATIVE E

The impacts would be the same as Alternative C because the proposed rangeland improvements would be the same.

In summary, the greatest short-term direct, adverse impacts to paleontological resources due to surface disturbance from rangeland improvements and indirect adverse impacts from livestock trampling would be from Alternative B because the largest area would potentially be disturbed by rangeland improvements. The next greatest adverse impacts would be from Alternatives C and E, followed by Alternative D (No Action). The Proposed RMP and Alternative A would have the least impact on paleontological resources because these alternatives proposed the smallest area for vegetation treatments, the shortest miles of rangeland fencing, and the fewest wells/springs for development.

4.11.2.7. IMPACTS OF RECREATION DECISIONS ON PALEONTOLOGICAL RESOURCES

Recreation management decisions under the Proposed RMP and each of the alternatives would affect paleontological resources by either increasing visitor use or changing development. Increasing visitor use would affect resources by creating a greater level of surface disturbance, therefore increasing the probability that fossils would be discovered. Conversely, the greater the level of human activity, the greater would be the potential for paleontological resources within a recreational area to be adversely impacted by the number of individuals walking over or visiting paleontological localities. Increased human activity in areas where paleontological resources are present also tends to correspond with increased levels of vandalism, unauthorized collection, and inadvertent damage or destruction of the resource. The beneficial impacts of increased recreational use would be that people might find and report discoveries of important and valuable fossils.

The differing use levels of BLM land designated as SRMAs would affect the paleontological resources in areas known to have these resources. The designation of SRMAs generally increases recreational activity in given areas, but the only areas known to have important fossil localities at present are Blue Mountain, Red Mountain-Dry Fork, Browns Park, and the White River Corridor. Activity plans created for SRMA management would include stipulations to protect unique paleontological resources, which would minimize impacts to the resource.

Direct effects on paleontological resources resulting from recreation decisions under the Proposed RMP and all alternatives would be related to the level of surface disturbance associated with recreational development and with the degree of increased human activity in Class 4 and 5

and Class 3 areas. Potential short- and long-term direct impacts would include increases in levels of unauthorized use and associated vandalism that would accompany increased human activity. It should be noted and it is assumed, however, that regulated recreational use would likely provide better protection to paleontological resources than unregulated use. Collecting common invertebrate and plant fossils for personal, noncommercial use is an accepted, low-impact use of public lands, and could foster a greater appreciation for paleontological resources.

Indirect effects of recreation decisions on paleontological resources would include benefits such as increased public enjoyment of hobby collecting, increased interest in the science of paleontology, and generally more public awareness of these resources and how to preserve them. Potential adverse impacts would be the increased unauthorized collection, inadvertent damage, or vandalism in Class 4 and 5 and Class 3 areas adjacent to developed recreation areas.

4.11.2.7.1. PROPOSED RMP

Under the Proposed RMP, seven SRMAs would be managed within the VPA, totaling 133,560 acres: 2,831 acres along the White River Corridor, 44,168 acres in Nine Mile Canyon, 18,490 acres in Browns Park, 1,014 acres in Pelican Lake, 24,259 acres on Red Mountain-Dry Fork, 69 acres in Fantasy Canyon, and 42,729 acres on Blue Mountain. Additionally, 400 miles of non-motorized trails would be improved and/or developed, and restrictions would be placed on the use of OHVs for retrieval of big game off of designated routes. A total of 800 miles of motorized OHV trails would be developed or improved under this alternative. New cabin construction for permitted/administrative use would be allowed within the VPA but an attempt would be made to consolidate construction in specific areas at or near existing cabins. Also, under the Proposed RMP 106,178 acres of non-WSA lands with wilderness characteristics would be protected from cross-country OHV travel and closed to oil and gas mineral leasing and woodland harvesting. These decisions would have long term, beneficial impacts on the resource by protecting them from surface disturbances, unmanaged collection, and vandalism. However, the likelihood for discovery of significant paleontological resources would be reduced. Compared to Alternative D (No Action), the Proposed RMP would likely have fewer adverse impacts to paleontological resources and a reduced potential for damage of paleontological resources because more area would be beneficially protected under SRMA management from surface disturbances through SRMA integrated activity plans.

4.11.2.7.2. ALTERNATIVE A

Under Alternative A, 499,588 acres of the VPA would be managed within SRMAs: 24,183 acres along the White River Corridor, 52,720 acres in Browns Park, 24,259 acres on Red Mountain-Dry Fork, 1014 acres around Pelican Lake, 273,486 acres in the Book Cliffs, 81,168 acres in Nine Mile Canyon, and 42,758 acres on Blue Mountain would be managed as SRMAs. Additionally, 400 miles of non-motorized trails would be improved and/or developed, and restrictions would be placed on the use of OHVs for retrieval of big game off of designated routes. A total of 800 miles of motorized OHV trails would be developed or improved under this alternative. New cabin construction for permitted/administrative use would be allowed within the VPA but an attempt would be made to consolidate construction in specific areas at or near existing cabins. The types of direct and indirect beneficial impacts of recreation management

decisions under this alternative to paleontological resources would be the same as discussed under the Proposed RMP, but to a greater degree because more area would be protected from surface disturbances under increased SRMA management.

Compared to Alternative D (No Action), this alternative would provide fewer adverse impacts to paleontological resources and more beneficial impacts because more area would be protected from surface disturbances.

4.11.2.7.3. ALTERNATIVE B

Direct effects to paleontological resources resulting from recreation decisions under Alternative B are related to the lack of designation and protection of resources associated with recreational development and use. Under this alternative SRMA management decisions would be the same as Alternative D (No Action): no SRMAs would be designated in the White River Corridor or on Blue Mountain, but Brown's Park (17,000 acres), Pelican Lake (1,014 acres), Nine Mile Canyon (44,181 acres) and Red Mountain-Dry Fork (24,259 acres) would continue to be managed as SRMAs. A total of 86,454 acres would be managed within SRMAs. Additionally, under Alternative B, 800 miles of motorized trails would be improved or developed, and OHV use off of designated trails would be allowed for big game retrieval. Under Alternative B, recreational use in the White River Canyon with minimal supervision would continue; unrestricted and unconfined recreational use of the Book Cliffs would also continue as currently managed and new cabin construction would be allowed within the VPA, but an attempt would be made to consolidate construction in specific areas. Alternative B generally allows and would manage for unrestricted and unconfined use of BLM lands for recreation.

Potential long- and short-term direct and indirect impacts on paleontological resources under Alternative B are similar to those described for the Proposed RMP with the exception that the increased acreage available for unrestricted and unconfined recreational use under Alternative B would result in the increased potential for damage of paleontological resources.

4.11.2.7.4. ALTERNATIVE C

Alternative C would designate a total of 522,604 acres within SRMAs: 47,130 acres in the White River Corridor, 273,486 acres in the Book Cliffs, 69 acres in Fantasy Canyon, and 42,758 acres on Blue Mountain as new SRMAs. It would maintain 52,720 acres in Browns Park, 81,168 in Nine Mile Canyon, 1,014 acres at Pelican Lake and 24,259 acres on Red Mountain-Dry Fork as existing SRMAs. Additionally, under Alternative C, 400 miles of non-motorized trails would be improved and/or developed, and restrictions would be placed on the use of OHVs for retrieval of big game off of designated routes. No motorized OHV trails would be developed or improved under this alternative. Alternative C would have similar direct adverse effects as discussed under the Proposed RMP, except that the lack of OHV trail development or improvement would reduce the probability of new discoveries of paleontological resources.

Long- and short-term direct and indirect adverse effects on paleontological resources under Alternative C are less than those described for Alternative D (No Action) because more area

would be protected from surface disturbances within SRMAs than under Alternative D (No Action).

4.11.2.7.5. ALTERNATIVE D (NO ACTION)

As discussed above under Alternative B, Alternative D (No Action) would manage the same number and acreages of SRMAs as that alternative, with the same impacts to paleontological resources. Minimal oversight or lack of designation of new SRMAs would lead to resource degradation due to limited management of these areas. Additionally, 55 miles of non-motorized trails would be improved or developed and the Red Mountain trail would be managed as a motorized OHV trail. No management decisions are specified for OHV use off designated trails for the retrieval of big game. In general, Alternative D (No Action) would manage for unrestricted and unconfined recreational use of most areas within the VPA, which would have adverse impacts on the resource because of the increased likelihood of surface disturbances from OHV use, and from minimal management of front country and back country recreational activities. The potential long- and short-term direct and indirect effects on paleontological resources under Alternative D (No Action) are comparable to those described for Alternative B.

4.11.2.7.6. ALTERNATIVE E

The impacts would be the same as discussed under Alternative C, except that 157,018 acres of non-WSA lands with wilderness characteristics within the proposed SRMAs would be managed for primitive, non-mechanized recreational opportunities rather than developed recreation. This would result in somewhat less surface disturbance and less adverse, direct impacts on paleontological resources.

4.11.2.7.7. SUMMARY

In relative terms, Alternatives C and E would manage more areas as SRMAs with fewer trail development miles than Alternative A and the Proposed RMP. Alternatives B and D do not designate new areas as SRMAs and generally allow for unrestricted and unconfined use of BLM lands for recreation. The greatest protection of paleontological resources would be provided by Alternatives C and E, followed by Alternative A and the Proposed RMP, based on the total area protected and managed for resource preservation within SRMAs. Alternatives B and D would provide the least protection for paleontological resources.

4.11.2.8. IMPACTS OF TRAVEL DECISIONS ON PALEONTOLOGICAL RESOURCES

4.11.2.8.1. PROPOSED RMP

Direct impacts on paleontological resources within the VPA resulting from travel decisions under the Proposed RMP would be expected to be long-term and beneficial as compared to Alternative D (No Action). Travel decisions under the Proposed RMP provide for the opening, closing, or restricting of areas for OHV travel and for the repair, maintenance, upgrade, or realignment of roads causing resource damage. The Proposed RMP also provides for the closure of roads if repair, maintenance, upgrade, or realignment is not possible or feasible to reduce

damage to resources. All of these management decisions would have a potentially direct, beneficial impact on paleontological resources in Class 4 and 5 and Class 3 areas by reducing and/or controlling surface-disturbing, travel-related activities. Under the Proposed RMP, 6,202 acres would be open to unrestricted OHV travel; OHV travel on 1,643,475 acres would be to limited to designated routes, and 75,845 acres would be closed to OHV travel.

Both short-term and long-term indirect effects from travel decisions under the Proposed RMP are anticipated to be negligible. Long- and short-term direct impacts on paleontological resources from travel decisions would include increased protection of paleontological resources through the substantial reduction of surface-disturbing activities associated with general travel and open, cross-country OHV use. Paleontological resources in Class 4 and 5 and Class 3 areas that are closed to OHV use or where restrictions are placed on OHV use would receive the greatest benefit. Thus, with the specific controls and restrictions placed on travel activities under the Proposed RMP, the long-term net effect would be an overall decrease in the numbers of localities subject to adverse impacts, as compared to Alternative D (No Action).

4.11.2.8.2. ALTERNATIVE A

The impacts of travel decisions on paleontological resources would be the same as discussed under the Proposed RMP because the management decisions are the same.

4.11.2.8.3. ALTERNATIVE B

Under Alternative B, 5,434 acres would be open to unrestricted OHV travel; OHV travel on 1,659,901 acres would be limited to designated routes, and 60,187 acres would be closed to OHV travel.

Long- and short-term direct and indirect adverse impacts to paleontological resources from travel decisions under Alternative B are less than those described for Alternative D (No Action), due to the substantially lower acreage open to unrestricted, cross-country OHV use (and thus the reduced potential for surface disturbances to paleontological resources).

4.11.2.8.4. ALTERNATIVE C

Alternative C would provide the second greatest benefit to paleontological resources in Class 4 and 5 and Class 3 areas within the VPA by closing a substantially large area to OHV use, managing OHV travel, and improving roadways. Under Alternative C, 5,434 acres would be open to unrestricted, cross-country OHV travel; OHV use on 1,353,529 acres would be limited to designated routes, and 366,559 acres would be closed to OHV travel.

Long- and short-term direct and indirect impacts on paleontological resources from travel decisions under Alternative C are similar to those described under the Proposed RMP, but would be of greater magnitude owing to the increased numbers of acres under Alternative C that would be closed to OHV use. This alternative would have fewer adverse impacts to paleontological resources than Alternative D (No Action) because of the smaller area designated as open to OHV use.

4.11.2.8.5. ALTERNATIVE D (NO ACTION)

Current travel management decisions under Alternative D (No Action) are largely unspecified. No specific decisions are specified for the repair, maintenance, upgrade, or realignment of roadways causing damage to resources. Travel designations are specified, however, for OHV use within the VPA, and. these designations provide the least protection to paleontological resources from potential travel-related surface disturbances. Under Alternative D (No Action), 787,859 acres are designated as open to unrestricted, cross-country OHV use, largely in Class 4 and 5 and Class 3 areas. There are 887,275 acres that restrict OHV use to designated routes, and 50,388 acres are closed to OHV use.

The large area designated as open to unrestricted OHV use would likely contribute to greater numbers of paleontological localities being subjected to direct impacts resulting from OHV traffic and surface disturbances.

4.11.2.8.6. ALTERNATIVE E

Alternative E would provide the greatest benefit to paleontological resources in Class 4 and 5 and Class 3 areas within the VPA by closing a substantially large to OHV use (the most acreage of all the action alternatives and the Proposed RMP), managing OHV travel, and improving roadways. Under Alternative E, 5,434 acres would be open to unrestricted cross-country OHV travel, 1,326,024 acres would be designated to restrict OHV travel to designated routes, and 392,818 acres would be closed to OHV travel. Approximately 53 miles of OHV routes would be closed in non-WSA lands with wilderness characteristics to protect their wilderness values.

The beneficial long- and short-term direct and indirect impacts on paleontological resources from travel decisions under Alternative E would be similar to those described for the Proposed RMP but would be of greater magnitude owing to the increased acreage and miles of routes under Alternative E that would be closed to OHV use. This alternative would have fewer potentially adverse impacts to paleontological resources than Alternative D (No Action) because of the substantially reduced area open to OHV use and the increased area closed to OHV travel.

In summary, the greatest adverse impacts to paleontological resources would be due to Alternative D (No Action). The second highest degree of adverse impacts would come from Alternative B, followed by the Proposed RMP and Alternative A. Alternatives E and C would have the least adverse impacts to paleontological resources due to travel decisions, based on area open to cross-country OHV travel and areas where OHV travel is limited to designated routes.

4.11.2.9. IMPACTS OF VISUAL RESOURCE MANAGEMENT DECISIONS ON PALEONTOLOGICAL RESOURCES

Short- and long-term direct and indirect impacts on paleontological resources could result from visual resource management decisions if surface disturbance is controlled and limited, and collection of fossils is not allowed in some VRM class areas. If paleontological resources occur where visual resource management reduce, control, or eliminate surface-disturbing activities, beneficial direct impacts of management decisions would include a reduction in physical damage

to or destruction of fossils. Indirect beneficial impacts would include a reduction in vandalism and theft that result from improved access to fossil localities. Conversely, because increases in surface disturbance also increase the probability that fossils would be discovered, reduction in surface-disturbing activities could also adversely affect paleontological resources. Visual resource management decisions that reduce fossil collection would directly and adversely affect paleontological resources In all cases, these conclusions are based on the assumption that significant paleontological resources would occur in VRM Class I and Class II areas.

4.11.2.9.1. PROPOSED RMP

Under the Proposed RMP, 57,776 acres within the VPA would be designated as VRM Class I and managed under VRM objectives to preserve visual resources and scenic quality. This VRM class would impose the greatest limitations on surface-disturbing activities. Another 231,911 acres would be managed under VRM Class II objectives, 786,612 acres would be managed VRM Class III objectives, and 643,641 acres would be managed under VRM Class IV with the least restrictions on surface disturbances. The Proposed RMP would designate a total of 289,687 acres within VRM Class I and II, 122,915 more acres within the two highest VRM classifications than Alternative D (No Action) (see Table 4.19.3 Visual Resources).

Long- and short-term indirect impacts on paleontological resources from visual resource management decisions under the Proposed RMP would include beneficial impacts due to the overall reduction of allowed surface-disturbing activities within the areas managed under VRM Class I and II objectives, and an overall decrease in the numbers of localities subject to surface disturbance, as compared to Alternative D (No Action).

Visual resource management decisions under the Proposed RMP would have a direct beneficial impact to paleontological resources, as compared to Alternative D (No Action), because there would be less surface disturbance and therefore less physical damage to or destruction of fossils. Indirect beneficial impacts would include a reduction in vandalism and theft that result from improved access to fossil localities. However, the reduction in surface disturbance may also reduce the probability that fossils would be discovered and collected, adversely affecting paleontological resources. If fossil collection was not allowed in some areas in order to meet VRM Class I and Class II resource objectives, this would directly adversely affect paleontological resources as well because the likelihood for significant paleontological resource discoveries would be reduced.

4.11.2.9.2. ALTERNATIVE A

Under Alternative A, 63,136 acres within the VPA would be managed under VRM Class I objectives, 294,773 acres would be managed under VRM Class II objectives, 716,186 acres would be managed under VRM Class III, and 645,845 acres would be managed under VRM Class IV. Compared to the other alternatives, Alternative A would provide a high degree of direct, adverse impacts to paleontological resources because a total of 357,909 acres would be managed under the two highest VRM classifications where the likelihood of significant resource discovery would be reduced by restrictions on surface disturbances. Visual resource management decisions under Alternative A would have less short term and long term direct and indirect

beneficial impact to paleontological resources than do those under Alternative D (No Action) because more area would be protected under the higher VRM classes. However, the same specific controls and restrictions placed on surface-disturbing activities in areas managed as the two highest VRM classes would also result in an overall beneficial decrease in the numbers of localities subject to surface disturbances, as compared to Alternative D (No Action).

4.11.2.9.3. ALTERNATIVE B

The overall indirect effect of visual resource management decisions on paleontological resources under Alternative B would be roughly comparable to but slightly greater degree than that described for Alternative D. Under Alternative B, 52,764 acres would be managed under VRM Class I objectives, and 114,030 acres would be managed under VRM Class II objectives. Another 199,179 acres would be managed under VRM Class III objectives, and 1,353,967 acres would be managed under VRM Class IV objectives. The VRM designations under this alternative are similar to those currently designated under Alternative D (No Action), and this alternative would designate practically the same acreage under VRM Class I and II as Alternative D (No Action) (166,794 acres), with impacts on paleontological resources similar to those discussed under Alternative D (No Action).

4.11.2.9.4. ALTERNATIVE C

The direct and indirect, long- and short-term adverse effects of visual resource management decisions on paleontological resources under Alternative C would be greater than that described for any other alternative except Alternative E. Under this alternative, 145,781 acres would be managed under VRM Class I objectives, and 362,660 acres would be managed under VRM Class II objectives. VRM Class III would be designated on 580,846 acres, with VRM Class IV designation on 630,653 acres. Alternative C would manage a total of 508,441 acres under VRM Class I and II objectives, with impacts on paleontological resources as discussed under the Proposed RMP, but to a greater degree because more area would be protected from disturbances (a beneficial impact), but also closed to surface disturbances that could identify localities with significant resources (an adverse impact). Compared to Alternative D (No Action), this alternative would protect 341,669 more acres under VRM Class I and Class II designations, so there would be more adverse and beneficial impacts than Alternative D (No Action).

4.11.2.9.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), 53,086 acres would be designated as VRM Class I and 113,686 acres as VRM Class II; 199,192 acres would be designated as VRM Class III and 1,353,976 acres would be designated as VRM Class IV. Under Alternative D (No Action), a total of 166,772 acres would be managed under VRM Class I and II objectives, the smallest area of all the alternatives.

Alternative D (No Action) would have the least beneficial impact to paleontological resources, when compared to the other alternatives, because there would potentially be more surface disturbance and therefore more physical damage to or destruction of fossils. Indirect adverse impacts would include the likelihood of increased vandalism and theft that result from improved

access to fossil localities. However, the increase in surface disturbance would also increase the likelihood that significant sources of fossils would be discovered and collected, beneficially affecting paleontological resources

4.11.2.9.6. ALTERNATIVE E

The direct and indirect, long- and short-term beneficial effects of visual resource management decisions on paleontological resources under Alternative E would be greater than for any other alternative. Under Alternative E, 334,516 acres would be designated as VRM Class I, and 259,694 acres would be designated as VRM Class II. Approximately 535,586 acres would be designated as VRM Class III, and 590,144 acres as VRM Class IV. With the highest number of acres designated as VRM I and II classes (approximately 594,210 acres) and managed under VRM objectives to restrict or minimize surface disturbances, Alternative E would manage 427,438 more acres within the two highest VRM classifications than Alternative D (No Action). However, if fossil collection was not allowed in some areas in order to maintain VRM I and II management goals, this would directly and adversely affect paleontological resources to a greater extent than the other alternatives.

4.11.3. UNAVOIDABLE ADVERSE IMPACTS

Loss due to non-recognition, lack of information and documentation, erosion, casual collection, and inadvertent destruction or use would cause resource losses. The rate, extent, intensity, and duration cannot be quantified at this time due to lack of data. As a part of natural environmental processes, paleontological localities will be exposed, remain for a time, and become lost to history if not recorded or studied. The management decisions caused by the action alternatives and Alternative D (No Action) would cause losses over and above the natural attrition rate but cannot be quantified at this time. However, the broad-scale sampling and classification of areas with a high likelihood of containing paleontological resources is expected to greatly reduce the probability of unavoidable adverse impacts to the resource.

4.11.4. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

The short-term uses of BLM lands for activities involving surface-disturbance would have long-term impacts on paleontological resources. The surface-disturbing activities affecting paleontological resources would include mineral development, livestock trampling, and constructing fire lines and roads during wildland fire management. Travel decisions involving maintenance, upgrade, and realignment of roads and OHV use would also have long-term adverse impacts on these resources. Providing access for the public through Lands and Realty decisions and OHV use would also increase the potential for vandalism and the inadvertent destruction of paleontological resources.

4.11.5. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Irreversible impacts to paleontological resources would occur where unavoidable adverse impacts destroy or disturb paleontological resources.

4.12. RECREATION

4.12.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

Impacts to recreation resources that are common to the Proposed RMP and all alternatives would come from new management direction as described in the Proposed RMP and each alternative and include abandoned mine lands, cultural resource protection, fire management, construction and/or designation of roads and trails, mineral resources development, protection of paleontological resources, changes in recreational opportunities, and designation of ACECs.

In conformance to the BLM's policy on abandoned mine lands, the Proposed RMP and all of the alternatives would establish safety and hazardous conditions priorities to remediate and/or reclaim abandoned mine sites that pose high health and safety risks to the public, and in instances where high-risk sites are located near developed recreation sites. The direct effects would be to beneficially improve recreational opportunities in the long term by enhancing recreation resources adjacent to these sites.

Under the Proposed RMP and all of the alternatives, the current federal laws and agency guidelines in place to protect cultural resources would have long-term beneficial and adverse effects on the recreational resources in the VPA. Long-term beneficial effects would be produced through the preservation of cultural resources. In addition to preserving sites of historic importance, the identification, stabilization and protection of cultural resources would expand recreational and educational opportunities (e.g. sightseeing and interpretive study) within the VPA by preserving cultural sites of recreational interest to visitors. Limiting recreational opportunities in order to minimize cultural resource disturbances would potentially have long-term adverse effects on other recreational opportunities, such as OHV use. Also, specific plans developed for the protection of cultural resources, such as site monitoring, identification, stabilization, and/or restoration plans, would restrict recreational activities in specific areas, in the short-term.

Fire management has the potential to have short-term adverse impacts and long-term beneficial impacts on recreation resources and opportunities within the VPA. Direct short-term, adverse impacts from wildland fire management would cause the closing of developed recreation areas and remote, undeveloped recreation areas in the short-term, producing short-term losses of recreational opportunities in the affected areas. Visual quality, often a component of recreational activities, would be degraded in the short-term as well. In the long-term, by reducing fuel loads, moving the present fire regime toward historic, ecologically sustainable fire conditions, reducing the potential for wildland fire, and creating a visual mosaic of vegetation, wildlife habitat, visual quality would improve; subsequently, recreational opportunities for viewing wildlife and for big game hunting would improve. With these measures, as well as the implementation of emergency stabilization and rehabilitation (ESR) treatments as needed, vegetation communities would be improved, which would provide long-term beneficial impacts by enhancing recreational opportunities and improving scenic quality.

Road and trail construction and maintenance, exchanges or acquisition of lands for the purposes of easing access to public lands and resources and/or contributing to a more efficient and manageable land ownership pattern, would have beneficial impacts on some forms of recreational uses in the long term by improving access to recreation areas and expanding trail-related recreational opportunities (e.g., motorized and non-motorized vehicle use, horseback riding). Acquisition of easements proposed for high-, mid-, and low-priority recreation areas would have a long-term, beneficial effect on the availability and accessibility of recreation areas throughout the VPA. Designation of new motorized trails would serve to increase awareness of the trail system and create an increase in motorized activity in the VPA. This would threaten the integrity of cultural resource and paleontological sites in the vicinity of the trail system, and threaten the recreational and educational values of such sites. Recreational overuse of the trail system would have the potential to damage other natural resource values within areas served by these trails including long-term, adverse impacts to soils, vegetation, riparian areas, and wildlife habitat (and the recreational values that require that these resources remain undisturbed).

Long-term, indirect effects common to the Proposed RMP and all alternatives would include the potential for degradation of recreation resources by off-highway vehicle (OHV) use. This use would also have long-term, indirect adverse effects under all of the alternatives, with varying degrees of adverse resource degradation by the Proposed RMP and each alternative:

- Existing trails would be degraded by OHV overuse.
- Known user conflicts between motorized users and non-motorized users would continue.
- Fewer OHV-designated routes under the Proposed RMP and any alternative would create an increase in cross-country travel, thus increasing the direct, adverse effects of OHV travel.
- OHV use would degrade water resources, soils, riparian areas, and wildlife habitat and, thus, degrade the recreational experiences associated with these resources. Degradation of these resources would intensify with cross-country travel. Resource degradation would be less intense where OHV trails were designated.
- OHV use would increase the risk of wildland fire, which would reduce recreational opportunities in areas affected by fire, or cause closure of areas disturbed by wildland fire.
- Increasing the opportunity for OHV use and fulfilling demand would increase visitation to the area.
- Allowing OHV use in areas where OHV use is not currently allowed would decrease visitation for other forms of recreation, such as mountain biking, hiking, sightseeing, and hunting.

OHV trail designation, under the Proposed RMP and all of the alternatives, would have long-term direct beneficial impacts on recreation by increasing the opportunities for OHV travel, limit resource degradation, and reduce resource use conflicts, and adequately respond to the recreational demand for this particular activity.

The development of mineral resources within the VPA would have direct, adverse impacts on recreational resources in the short- and long-term. Surface disturbances caused by mineral exploration and development, such as the construction of oil and natural gas wells, access roads, pipelines, cross-country seismic exploration; noise; night lighting; and locatable minerals prospects and mines, have the potential to affect vegetation, wildlife, and scenic quality within the VPA and thus, degrade some recreational opportunities within the VPA. However, minerals-related access roads would provide access to portions of the VPA that are currently inaccessible to certain types of recreation uses, such as hunting and OHV use, and this would have long-term beneficial impacts on these recreational activities.

Paleontology management actions to foster public awareness, public appreciation, recreation, and educational opportunities; to encourage recreational collection according to guidelines; and to reduce threats to paleontological resources would have long term, beneficial impacts on recreation, related to the appreciation of and education about paleontology. However, establishment of scientifically significant paleontological sites requiring protection would restrict some forms of recreational opportunities within affected areas. This would have minor adverse impacts on recreation in these restricted areas by reducing recreational opportunities.

Management decisions that provide for a wide range of developed and dispersed recreational activities, while continuing to implement public education and environmental awareness programs to protect and preserve areas within the VPA, would have direct, long-term, beneficial impacts on recreational opportunities and the quality of recreational experiences. Continued management of Pelican Lake and Red Mountain-Dry Fork as SRMAs under the Proposed RMP and all of the alternatives, and continued implementation of management plans to protect historic landmarks within the VPA would allow appropriate recreational use levels while protecting resources, benefiting both traditional and interpretive recreation uses. Comprehensive activity plans for Blue Mountain, Fantasy Canyon, Red Mountain-Dry Fork, and Pelican Lake, which would address appropriate recreational uses and facility development, would have long-term, beneficial impacts on recreation resources by resolving user conflicts and maintaining resource integrity. The BLM would maintain or expand the infrastructure at all recreation sites within the VPA, including (but not limited to) stabilizing and preserving Chipeta, Trujillo, Moonshine, and Rat Hole Cabins; and would ensure the safety of all sites for public use. The following recreational management guidelines, intended to help achieve and maintain healthy public lands as defined by the Standards of Rangeland Health, would have long-term, indirect beneficial impacts on recreation:

- Designating OHV use on BLM-administered lands in order to minimize the impacts on natural resources, would help to reduce conflicts among various users, and would promote public safety. Implementation of a continuous monitoring program and subsequent adaptive management strategies would also reduce indirect impacts of OHV use, such as the degradation of water quality, soil quality, and wildlife habitat.
- Establishing wildlife viewing areas along the Book Cliffs Divide Ridge Road would have a long-term, beneficial effect on recreational wildlife viewing and would potentially increase visitation in the area.
- Designating Special Recreation Management Areas (SRMAs) would protect recreational resources, but also increase awareness of these areas for recreation, and increase

recreational activity in the area. However, there could be adverse impacts if increasing numbers of visitors threaten the integrity of cultural resource and paleontological sites and the recreational and educational value of such sites. Recreational overuse has the potential to adversely impact other resources within these SRMAs.

- Designating some SRMAs as No Surface Occupancy (NSO) areas for oil and gas development and as Closed to mineral leasing would have direct, long-term, beneficial impacts on recreation resources by preserving the natural, undisturbed qualities of these recreation areas. Each SRMA would have a management plan that would specify the limits of mineral resources development.

The designation and management of Areas of Critical Environmental Concern (ACECs) to protect important historic, cultural, scenic, and wildlife values would have long-term beneficial impacts on most recreational activities. Considering OHV use, this designation would limit use to designated routes in certain ACECs, with such use closed in other ACECs. Identification of segments of river corridors considered suitable for designation under the Wild and Scenic River System would beneficially impact these river segments by preserving the recreational opportunities in these areas. All of the proposed ACECs would also remain open to oil and gas leasing, and subject to valid existing mineral leasing rights, which would have long-term adverse impacts on recreational opportunities and the quality of recreational experiences.

Under the Proposed RMP and all of the alternatives, segments of the Upper Green and Lower Green River that have already been recommended to Congress as suitable for designation as part of the Wild and Scenic River System would continue to be managed under their suitability status. These areas would continue to be protected for their outstanding and remarkable values, and free-flowing nature, subject to valid existing mineral rights. This would have long-term beneficial protection-related impacts on recreation, as these river segments would continue to provide recreational opportunities.

4.12.2. Proposed RMP and Alternatives Impacts

4.12.2.1. Impacts of Cultural Resource Decisions on Recreation

4.12.2.1.1. Proposed RMP

The development of on- and off-site interpretive facilities at appropriate archaeological and historic sites would broaden the scope of recreation opportunities available to visitors and serve as a draw for additional visitation to the VPA. Off-highway vehicle use in the Uinta Foothills would be limited to designated routes. Off-highway vehicle use in Little/Devils Hole area, Upper Willow Creek areas and Four Mile Wash would be limited to designated routes to protect areas with high densities of cultural sites. These restrictions would have long-term direct, adverse impacts to OHV use by reducing the areas of cross-country travel that OHV users are currently allowed. However, when compared to Alternative D (No Action), the activity restriction described above would have direct, long-term beneficial effects on other recreational opportunities within the VPA by enhancing the opportunities for educational and other recreational activities, and potentially improving the recreational experience of those not participating in motorized (OHV) recreational activities. The OHV restrictions would also

improve visitor safety in those areas where mechanized and non-mechanized users (e.g., hiking, mountain biking, backpacking, and horseback riding potentially mingle, and would reduce resource use conflicts between motorized and non-motorized users.

4.12.2.1.2. ALTERNATIVE A

Under this alternative, the proposed management decisions would be the same as the Proposed RMP. Therefore, the impacts of cultural resource decisions on recreation would be the same as discussed above.

4.12.2.1.3. ALTERNATIVE B

The impacts of Alternative B on recreation resources would be similar to the Proposed RMP, and the impacts compared to Alternative D (No Action) for the Uinta Foothills, Little/Devils Hole area, and Upper Willow Creek would be similar to those described under the Proposed RMP. Interpretive facilities would only be developed as mitigation for permitted activities, therefore this alternative would have fewer long-term beneficial impacts than the other action alternatives.

4.12.2.1.4. ALTERNATIVE C

Under this alternative, the development of interpretive facilities for all appropriate archeological, historical, and cultural resources would have the same effect as described under the Proposed RMP. Closing the Uinta Foothills, Little/Devils Hole area, Four Mile Wash, and Upper Willow Creek area to OHV use would have long-term, adverse effects on OHV recreational opportunities, when compared to Alternative D (No Action). This action would potentially intensify OHV overuse because additional trail development for motorized uses is not a component of Alternative C. The restrictions on OHV use and on oil and gas leasing would have indirect, long-term beneficial impacts to non-motorized recreation by increasing solitude and wildlife viewing opportunities in these areas, when compared to Alternative D (No Action).

4.12.2.1.5. ALTERNATIVE D (NO ACTION)

This alternative would have no adverse impacts on motorized recreational activities, but a lack of resource protection could have direct, long-term, adverse impacts on these sites and on sightseeing or interpretive/educational activities at these sites. Development of interpretative facilities at Old Rock Saloon and Nine Mile Canyon archeological sites and construction of a facility in Nine Mile Canyon to help manage cultural use in the area would have beneficial effects on recreation by increasing the opportunities for regional cultural interpretation and nature study.

4.12.2.1.6. ALTERNATIVE E

Under Alternative E, the development of on- and off-site interpretive facilities at archaeological and historic sites would broaden the range of recreation opportunities available to visitors and serve as a draw for additional visitation to the VPA. Closing the Uinta Foothills, Little/Devils Hole area, Four Mile Wash, and Upper Willow Creek area to OHV use would have long-term,

adverse effects on OHV motorized and non-motorized recreational opportunities, when compared to Alternative D (No Action). This action would potentially intensify OHV use in other areas of the VPA because additional trail development for motorized uses is not a component of Alternative E. The restrictions on OHV use and on oil and gas leasing would have indirect, long-term beneficial impacts to non-motorized recreation by increasing solitude and wildlife viewing opportunities in these areas, when compared to Alternative D (No Action).

4.12.2.2. Impacts of Fire Management Decisions on Recreation

4.12.2.2.1. Proposed RMP and Alternatives A, B, C, and E

Permitting prescribed fire on 156,425 acres per decade would limit the number of acres available for recreational activities in a prescribed burn area, during and after burning. These areas would most likely be less desirable for recreation in the short-term until vegetation re-growth occurs. Long-term benefits would result in these areas because of reduced fuel loads, improved wildlife habitat, more diverse landscape variety (scenic quality), and the decreased probability of wildland fire damage to recreation areas, which would enhance opportunities (settings, activities, and experiences) for hunting, wildlife viewing, sightseeing, and similar activities. The Proposed RMP and the action alternatives would have a greater likelihood of adverse short-term impacts and beneficial long-term impacts, when compared to Alternative D (No Action) because of the larger area planned for prescribed burning.

4.12.2.2.2. Alternative D (No Action)

The beneficial and adverse impacts of fire management decisions on recreation under Alternative D (No Action) would be the same as the Proposed RMP and the action alternatives (Alternatives A, B, C, and E) except that the impacts would be reduced in scope and intensity. This is because a total of 50,900 acres would be designated for prescribed burning or other treatments within the VPA as compared to the 156,425 acres/decade designated for prescribed burning under the action alternatives.

4.12.2.3. Impacts of Land and Realty Management Decisions on Recreation

4.12.2.3.1. Proposed RMP

Pursuing public access or easements to the White River at the mouth of Cowboy Canyon, Evacuation Creek (from the state line to the creek along the Uintah Railroad bed), Bonanza Ridge and Wagon Hound Road would increase the amount of land accessible for a variety of recreational opportunities, thereby having direct long-term beneficial impacts on recreation resources availability. This alternative would have more beneficial impacts than Alternative D (No Action), which would not specify these areas for public access. The pursued acquisition of Indian Trust Lands in Bitter Creek and near the confluence of the South and Sweetwater Canyons would also have long-term beneficial impacts on recreation by increasing recreational opportunities in these areas. All of these areas would be managed under ERMA or SRMA stipulations, which would have beneficial, protection-related impacts on recreation resources.

Locatable mineral withdrawal or other protective measures that would preclude mineral entry on a total of 24,202 acres including the Green River Scenic Corridor in Browns Park (8,208 acres), along the White River (9,218 acres), in Lears Canyon (1,375 acres), in developed and potential recreation sites (5,000 acres), and the Book Cliffs Natural Area (401 acres) would have long-term beneficial impacts on recreation by protecting natural features and scenic quality in these areas. Compared to Alternative D (No Action), the Proposed RMP would have more beneficial impacts in some areas: Alternative D (No Action) would not preclude mineral entry along the White River and within the Book Cliffs Natural Area; however, Alternative D (No Action) would be more beneficial if total acreage is considered, as Alternative D (No Action) would propose withdrawal of 35,900 acres compared to 24,202 under the Proposed RMP.

Retention of public lands in federal ownership in the 106,178 acres of non-WSA lands with wilderness characteristics managed under this alternative would ensure protection of non-WSA wilderness characteristics values and the setting needed to support non-mechanized, primitive forms of recreation, including hiking, backpacking, horseback riding, wildlife observation, and river floating. Excluding non-WSA lands with wilderness characteristics from the issuance of new of rights-of-way (ROWs) would beneficially retain the undeveloped character of these landscapes and the primitive forms of recreation dependent on those settings. The exclusion of ROWs, however, would potentially limit (and adversely impact) mechanized recreational opportunities (i.e., motorized OHV use, mountain biking) commonly available along the access roads to and within the ROWs by limiting the opportunities for these forms of recreation.

4.12.2.3.2. ALTERNATIVE A

The impacts of proposed pursuance of public access would be the same as discussed above under the Proposed RMP except that the easement from Evacuation Creek (from the state line to the creek along the Uintah Railroad bed) would not be pursued.

Locatable mineral withdrawal or other protective measures that would preclude mineral entry in the Green River Scenic Corridor in Browns Park, the White River, Lears Canyon, the Book Cliffs Natural Area, and developed and potential recreation sites would have long-term beneficial impacts on recreation as discussed above under the Proposed RMP because the management decisions would be the same.

4.12.2.3.3. ALTERNATIVE B

Administrative access only would be pursued across Indian trust lands in Bitter Creek, and South and Sweetwater Canyons, but recreation-related public access would not be pursued for any area under Alternative B. The impact on recreational opportunities would be the same as Alternative D (No Action).

Locatable mineral withdrawal impacts would be the same as those described under the Proposed RMP.

4.12.2.3.4. ALTERNATIVE C

The impacts of pursuing public access through easements and acquisitions under Alternative C would be the same as those described under the Proposed RMP alternative because the management decisions would be the same.

Under this alternative, locatable mineral withdrawal management decisions to preclude mineral entry would be the same as those described under the Proposed RMP, except that the 5,000 acres of developed and potential recreation sites would not be considered for withdrawal and an additional 17,063 acres would be proposed for withdrawal within the Lower Green River ACEC. This would increase the beneficial, protection-related impacts on recreation resources to 41,265 acres. Compared to Alternative D (No Action), this alternative would be more beneficial in the long term because more acreage would be proposed for recreation resource protection.

4.12.2.3.5. ALTERNATIVE D (NO ACTION)

The pursuit of public access would be unspecified under Alternative D (No Action). Therefore current management would not improve recreational access or opportunities. Mineral withdrawal would occur on 19,400 acres along the Green River Scenic Corridor in Browns Park, on 3,600 acres of relict vegetation, 7,900 acres within the Lower Green River ACEC, and 5,000 acres of developed and potential recreation sites, totaling 35,900 acres. This would have beneficial preservation-related impacts on recreation resources.

4.12.2.3.6. ALTERNATIVE E

Securing public access to White River and in Evacuation Creek would provide additional opportunities for mechanized, and primitive non-mechanized recreational activities, as would acquiring Indian Trust Lands in Bitter Creek and at the confluence of South and Sweet Water Canyons. Pursuing mineral withdrawals (on the same number of acres as Alternative A) in the Green River Scenic Corridor (Browns Park), the White River, Lears Canyon, and the Book Cliffs Natural Area would reduce the potential for surface disturbances and maintain the settings needed to support opportunities for non-mechanized forms of recreation (e.g., hiking, backpacking, river floating, wildlife viewing, and hunting).

Retention of public lands in federal ownership in 277,596 acres of non-WSA lands with wilderness characteristics would ensure protection of wilderness values and the settings needed to support the non-mechanized recreational opportunities discussed above. The exclusion of non-WSA lands with wilderness characteristics from the issuance of new of rights-of-way (ROWs) would retain the undeveloped character of these landscapes and the primitive forms of recreation dependent on those settings. Exclusion of ROWs, however, would not provide additional mechanized recreational opportunities commonly available along the access roads to and within the ROWs.

Compared to Alternative D (No Action), Alternative E would have more beneficial impacts on non-mechanized recreation by providing opportunities for these types of activities. The impacts

on mechanized (motorized and non-motorized OHV activities) would be more adverse than Alternative D (No Action) because 277,596 acres would be managed as ROW exclusion areas.

4.12.2.4. Impacts of Minerals Decisions on Recreation

As discussed above under subsection 4.10.1 Impacts Common to All Alternatives, minerals-related exploration, development, access road, and infrastructure construction on BLM administered land within the VPA would create surface disturbances, noise, and light pollution that would adversely and beneficially affect recreation resources in the long-term. The proposed acreages available for minerals leasing are tabulated below in Table 4.12.1.

Table 4.12.1. Mineral Leasing Acreages

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Oil and Gas – Standard Stipulations, Timing and Controlled Surface Use	1,640,381	1,780,860	1,819,397	1,627,085	1,536,030	1,499,641
Mineral Materials, Open	389,788	415,395	432,953	388,699	387,700	344,682
Phosphate, Open	76,208	87,724	87,724	63,571	84,600	52,063
Gilsonite (miles/acres)	172 / 36,846	172 / 36,846	172 / 36,846	172 / 36,846	168 / 36,009	163 / 34,967

4.12.2.4.1. Proposed RMP

The Proposed RMP would allow minerals development (including oil, gas, mineral materials, and phosphate) with Open, Standard Stipulations, or Timing and Controlled Surface Use on 2,143,223 acres of BLM administered lands within the VPA. Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would be closed to leasing for oil, gas, mineral materials, and phosphate and Gilsonite. Compared to Alternative D (No Action), the Proposed RMP would allow 27,022 more acres of BLM land potentially open to minerals development. The estimated total short-term and long-term surface disturbance would be 8,796 acres (for oil and gas development). As described in subsection 4.10.1, the leasing of areas for oil, gas, CBNG, and other mineral uses would have direct long-term adverse impacts on most recreational opportunities by potentially degrading the natural characteristics of the landscape, and degrading scenic quality and wildlife habitat. Off-highway vehicle access would improve in areas where new minerals-related access and spur roads were built, thus having indirect long-term beneficial impacts on this type of recreational activity by creating more opportunities for OHV recreational travel.

Closure to mineral leasing of 106,178 acres of non-WSA lands with wilderness characteristics under this alternative would place recreational emphasis on opportunities for primitive and unconfined activities (e.g., hiking, backpacking, river floating, hunting, wildlife viewing, and nature study) and opportunities for solitude, as well as the undeveloped settings needed to

support these non-motorized activities and experiences. Opportunities for motorized forms of recreation activities such as backcountry driving and vehicle-supported camping at developed recreation sites such as campgrounds, picnic areas, and interpretive exhibits would be reduced with OHV vehicle travel restricted to designated routes. In those portions of the VPA where mineral leasing continues, exploration and development would contribute to an expanded road system for motorized forms of recreation (e.g., backcountry driving, vehicle-supported camping, and hunting). Proposed withdrawals from mineral entry in non-WSA lands with wilderness characteristics would prevent mining-related disturbances that impact opportunities for primitive forms of recreation, the undeveloped settings needed to support those activities, and the experience people seek while participating in those activities. In those areas open to mineral entry, future exploration and development would likely provide additional recreational opportunities for motorized forms of recreation.

Compared to Alternative D (No Action), the Proposed RMP would have more beneficial impacts on recreation resources and opportunities. This is because, though potentially more area would be available for surface disturbance leasing, the proposed non-WSA lands with wilderness characteristics would have prohibitions on minerals disturbances and would provide recreational opportunities for non-mechanized and mechanized activities.

4.12.2.4.2. ALTERNATIVE A

Alternative A would allow minerals development (including oil, gas, mineral materials, and phosphate) with Open, Standard Stipulations, or Timing and Controlled Surface Use on approximately 2,320,825 acres of BLM administered lands within the VPA. Compared to Alternative D (No Action), Alternative A would allow 204,624 more acres of BLM land potentially open to minerals development. The estimated total short-term and long-term surface disturbance would be 8,760 acres (for oil and gas development). As described in Section 4.10.1, the leasing of areas for oil, gas, natural gas CBNG, and other mineral uses would have direct long-term adverse impacts on most recreational opportunities by degrading the natural characteristics of the landscape, and degrading scenic quality and wildlife habitat. Off-highway vehicle access would improve in areas where new minerals-related access and spur roads were built, thus having indirect long-term beneficial impacts on this type of recreational activity by providing more opportunities for OHV use.

Compared to Alternative D (No Action), Alternative A would have impacts on recreation resources and opportunities as described above under the Proposed RMP.

4.12.2.4.3. ALTERNATIVE B

Alternative B would allow mineral development with Open, Standard Stipulations or Timing and Controlled Surface Use on approximately 2,340,112 acres of BLM administered lands within the VPA. Compared to Alternative D (No Action), Alternative B would allow 332,581 more acres of BLM land open to minerals development. The estimated acres of short-term and long-term surface disturbance under this alternative would be 8,909 (for oil and gas development). The impacts would be similar to those discussed under the Proposed RMP, but to a greater degree, because more area within the VPA would be open to minerals disturbances.

4.12.2.4.4. ALTERNATIVE C

Alternative C would have fewer adverse impacts to recreation than any of the other alternatives, as it would designate the fewest acres to minerals leasing and development. Alternative C would allow mineral development with Open, Standard Stipulations or Timing and Controlled Surface Use on approximately 2,116,201 acres of BLM administered land within the VPA. The estimated total short-term and long-term surface disturbance would be 8,728 acres (for oil and gas development). Compared to Alternative D (No Action), Alternative C would allow 71,862 acres more of BLM lands to be open to minerals development. The impacts would be similar to Alternative A, but to a lesser degree.

4.12.2.4.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), the estimated minerals-related surface disturbance, both short-term and long-term, would be 8,371 acres (for oil and gas development), with a total area open to mineral development of 2,044,339 acres. The scope and type of impacts to recreation would be similar to the impacts described under Impacts Common to All Alternatives (Section 4.12.1).

4.12.2.4.6. ALTERNATIVE E

Under this alternative, non-WSA lands with wilderness characteristics would be closed to leasing for oil, gas, mineral materials, phosphate and Gilsonite. This alternative would allow leasing for oil, gas, phosphate, and mineral materials on 1,931,353 acres. For oil and gas development only, this represents a reduction of 112,986 acres in the total acreage available for leasing when compared to Alternative D (No Action). Thus, Alternative E would have the smallest area open to oil and gas development of all of the alternatives, with impacts to recreation resources and opportunities similar to those discussed under the Proposed RMP but to a lesser degree.

Closure to mineral leasing of non-WSA lands with wilderness characteristics would place recreation emphasis on opportunities for primitive and unconfined activities (as discussed above under the Proposed RMP) and opportunities for solitude, as well as the undeveloped settings needed to support these non-motorized activities and experiences. Opportunities for motorized and/or mechanized forms of recreation activities would be reduced with the closure of 228 miles of vehicle routes and restrictions on recreation developments in the non-WSA lands with wilderness characteristics. In those portions of the VPA where mineral leasing is permitted, exploration and development would beneficially contribute to an expanded road system (and increased recreational opportunities) for motorized forms of recreation (e.g., backcountry driving, vehicle-supported camping, and hunting).

Under Alternative E, proposed withdrawals from mineral entry in non-WSA lands with wilderness characteristics would prevent mining-related disturbances that would impact opportunities for primitive forms of recreation, the undeveloped settings needed to support those activities, and the experience people seek while participating in those activities. In those areas open to mineral entry, future exploration and development would likely (and beneficially) create the opportunities for motorized and mechanized forms of recreation.

In comparing this alternative to Alternative D (No Action), Alternative E would have more beneficial impacts on non-mechanized recreation and fewer beneficial impacts on mechanized recreation. This is because, as discussed above, the non-WSA lands with wilderness characteristics would be closed to mechanized use (motorized and non-motorized OHV use), but available for non-mechanized recreational activities that do not degrade wilderness values.

4.12.2.5. Impacts of Non-WSA Lands with Wilderness Characteristics Decisions on Recreation

4.12.2.5.1. Proposed RMP

Under the Proposed RMP, 106,178 acres would be managed to protect non-WSA wilderness characteristics that include naturalness, solitude, and opportunities for primitive, remote, backcountry recreation (e.g., hiking, backpacking, river floating, hunting, wildlife viewing). Opportunities for motorized and non-motorized OHV use on designated routes would also be available. This would have long term, beneficial impacts on both non-mechanized and mechanized recreational activities because opportunities for a range of recreation resource users would be available within the proposed non-WSA wilderness characteristics areas. Compared to Alternative D (No Action), the Proposed RMP would have the same impacts because these recreational opportunities would be provided outside non-WSA lands with wilderness characteristics.

4.12.2.5.2. Alternatives A, B, C, and D

Under these alternatives, no actions would be prescribed to specifically protect the wilderness characteristics of non-WSA lands with wilderness characteristics, and therefore there would be no direct impacts to recreation opportunities.

4.12.2.5.3. Alternative E

Under Alternative E, 277,596 acres in 25 areas would be managed to protect wilderness characteristics of size, naturalness, opportunities for solitude, and opportunities for primitive forms of recreation. As discussed under the Proposed RMP alternative, this form of management would provide opportunities for primitive forms of recreation (e.g., hiking, backpacking, river floating, hunting, wildlife viewing, and nature study) and experiences of solitude in natural, undeveloped settings. Under this alternative, opportunities for motorized recreation (e.g., backcountry driving and OHV use) and developed facilities (e.g., campgrounds, picnic areas, and interpretive and wayside exhibits) would not be provided in these areas because OHV travel routes would not be allowed. Compared to Alternative A, this alternative would have more beneficial long-term impacts on non-mechanized forms of recreation because management of these areas would be more compatible with primitive, remote, and backcountry opportunities. As this alternative would not allow OHV use, the impacts on mechanized forms of recreation would be less beneficial than Alternative D (No Action); however opportunities would be provided outside non-WSA lands with wilderness characteristics.

4.12.2.6. Impacts of Paleontology Decisions on Recreation

4.12.2.6.1. Proposed RMP

The Proposed RMP would provide information on paleontology, local paleontological sites, amateur fossil collecting, and fossil collection rules to the public via websites, publications, and personal contacts. Management decisions would allow the collection of common invertebrate and plant fossils for personal, non-commercial use; issue Paleontological Resources Use Permits for scientific study; and promote or support paleontological investigations in poorly known areas. These management decisions would enhance and beneficially impact paleontology-related recreational opportunities within the VPA by improving information access on known fossil sites for collectors. Under the Proposed RMP, fossil excavations would be limited within the proposed 106,178 acres of non-WSA lands with wilderness characteristics to those actions that meet the goals and objectives for management of the non-WSA lands with wilderness characteristics. Limitations on excavations in non-WSA lands with wilderness characteristics would limit the growth (number of sites) of these potential recreation opportunities.

Compared to Alternative D (No Action), the increase in recreational opportunity (and activity) under the Proposed RMP would be more beneficial to recreation resources because opportunities for allowed fossil collecting would be improved.

4.12.2.6.2. Alternatives A and C

By providing information on paleontology, local paleontological sites, amateur fossil collecting, and fossil collection rules to the public via websites, publications, and personal contacts; allowing collection of common invertebrate and plant fossils for personal, non-commercial use; issuing Paleontological Resources Use Permits for scientific study; and promoting or supporting paleontological investigations in poorly known areas, Alternatives A and C would increase and beneficially impact the recreational opportunities related to paleontology similar to those discussed above under the Proposed RMP. Compared to Alternative D (No Action), the increase in recreational opportunity (and activity) under these alternatives would be more beneficial to recreation resources for the same reasons as discussed under the Proposed RMP.

4.12.2.6.3. Alternatives B and D (No Action)

These alternatives would have negligible impacts on recreation due to the lack of any specific improvements supporting the scientific study and dissemination of paleontological information.

4.12.2.6.4. Alternative E

Under Alternative E, the following activities would increase and provide additional, long-term recreational opportunities related to paleontology: providing information on paleontology, local sites, fossil collecting, and the rules of fossil collecting to the public via websites, publications, and personal contacts; allowing collection of common invertebrate and plant fossils for personal, non-commercial use; issuing Paleontological Resources Use Permits for scientific study; and promoting or supporting paleontological investigations in poorly known areas. The increased

recreational opportunity provided under Alternative E would be more beneficial than that provided under Alternative D (No Action). Fossil excavations would be limited in non-WSA lands with wilderness characteristics to those actions that meet the goals and objectives for management of the non-WSA lands with wilderness characteristics. Limitations on excavations in non-WSA lands with wilderness characteristics would limit the growth (number of sites) of these potential recreation opportunities.

4.12.2.7. Impacts of Recreation Decisions on Recreation

Impacts to recreation from recreation decisions are analyzed through alternative comparisons of Backcountry Byways, Special Recreation Management Areas (SRMAs), trails, mitigation of noise and light, and recreational cabin development.

4.12.2.7.1. Proposed RMP

Recreation management decisions under the Proposed RMP would provide for a range of recreational opportunities within the VPA. A number of existing recreation opportunities would be expanded and improved under this alternative, whereas other opportunities would be limited. New recreation activities would also be established that would expand the range of recreational opportunities. The effects of these changes on existing resources and activities in both the short-term and long-term are discussed below.

4.12.2.7.1.1. Backcountry Byways

The designation of the Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads as BLM Backcountry Byways under Alternative A would have long-term beneficial impacts on recreation by educating the public about recreational opportunities for backcountry sightseeing and scenic driving. The designation of roads as Utah State Highway Scenic Backcountry Byways would increase awareness of the scenic opportunities associated with these byways, which would increase traffic volume and encourage recreational visitation to the region. These designations would have greater beneficial impacts on recreation resources when compared to Alternative D (No Action), which would not designate Backcountry Byways.

Designation of Backcountry Byways would have long-term, indirect, adverse impacts on air-quality, in the form of increased fugitive dust caused by vehicle traffic. More vehicle traffic would also adversely increase the potential risk of wildland fire and increase the potential for vehicle/wildlife collisions. Designating Backcountry Byways would increase the potential for automobile conflicts with livestock and with minerals resource-related traffic. As increasing numbers of visitors enter more remote areas of the VPA some travelers could experience a reduction in the expectation of semi-primitive, isolated conditions, with some loss of this recreational opportunity.

4.12.2.7.1.2. SRMAs

The designation of SRMAs on BLM administered land within the VPA would provide recreational opportunities for experiencing outstanding scenic vistas, and enhance recreation-

related resources (e.g., riparian areas, fisheries, special status species, water quality) and associated activities (e.g., water-based recreation; hunting; a comprehensive trail system offering opportunities for hiking, biking, horse riding, and OHV use; camping; and facilities offering cultural and historical resource learning opportunities). The Proposed RMP would beneficially increase the combined acreage of SRMAs from 87,931 acres under current management to 133,560 acres. Each of the SRMAs would manage for the type and range of recreational activities and opportunities that lie within a given SRMA: the proposed Blue Mountain SRMA (42,729 acres) would be managed for OHV use, special recreational activities (e.g., hang gliding, rock climbing), and competitive events; Nine Mile SRMA (44,168 acres) would be managed to protect high-value cultural values and scenic quality. Browns Park SRMA (18,490 acres) would offer a wide variety of land and water opportunities, whereas the White River SRMA (2,831 acres) and Pelican Lake SRMA (1,014 acres) would offer water-based recreational opportunities, in addition to other recreational opportunities. Red Mountain-Dry Fork SRMA (24,259 acres) would continue to provide opportunities for OHV and non-motorized trail activities. The proposed Fantasy Canyon SRMA (69 acres) would offer opportunities for self-guided touring and hiking. In comparison, there would be no expansion of existing SRMAs or proposed new SRMA designations under Alternative D (No Action); thus, the Proposed RMP would have more beneficial impacts on recreational than Alternative D (No Action) because more area within the VPA would be managed under SRMAs to provide recreational opportunities.

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would shift the focus of recreation to primitive and unconfined activities (e.g., hiking, backpacking, river floating, hunting, and wildlife viewing), opportunities for solitude, and the settings needed to achieve these opportunities. Proposed management stipulations for non-WSA lands with wilderness characteristics would limit OHV use to designated routes, which would adversely reduce the recreational opportunities for motorized and mechanized recreation within these areas.

4.12.2.7.1.3. Trails

Signing and/or improvement of existing trails and the development of new hiking, horseback and mechanized/non-motorized (i.e., mountain biking) trails would increase the total miles of hiking trails to 400 miles, compared to 55 miles under Alternative D (No Action). The increased number of trail miles would also reduce user densities on the trails, potentially alleviating user conflicts and improving individual users' experiences. Increased development of trails could cause increased adverse impacts to cultural and paleontological sites (and impacts to the recreational and educational value of such sites), and the ensuing increase in human activity would increase the potential for wildland fire (which would cause temporary closures of recreational areas or diminish the scenic quality in recreational areas). Because new areas for mountain biking are currently being sought, increasing non-motorized trails would beneficially impact recreation in the VPA by acting as an attraction to mountain bikers seeking new opportunities outside of existing, and often overcrowded, areas elsewhere in the state.

The improvement/development/signing of 800 miles of motorized trails represents a direct, long-term beneficial impact relative to current conditions under Alternative D (No Action) for OHV use (under Alternative D, No Action, the development of new motorized trails is unspecified).

Currently, the Red Mountain Trail is the only designated motorized trail. The additional number of trail miles would reduce the density of OHV users, increase user safety, and reduce user conflicts. The designation would also alleviate strains on trails currently used for a variety of recreational activities and would potentially reduce overland OHV use.

Prohibiting the use of OHVs for big game retrieval off designated OHV routes would minimize the amount of overland travel by OHV users, thereby minimizing surface disturbances caused by this activity. The ban would have a direct beneficial impact on recreation resources by preserving vegetation, habitat, waterways, and scenic quality within the VPA.

4.12.2.7.1.4. Mitigation of Noise and Light

The BLM would work in conjunction with the National Park Service and the energy industry to mitigate noise and light pollution adjacent to Dinosaur National Monument. Currently, there are no mitigation procedures in place. Mitigation would have long-term beneficial effects on recreation by limiting noise and light pollution, with corresponding enhancements in the visitor experience.

4.12.2.7.1.5. Cabins

Proposed would increase the total number of cabins (there are currently five), based on an assessment of needs. Cabins would be constructed near the existing Chipeta, Trujillo, Moonshine, Rat Hole and Wolf Den cabins and at West Water Point, Dick Canyon, and other locations. Increasing the number of cabins would have a long-term, beneficial effect on recreation opportunities, potentially enhancing hunting, mountain biking, hiking, equestrian, and OHV experiences. Increased visitation with longer periods of use extended into historically less-active seasons could adversely affect wildlife and thus, the recreational activity of wildlife viewing, particularly if the activity is extended into crucial wildlife winter ranges.

4.12.2.7.2. ALTERNATIVE A

4.12.2.7.2.1. Back Country Byways

The designation of the Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads as BLM Backcountry Byways under Alternative A would have the same long-term beneficial impacts on recreation as discussed under the Proposed RMP because the management decisions are the same.

4.12.2.7.2.2. SRMAs

Alternative A would beneficially increase the combined acreage of SRMAs from 87,960 acres under current management to 499,588 acres, an increase of 568% when compared to Alternative D (No Action). The increase of 411,660 SRMA-managed acres within the VPA would be the result of expand the existing Browns Park and Nine Mile SRMAs by 71,233 acres (the 24,259-acre Red Mountain-Dry Fork SRMA would remain the same size), with the remaining acreage encompassing the proposed White River, Blue Mountain and Book Cliffs SRMAs. Special

Recreation Management Area-designated acreage would comprise 29% of the 1,725,512 acres of BLM administered lands within the VPA. Each of the five SRMAs would manage for a range of recreational opportunities and activities: Nine Mile SRMA (81,168 acres) would be managed to protect high-value cultural values and scenic quality; Browns Park SRMA (52,720 acres), White River SRMA (24,183 acres) and Pelican Lake SRMA (1,014 acres) would offer water-based recreational opportunities. The western portion of the White River SRMA would be managed under No Surface Occupancy (NSO) stipulations, thus beneficially protecting the area from minerals development and surface disturbances.

The Blue Mountain SRMA (42,758 acres) would also offer a beneficially broad range of recreational opportunities with an emphasis on activities such as hang gliding, hunting, equestrian use, camping, hiking, and rock climbing. Designating 273,486 acres in the Book Cliffs as an SRMA would have long-term beneficial impacts on recreational resources. The SRMA would offer opportunities for unconfined, dispersed, and primitive recreational activities. It should be noted that the Book Cliffs is currently leased for mineral development on approximately 90% of the area proposed as an SRMA, and this existing condition would have long-term adverse impacts on recreational opportunities in the SRMA.

Establishing a comprehensive integrated activity level plan for the 69-acre Fantasy Canyon area would have beneficial protection-related impacts on the area by increase protection of the unique geological formations in the area, and address health and safety considerations. An activity plan would help reduce conflicts between users in Fantasy Canyon, which would have beneficial impacts on recreation resources.

In comparison to Alternative D (No Action), this alternative would have more beneficial impacts on recreational opportunities because more area would be managed under SRMAs to protect recreation resources and provide opportunities for a range of recreational activities.

4.12.2.7.2.3. Trails

Signing and/or improvement of existing trails and the development of new hiking, horseback and mechanized/non-motorized (mountain biking) trails would increase the total miles of hiking trails to 400 miles, a total increase of 727% when compared to Alternative D (No Action). The increased number of trail miles would also reduce user densities on the trails, potentially alleviating user conflicts and improving individual users' experiences. Increased development of trails could cause increased adverse impacts to cultural and paleontological sites (and impacts to the recreational and educational value of such sites), and the ensuing increase in human activity would increase the potential for wildland fire (which would cause temporary closures of recreational areas or diminish the scenic quality in recreational areas). Because new areas for mountain biking are currently being sought, increasing non-motorized trails would beneficially impact recreation in the VPA by acting as an attraction to mountain bikers seeking new opportunities outside of existing, and often overcrowded, areas elsewhere in the state.

The improvement/development/signing of 800 miles of motorized trails represents a direct, long-term beneficial impact relative to current conditions under Alternative D (No Action) for OHV use. Currently, the Red Mountain Trail is the only designated motorized OHV trail. The

additional number of trail miles would reduce the density of OHV users, increase user safety, and reduce user conflicts. The designation would also alleviate strains on trails currently used for a variety of recreational activities and would potentially reduce overland OHV use.

Prohibiting the use of OHVs for big game retrieval off designated routes would minimize the level of overland travel by OHV users, thereby minimizing surface disturbances caused by this activity. The ban would have a direct beneficial impact on recreation resources by preserving vegetation, habitat, waterways, and scenic quality within the VPA.

The reduction of OHV use in Browns Park would have beneficial protection-related impacts on vegetation, riparian areas, water and soil quality, and wildlife habitat and, thus, would help maintain those resource values important to many other recreationists.

4.12.2.7.2.4. Mitigation of Light and Noise

Under this alternative, mitigation would be applied (in cooperation with the NPS) to reduce light pollution and sound impacts adjacent to Dinosaur National Monument, which would be beneficial in the short term and long term to recreation users in and adjacent to the Monument.

4.12.2.7.2.5. Cabins

Alternative A would increase the total number of cabins (there are currently five), based on an assessment of needs. Cabins would be constructed near the existing Chipeta, Trujillo, Moonshine, Rat Hole and Wolf Den cabins and at West Water Point, Dick Canyon, and other locations. Increasing the number of cabins would have a long-term, beneficial effect on recreation opportunities, potentially enhancing hunting, mountain biking, hiking, equestrian, and OHV experiences. Increased visitation with longer periods of use extended into historically less-active seasons could adversely affect wildlife and thus, the recreational activity of wildlife viewing, particularly if the activity is extended into crucial wildlife winter ranges.

4.12.2.7.3. ALTERNATIVE B

4.12.2.7.3.1. Backcountry Byways

The impacts would be the same as discussed under the Proposed RMP because the management decisions are the same.

4.12.2.7.3.2. SRMAs

Management of SRMAs would be the same as Alternative D (No Action). The following existing SRMAs (totaling 86,454 acres or 5% of the BLM-administered VPA) would continue to be managed for their scenic, cultural, wildlife, and/or recreation values:

- Browns Park: continued management of 17,000 acres
- Red Mountain-Dry Fork: continued management of 24,259 acres

- Nine Mile Canyon: continued management of 44,181 acres
- Pelican Lake: continued management of 1,014 acres

The remaining land within the VPA would be managed under ERMA guidelines. With 5% of the BLM-administered area of the VPA managed as SRMAs , the educational and recreational opportunities within the VPA would remain relatively undeveloped. Accessibility and availability of facilities would be difficult and safety would be an issue. As the majority of the land within the VPA would be managed without recreation resources protection, mineral exploration and development, and OHV use would have adverse impacts on non-motorized and non-mechanized recreational resources and opportunities within the VPA. This would maintain resource protection and management at current levels (the same management as Alternative D, No Action).

4.12.2.7.3.3. Trails

No hiking, horseback riding, or mountain biking (non-motorized/mechanized) trails would be developed under this alternative. However, 800 miles of motorized trails would be improved or developed, with impacts similar to those described under the Proposed RMP. Under this alternative, OHV use for big game retrieval would be allowed, with long term and short term, adverse impacts to soils, vegetation, and scenic quality from off-route surface disturbances.

4.12.2.7.3.4. Mitigation of Noise and Light

The impacts would be the same as discussed under Alternative A because the management decisions are the same.

4.12.2.7.3.5. Cabins

The impacts would be the same as discussed under the Proposed RMP because the management actions are the same.

4.12.2.7.4. ALTERNATIVE C

4.12.2.7.4.1. Backcountry Byways

No Back Country Byways would be designated under this alternative (the same as Alternative D). The management decision to not designate the Seep Ridge, Book Cliff Divide, and Atchee Ridge Routes as Back Country Byways would adversely limit recreational scenic driving opportunities within the VPA.

4.12.2.7.4.2. SRMAs

SRMA designations and impacts would be the same as discussed under Alternative A for Blue Mountain, the Book Cliffs, Pelican Lake, Nine Mile Canyon, Browns Park, and Red Mountain-Dry Fork. The 69-acre Fantasy Canyon SRMA and 47,130-acre White River SRMA would be

proposed under this alternative. Proposed SRMA designations would have greater direct, long-term beneficial impacts on recreation, when compared to Alternative D (No Action) because more area would be managed to provide recreational opportunities and protect recreation resources. This alternative would manage a total of 522,604 acres as SRMAs compared to 86,454 acres under Alternative D, an increase of 594% when compared to Alternative D (No Action).

4.12.2.7.4.3. Trails

Trails for hiking, horseback riding, and mechanized (non-motorized) recreation would be developed under this alternative with the same management actions and impacts as discussed under the Proposed RMP. Alternative C would not develop or improve motorized trails, which would be the same management decisions as Alternative D (No Action). By not developing and improving motorized trails, the opportunities for those participating in OHV recreation would be adversely limited. Red Mountain Trail is the only trail currently managed and maintained for motorized use, and the lack of established trails could produce an increase in cross-country travel, thereby increasing the adverse impacts to vegetation, soil and water, wildlife habitat, and scenic quality within the VPA. Without further management or designation of OHV trails, cross-country travel, recreation resource user conflicts, user densities, and safety would remain as OHV-related adverse impacts within the VPA. These adverse impacts would likely intensify in the long term as OHV use increases within the VPA.

Limiting OHV recreation would also have a long-term, beneficial effect on soils, vegetation, riparian health, and wildlife habitat (and the recreational experiences that require that these resources remain undisturbed) by reducing surface-disturbing impacts to resources. Reducing the opportunity for motorized OHV use would also have long-term beneficial impacts on other forms of recreation, such as non-motorized use (e.g., hiking, backpacking, mountain biking, dispersed camping), by decreasing user conflicts on trails. See Section 4.12.2.8 for a further analysis of OHV management decisions and impacts.

4.12.2.7.4.4. Noise and Light Mitigation

Noise and light near Dinosaur National Park would be mitigated to levels similar to those described under the Proposed RMP with the same impacts.

4.12.2.7.4.5. Cabins

Under Alternative C no new cabins would be developed, thus having the same impacts as Alternative D (No Action).

4.12.2.7.5. ALTERNATIVE D (NO ACTION)

4.12.2.7.5.1. Back Country Byways

The designation of Back Country Byways are unspecified for this alternative.

4.12.2.7.5.2. SRMAs

Special Recreation Management Areas, activity plans, and non-motorized trail management would be managed as described for Alternative B, with the impacts to recreation as discussed under that alternative.

4.12.2.7.5.3. Trails

Additional motorized trails would not be developed, with impacts similar to those described under Alternative C, but the existing Red Mountain Trail would continue to be managed under current conditions for motorized OHV use, with impacts as described under Alternative C. Alternative D (No Action) would add 55 miles of non-motorized hiking and/or horseback trails along the Green River, in the Dry Fork, Ashley Creek, Beaver Creek, Willow Creek, Nine Mile areas, and in other places within the VPA. It would add 2 miles of mountain bicycle trails along existing rural roads and trails as well as a non-motorized trail in Sears Canyon. The addition of 55 miles of hiking and horse trails and 2 miles of mountain bike trails would have long-term beneficial impacts on recreation, and the recreational opportunities would be enhanced. However, the trail lengths would be limited, potentially creating direct long-term adverse impacts related to user-density, safety, and resource-use conflicts.

4.12.2.7.5.4. Noise and Light Mitigation

Under Alternative D (No Action), management of potential noise and light pollution adjacent to Dinosaur Nation Monument is currently unspecified. Minerals development operations (drilling well pads, infrastructure construction and operation, and lighting of these structures) would continue to adversely affect recreation settings and experiences. Based on the reasonably foreseeable development of fluid minerals within the VPA, it is likely that these impacts would intensify in the long term with increasingly adverse impacts to recreation opportunities and experiences adjacent to the Monument.

4.12.2.7.5.5. Cabins

Under this alternative, management for the construction and operation of additional cabins at or near existing cabins within the VPA is unspecified. Under the current RMP, it is unlikely that there would be beneficial impacts on recreational opportunities nor would there be the likelihood of adverse impacts to wildlife from an additional human presence in or near existing areas with cabins.

4.12.2.7.6. ALTERNATIVE E

4.12.2.7.6.1. Backcountry Byways

No backcountry byways would be designated under this alternative, providing no added backcountry driving or OHV opportunities.

4.12.2.7.6.2. SRMAs

Eight SRMAs (Book Cliffs, Nine Mile, White River, Fantasy Canyon, Pelican Lake, Blue Mountain, Red Mountain-Dry Fork, and Browns Park) would be designated under Alternative E (with the same impacts and acreages as discussed under Alternative C), focusing recreation management on a variety of opportunities. However, management of 277,596 acres of non-WSA lands with wilderness characteristics to protect their wilderness characteristics would shift the focus of recreation to primitive and unconfined activities (e.g., hiking, backpacking, river floating, hunting, and wildlife viewing), opportunities for solitude, and the settings needed to achieve these opportunities. Within the Blue Mountain, Book Cliffs, Browns Park, Nine Mile, and White River SRMAs, there are one or more areas considered to be non-WSA lands with wilderness characteristics; the protection of these areas' wilderness characteristics would enhance opportunities for primitive recreation (see Table 4.12.2 below).

Table 4.12.2. Non-WSA Lands with Wilderness characteristics in SRMAs —Alternative E

SRMA (acres)	Non-WSA Lands with Wilderness Characteristics	Non-WSA Lands with Wilderness Characteristics in SRMA (acres)
Blue Mountain (42,729 acres)	Bourdette Draw	13,328
Book Cliffs (273,486 acres)	Bitter Creek	33,484
	Cripple Cowboy	13,603
	Hells Hole Canyon	2,125
	Rat Hole	11,367
	Sweet Water	6,994
	Wolf Point	10,461
Browns Park (52,720 acres)	Cold Spring Mountain	8,649
	Dead Horse Pass	1,666
	Lower Flaming Gorge	11,296
	Mountain Home	2,102
Nine Mile (81,168 acres)	Desolation Canyon	20,989
White River (47,130 acres)	White River	21,167

With the shift in focus to primitive forms of recreation in portions of these SRMAs, however, opportunities for motorized recreation (e.g., backcountry driving, vehicle-supported camping) and activities at developed recreation sites (campgrounds, interpretive exhibits) would be reduced with the closure of 57 miles of vehicle routes and restrictions on recreation developments to maintain a natural landscape.

4.12.2.7.6.3. Trails

Signing and improving existing trails and developing new hiking, horseback, and mountain biking trails would increase the total number of trail miles to 400, with impacts as discussed under Proposed. The increased number of trail miles would reduce user densities on the trails, potentially alleviating user conflicts and improving individual users' experiences. Increased development of trails and the ensuing increase in human activity could cause increased adverse impacts to cultural and paleontological sites and the recreational and educational value of such sites. Increased visitation would also increase the potential for wildland fire and could lead to temporary closure of affected recreational areas and the temporary reduction of scenic quality in the affected area. New areas for mountain biking are currently being sought. Additional non-motorized trails would provide additional mountain biking opportunities outside of existing and often overcrowded areas elsewhere in the VPA and the state.

Alternative E would not develop or improve motorized trails as is prescribed in Alternative D (No Action). Thus, opportunities for backcountry driving and OHV recreation would be limited to the road and trail system that currently exists. Red Mountain Trail is the only trail currently managed and maintained for motorized use. The lack of additional trails could produce an increase in cross-country travel, thereby increasing the adverse impacts to vegetation, soil, water, wildlife habitat, and scenic quality within the VPA. Without further OHV opportunities, overland riding, user conflicts, elevated user densities, and the decline in visitor safety would continue within the VPA.

Limiting OHV recreation, however, would have a long-term, beneficial effect on soils, riparian and upland vegetation, and wildlife habitat (and the recreational experiences dependent on these resources), by reducing surface disturbance to these resources. Reducing the opportunity for OHV use would also have long-term beneficial impacts on non-motorized forms of recreation (e.g., hiking, mountain biking, backpacking) by decreasing user conflicts on trails. Please refer to Section 4.12.2.8 of the DEIS for a further analysis of OHV management decisions and impacts.

4.12.2.7.6.4. Mitigation of Lights and Noise

The BLM would work in conjunction with the National Park Service and the energy industry to mitigate noise and light pollution adjacent to Dinosaur National Monument. Currently, there are no mitigation procedures in place. Mitigation would have long-term beneficial effects on recreation opportunities by limiting noise and light pollution and the corresponding enhancements in the recreation setting and desired visitor experience.

4.12.2.7.6.5. Cabins

Under Alternative E, no new cabins would be developed, providing no additional support for hunting, mountain biking, hiking, horse back riding/packing, or backcountry driving and OHV use. Without additional cabins for visitor to use, use seasons would not be extended. The impacts would be the same as discussed under Alternative D (No Action).

4.12.2.8. Impacts of Special Designation Decisions on Recreation

Under the Proposed RMP and all of the alternatives, WSAs would be managed to maintain their suitability for designation as Wilderness (according to and as directed in the IMP) until Congress either designates an area as Wilderness or releases an area from wilderness consideration. Wilderness Study Areas within the VPA encompass 53,058 acres (see Special Designation Section 4.16 for a detailed discussion of these areas). The IMP stipulates that these special designation areas would exclude OHV use except on prior, existing "ways," prohibit construction of permanent structures, and preserve wilderness values. The impacts to non-mechanized recreational use would be beneficial in the long term because opportunities would continue to be available for these activities. The impacts to mechanized and motorized users would continue to be adverse in the long term because the opportunities for these activities would be very limited or prohibited.

4.12.2.8.1. Proposed RMP

The effects of special designations management decisions under the Proposed RMP would have impacts on recreation throughout the VPA. Areas of Critical Environmental Concern (ACECs) totaling 131,700 acres would be established or maintained in the following locations:

- Browns Park: 18,490 acres
- Lower Green River: 8,470 acres
- Red Mountain-Dry Fork: 24,285 acres
- Nine Mile Canyon: 44,168 acres
- Lears Canyon: 1,375
- Pariette: 10,437
- Red Creek: 24,475

While managed as ACECs, Browns Park, Nine Mile Canyon, and Red Mountain-Dry Fork would receive comprehensive integrated activity plans, with direct long-term beneficial protection-related impacts that would address SRMA values. Both sites have a broad range of valuable resources including high scenic quality, wildlife habitat, cultural, historic, and recreational opportunities. Each of the above ACEC designations would impact OHV use as such use would either be closed or limited to designated routes. Restrictions on motorized use would be balanced by new trails under the Proposed RMP (see Section 4.12.2.8).

As noted in Section 4.12.1, all proposed ACECs would be available for oil and gas leasing, and subject to valid existing mineral leasing rights. These potential mineral leasings would have long-term adverse impacts on the range of recreational opportunities and the quality of recreation experiences.

The Proposed RMP would have fewer beneficial impacts to recreation due to the decreased acres of special designation areas when compared to Alternative D (No Action). While Alternative D (No Action) would not designate any new ACECs nor expand any currently designated areas,

Alternative D (No Action) would maintain a total of 165,944 ACEC acres within Pariette Wetlands, Red Creek Watershed, Lears Canyon, Browns Park, the Lower Green River, Nine Mile Canyon, and Red Mountain-Dry Fork (34,247 acres more than the Proposed RMP).

The Proposed RMP would continue to protect eligible WSR segments along the Upper and Lower Green River, but this would be less protective than Alternative D (No Action). Under Alternative D (No Action), suitability findings would not be made on either the White or Green rivers, but would maintain and continue to protect eligible segments along the White River, and Upper and Lower Green River. Under the Proposed RMP, segments along Evacuation Creek, Bitter Creek, and Argyle Creek would also not be identified as suitable for Wild or Scenic designation.

4.12.2.8.2. ALTERNATIVE A

Under Alternative A, ACECs totaling 345,850 acres would be established or maintained in the following locations:

- Bitter Creek: 68,834 acres
- Browns Park: 52,721 acres
- Coyote Basin: 87,743 acres
- Lower Green River: 10,170 acres
- Nine Mile Canyon: 48,000 acres
- Red Mountain-Dry Fork: 24,285 acres
- White River: 17,810 acres
- Lears Canyon: 1,375
- Pariette: 10,437
- Red Creek: 24,475

The Bitter Creek ACEC would be designated as an ACEC/Research Natural Area (RNA) due to its high-value, old growth pinyon pines, cultural resources, historic features, and high-quality watersheds. This would have long-term protection-related beneficial impacts on the area, and visitors to this ACEC would benefit from the special protection given to its unique ecosystem.

Coyote Basin would also be designated as an ACEC/RNA due to the white-tailed prairie dog, numerous special status wildlife species, and the high-value ecosystems that support this wildlife. Wildlife viewing opportunities would be enhanced within this ACEC.

While managed as ACECs, Browns Park and Nine Mile Canyon would receive comprehensive integrated activity plans, with direct long-term beneficial protection-related impacts that would address SRMA values. Both sites have a broad range of valuable resources including high scenic quality, wildlife habitat, cultural, historic, and recreational opportunities. Each of the above ACEC designations would impact OHV use as such use would either be closed or limited to

designated routes. Loss of these areas for motorized use would be balanced by new trails proposed under Alternative A (see Section 4.12.2.8).

Managing Red Mountain-Dry Fork as an ACEC for recreational purposes, specifically for OHV use, would enhance the recreation experience, diminish the adverse impacts from OHVs in this area, reduce direct, adverse resource-use conflicts between OHV and non-OHV users, and improve health and human safety.

As noted in Section 4.12.1, with the exception of portions of the White River and the Browns Park ACECs, all of the proposed ACECs would be available for oil and gas leasing, and subject to valid existing mineral leasing rights. These potential mineral leasings would have long-term adverse impacts on the range of recreational opportunities and the quality of recreation experiences from surface disturbances that would affect scenic quality and setting.

This alternative would have more beneficial impacts to recreation due to the increased number of special designation areas than Alternative D (No Action), which would not designate any new ACECs nor expand any currently designated areas.

Alternative A would identify Wild and Scenic River suitability designations along segments of the White River, which would increase the number of free-flowing river miles and preserve cultural and scenic natural resources along the rivers (and thus, the recreational opportunities that are supported by cultural and scenic resources) within the suitability designation areas. These suitability designated river segments would have greater long-term protection-related beneficial impacts on recreation resources than Alternative D (No Action), under which suitability findings would not be made on either the White or Green rivers. Under Alternative A, segments along Evacuation Creek, Bitter Creek, and Argyle Creek would not be identified for Wild or Scenic designation.

4.12.2.8.3. ALTERNATIVE B

Under Alternative B, ACECs totaling 170,886 acres would be established or maintained in the following locations:

- Browns Park: 18,474 acres
- Coyote Basin: 47,659 acres
- Nine Mile Canyon: 44,181 acres
- Red Mountain-Dry Fork: 24,285 acres
- Lears Canyon: 1,375
- Pariette: 10,437
- Red Creek: 24,475

Under Alternative B there would be one new ACEC designated or expanded in the VPA (within Coyote Basin). Coyote Basin would be established as an ACEC/Research Natural Area for protection of the black-footed ferret and associated prey. This ACEC designation would have minor beneficial impacts on recreation, as the area would be designated for the protection and

enhancement of ferret habitat, and recreational opportunities for wildlife viewing would be possible. The total acreage proposed for designation as ACECs under this alternative would be 29,290 acres more than the 141,596 ACEC acres that would be maintained under Alternative D (No Action). Therefore the impacts on recreation under Alternative B would be more beneficial to recreation than Alternative D (No Action).

There would be no new Wild and Scenic River suitability designations under Alternative B but this alternative would maintain previously recommended segments along the Upper and Lower Green River, which would have the same impacts on this recreation resource as Alternative D (No Action).

4.12.2.8.4. ALTERNATIVE C

Under Alternative C, the greatest number of acres within the BLM-administered VPA would be designated as ACECs, when compared to Alternative D (No Action), which would not expand or designate any new ACECs. Areas of Critical Environmental Concern (ACECs) totaling 681,310 acres would be established or maintained in the following locations:

- Bitter Creek and Bitter Creek/PR Spring: 147,425 acres
- Browns Park: 52,721 acres
- Coyote Basin Complex: 124,161 acres
- Four Mile Wash: 50,280 acres
- Lower Green River: 10,170 acres
- Main Canyon: 100,915 acres
- Middle Green River: 6,768 acres
- Nine Mile Canyon: 81,168 acres
- Red Mountain-Dry Fork: 24,285 acres
- White River: 47,130 acres
- Lears Canyon: 1,375
- Pariette: 10,437
- Red Creek: 24,475

Compared to Alternative D (No Action), acreages for ACEC designation would be designated or increased in Bitter Creek, in the Coyote Basin-Snake John- Kennedy Wash sub-complexes, Four Mile Wash, along the Lower and Middle Green River, in Main Canyon, Nine Mile Canyon, and Red Mountain-Dry Fork. These new ACECS or enlarged, existing ACECS, would directly benefit recreation resources as described under Alternative A. The Coyote Basin, Snake John, and Kennedy Wash ACEC would include the Myton Bench and Shiner areas that would also offer protection to reintroduced black-footed ferrets, but would have beneficial impacts on recreation within the VPA, as described under Alternative A. These increases in acreage would beneficially improve and enhance non-motorized recreation opportunities in the long-term as

described in the Proposed RMP, although adverse impacts to recreation from oil and gas leasing could still occur. An ACEC designation for Four Mile Wash would be unique to this alternative and, further, would classify the area as an Outstanding Natural Area because of its high scenic quality, primitive recreational opportunities, riparian ecosystems, and special status fish species. This would have long-term beneficial protection-related impacts on recreation resources. An integrated activity level plan would provide additional site-specific management prescriptions and resource protection. The area would be closed to oil and gas leasing and OHV use would be limited to designated routes, which would have direct, long-term beneficial impacts on the area's recreation resources.

Alternative C would add 164 miles of Wild and Scenic River suitability designations for segments of the White River, Nine Mile Creek, Middle Green River, Evacuation Creek, Bitter Creek, and Argyle Creek, increasing the number of free-flowing river miles and preserving the cultural- and scenic-resource-based recreational opportunities within the designated areas. This alternative would have the greatest number of river miles of Wild and Scenic Rivers designated, having greater long-term direct beneficial impacts on recreation resources when compared to Alternative D (No Action).

4.12.2.8.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would maintain ACECs (totaling 165,944 acres) in the following locations:

- Browns Park: 52,721 acres
- Lower Green River: 8,470 acres
- Nine Mile Canyon: 44,181 acres
- Red Mountain-Dry Fork: 24,285 acres
- Lears Canyon: 1,375
- Pariette: 10,437
- Red Creek: 24,475

The ACECs currently established for the Lower Green River, Lears Canyon, Red Creek, Pariette, Browns Park, Red Mountain-Dry Fork, and Nine Mile Canyon (totaling 141,596 acres) would continue to have long-term beneficial protection-related impacts on recreation within these areas, with impacts to recreation as described under the Proposed RMP.

The Browns Park, Nine Mile Canyon, and Red Mountain-Dry Fork ACECs would continue to be managed as noted in the Proposed RMP, however, management under this alternative would also be less restrictive. Comprehensive integrated activity plans would not be developed and there would be fewer restrictions on oil and gas leasing. Off-highway vehicle use and VRM classifications would be unspecified. Alternative D (No Action) would provide protection to deer winter range, special status species, outstanding scenic, cultural, riparian, and fisheries resources, which would have beneficial, indirect impacts on recreational opportunities.

4.12.2.8.6. ALTERNATIVE E

Fourteen ACECs totaling 681,310 acres would be designated under Alternative E (the same as Alternative C):

- Bitter Creek and Bitter Creek/PR Spring: 147,425 acres
- Browns Park: 52,721 acres
- Coyote Basin Complex: 124,161 acres
- Four Mile Wash: 50,280 acres
- Lower Green River: 10,170 acres
- Middle Green River: 6,768 acres
- White River: 47,130 acres
- Main Canyon: 100,915 acres
- Red Mountain-Dry Fork: 24,285 acres
- Nine Mile Canyon: 81,168 acres
- Lears Canyon: 1,375
- Pariette Wetlands: 10,437
- Red Creek Watershed: 24,475

These ACECs would be designated and managed for a variety of relevant and important values, including natural landscapes and scenery, wildlife, critical wildlife habitat, riparian and wetland ecosystems, old growth forests, cultural and historic properties, and relict vegetation communities. These values provide for a wide variety of recreation opportunities, from motorized to non-motorized activities and developed to dispersed activities in a variety of settings. Management of these values varies from protection of unmodified landscapes and special status wildlife species to development of oil and gas and vegetation manipulation.

Ten of the ACECs designated under this alternative include non-WSA lands with wilderness characteristics (see Table 4.12.3). Non-WSA lands with wilderness characteristics would be managed to protect their wilderness characteristics and to provide opportunities for primitive forms of recreation (e.g., hiking, backpacking, river floating, hunting, wildlife viewing, and nature study) and experiences of solitude in natural, undeveloped settings. Opportunities for motorized recreation (e.g., OHV and backcountry driving) and developed facilities (e.g., interpretive and wayside exhibits) would be provided outside non-WSA lands with wilderness characteristics.

The impacts of these ACEC designations under this alternative would be more beneficial to recreation when compared to Alternative D (No Action) because more acreage would be protected from surface disturbances caused by mineral leasing, mineral materials disposal, new road construction, and ROWs that could otherwise adversely impact recreational opportunities and experiences.

Table 4.12.3. Non-WSA Lands with Wilderness Characteristics in ACECs—Alternative E

ACEC	Non-WSA Lands with Wilderness Characteristics	Acreage of Non-WSA Lands with Wilderness Characteristics
Bitter Creek	Bitter Creek Cripple Cowboy Hells Hole Canyon Rat Hole Sweet Water	33,433 13,579 38 11,337 4
Bitter Creek/P.R. Spring	Bitter Creek Cripple Cowboy Hells Hole Canyon Sweet Water	7 15 2,087 6,982
Browns Park	Cold Spring Mountain Diamond Breaks Dead Horse Pass Lower Flaming Gorge Mountain Home	8,649 1 1,665 11,274 2,089
Coyote Basin–Snake John	Bourdette Draw	13
Four Mile Wash	Desolation Canyon	43,014
Lower Green River	Desolation Canyon	5,242
Main Canyon	Wolf Point	11,783
Nine Mile Canyon	Desolation Canyon	19,470
Red Creek Watershed	Cold Spring Mountain Mountain Home	76 4,976
White River	White River	21,167

4.12.2.9. Impacts of Travel/Roads and Trails Decisions on Recreation

4.12.2.9.1. Proposed RMP

Under the Proposed RMP, areas within the VPA designated as Open to OHV cross-country travel would be limited to approximately 6,202 acres (a decrease of approximately 781,657 acres when compared to Alternative D, No Action). The impacts of limiting the number of open-designated acres would be long-term direct and indirect, adverse and beneficial on recreation. Long-term direct adverse effects would include the reduction in opportunities for OHV cross-country recreation-related travel. This loss would be offset by the 800 miles of trails proposed for OHV use in Alternative A. However, the long-term, beneficial effects of increased protection of soil, water, and wildlife habitat (which would preserve the quality of recreational activities associated with these resources) would counter the adverse effects of travel decisions. The reduction in noise, surface disturbances, visual quality degradation, and resource-use conflicts with other recreational activities would have direct long-term beneficial impacts on recreation. Indirect beneficial impacts to recreational activities that require high visual quality would result from the reduction in soil erosion and fugitive dust produced by OHV activities.

Areas designated as Limited to Designated Routes for OHV travel would be increased to 1,643,475 acres (an increase of 756,200 acres from current management as discussed in Alternative D, No Action), which would have direct long-term beneficial impacts on recreation by increasing the level of OHV management within the VPA. This would have direct beneficial impacts on recreation by reducing recreational resource-use conflicts. Under the Proposed RMP, OHV travel limited to designated routes would include the 106,178 acres of non-WSA lands with wilderness characteristics.

Designating areas as Closed to OHV travel would be increased from 50,388 acres (under Alternative D, No Action) to 75,845 acres (an increase of 25,457 acres) and the miles of designated routes would increase from zero miles under existing conditions (Alternative D, No Action) to 4,860 miles. This increase in designated closed OHV routes would have direct, long-term beneficial impacts on other non-motorized recreational opportunities activities by reducing recreation resource-use conflicts, and by reducing the OHV-related disturbances to soil, water, and wildlife habitat resources. Increasing the number of OHV closed acres within the VPA would have minor restriction-related adverse impacts on OHV use, but the long-term direct and indirect benefits of reduced surface disturbances and reduced resource-use conflicts with other recreational activities would counter the adverse effects on OHV use.

4.12.2.9.2. ALTERNATIVE A

The impacts of travel decisions on recreation would be the same as discussed above under the Proposed RMP because the management decisions are the same.

4.12.2.9.3. ALTERNATIVE B

Areas open to OHV travel would decrease to 5,434 acres (a decrease of 782,425 acres when compared to current management as described in Alternative D, No Action).

Areas limited to OHV travel would increase to 1,659,901 acres (an increase of 772,626 acres from current management as described in Alternative D, No Action).

Areas closed to OHV travel would increase to a total of 60,187 acres (an increase of 9,799 acres compared to Alternative D, No Action), the least amount of all the alternatives.

The number of miles of routes designated would increase from zero miles under existing conditions (Alternative D, No Action) to 4,860 miles.

The effects of Alternative B would be similar to those described under the Proposed RMP, for areas open to OHV travel. Areas designated as closed to OHV use would be reduced, which would reduce surface disturbances caused by overland OHV travel. Alternative B would have long-term beneficial impacts on other recreation resources similar to those described under the Proposed RMP.

4.12.2.9.4. ALTERNATIVE C

The impacts of road, trail, and OHV management decisions would be similar to those described under the Proposed RMP. There would be 5,434 acres open to cross-country OHV travel (the same as Alternative B), and the impacts of open OHV areas would be similar to those described under the Proposed RMP.

Areas designated as limited to designated routes for OHV travel would be increased to 1,353,529 acres (an increase of 466,254 acres from current management as described in Alternative D, No Action), allowing for increased use in a more managed setting, and potentially sustaining the existing levels of OHV use.

Areas closed to OHV travel would be increased from 50,388 acres (under Alternative D, No Action) to 366,559 acres, which would have direct long-term beneficial impacts on soil, water, and wildlife habitat resources.

The number of miles of routes designated would increase from zero miles under existing conditions to 4,707 miles.

Alternative C would be the most restrictive on OHV use. A decrease in the number of acres available for OHV use would have long-term beneficial impacts on other non-motorized forms of recreation by reducing resource-user conflicts and by enhancing and/or protecting recreation resources as described under the Proposed RMP.

Alternative C would also provide the highest degree of protection for natural resources, and create the lowest potential damage to natural resources from OHV-caused surface disturbances. This would have direct and indirect long-term beneficial impacts on all recreational activities within the VPA.

4.12.2.9.5. ALTERNATIVE D (NO ACTION)

Current management practices designate a total of 787,859 acres as open to cross-country OHV travel, 887,275 acres as limited to designated routes, and 50,388 acres as closed to OHV use. No OHV routes would be designated under this alternative. Travel management under current conditions would be less restrictive to OHV users when compared to the action alternatives, but would maintain the current adverse impacts to natural and cultural resources and to non-motorized users, as discussed above. The adverse impacts of OHV-caused surface disturbances to soil, water, visual quality, and wildlife habitat would continue, as would recreational resource-use conflicts between motorized, non-motorized, and non-mechanized recreation resource users.

4.12.2.9.6. ALTERNATIVE E

Under Alternative E, 5,434 acres would be open to cross-country OHV travel, the same as under Alternatives B and C and a reduction of 782,425 acres from Alternative D (No Action). Under this alternative, motorized travel would be focused on designated routes, not cross-country.

While the experience of cross-country driving would be limited to 5,434 acres, motorized travel for access and recreation would still be available on 4,654 miles of road and trails.

The area limited to designated routes for OHV travel would increase to 1,326,024 acres (an increase of 438,749 acres) from current management described in Alternative D (No Action). Limiting motorized travel to designated routes would emphasize an "on-road/trail" experience of varying degrees of challenge and risk, depending on the quality of the route traveled. Further limiting motorized travel to designated routes would place more management controls on the traveler, but sustaining the existing levels of OHV use is anticipated. The number of miles of routes formally designated for motorized use would increase from 0 miles under existing conditions (Alternative D, No Action) to 4,654 miles under Alternative E, although these routes would still be driven under Alternative D (No Action).

Areas closed to OHV travel would increase to 392,818 acres (an increase of 342,430 acres) from current management in Alternative D (No Action). Closure to cross-country travel would have direct long-term beneficial impacts on soils, water, and wildlife habitat and on the primitive and non-motorized forms of recreation dependent on those resources and settings. In the areas closed to OHV travel, the focus would be placed on primitive and non-motorized forms of recreation, including hiking, backpacking, river floating, hunting, wildlife viewing, nature study, sightseeing, and others. Included in the areas closed to OHV travel would be the 24 non-WSA lands with wilderness characteristics (277,596 acres). Here, recreation emphasis would be placed on primitive forms of recreation, experiences of solitude, and the undeveloped settings that support those activities and experiences.

There are 228 miles of routes that exist in the non-WSA lands with wilderness characteristics. Under this alternative, these routes would be closed to motorized travel, foreclosing the opportunity for backcountry driving, vehicle-supported camping, and other motorized forms of recreation.

4.12.2.10. Impacts of Visual Resource Management Decisions on Recreation

The following activities are dependent on visual resources and would be affected more by decisions related to visual resources:

- Sight-seeing (the primary reason for current visitation to the VPA)
- Scenic driving
- Wildlife viewing
- Nature study

Many recreational activities in the VPA are related, in some way, to scenic quality. The degree to which scenic quality would be maintained is directly related to the degree to which the recreational experience would be maintained. Because VRM Classes I and II are most desirable for the recreation experience, the long-term beneficial effects of VRM upon recreation under the Proposed RMP and each alternative are represented as acreages categorized as VRM Class I or

Class II. Table 4.12.4 below summarized the VRM class designations within the BLM-administered portion of the VPA.

Table 4.12.4. VRM Class Acreages for the Proposed RMP and each Alternative

VRM Class	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
VRM I	57,776	63,136	52,764	145,781	53,086	334,516
VRM II	231,911	294,773	114,030	362,660	113,686	259,694
VRM III	786,612	716,186	199,179	580,846	199,192	535,586
VRM IV	643,641	645,845	1,353,967	630,653	1,353,976	590,144
Total	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**
VRM I and II	**289,687**	**357,909**	**166,794**	**508,441**	**166,772**	**594,210**
VRM III and IV	**1,430,253**	**1,362,031**	**1,553,146**	**1,211,499**	**1,553,168**	**1,125,730**

4.12.2.10.1. PROPOSED RMP

The Proposed RMP would increase the current acreage of VRM Classes I and II by 122,915 acres (from 166,772 acres under Alternative D (No Action) to 289,687 acres under the Proposed RMP). This increase would more have long-term beneficial effect on recreation throughout the VPA, when compared with Alternative D (No Action).

4.12.2.10.2. ALTERNATIVE A

Alternative A would increase the current acreage of VRM Classes I and II by 191,137 acres to a total of 357,909 acres. This increase would have more long-term beneficial effect on recreation throughout the VPA, when compared with Alternative D (No Action).

4.12.2.10.3. ALTERNATIVES B AND D (NO ACTION)

Maintaining 166,794 acres as VRM Classes I and II under Alternative B (very similar to acreages designated under Alternative D, No Action) would have the same low protection-related beneficial impacts on the scenic quality component of recreation resources as Alternative D (No Action).

4.12.2.10.4. ALTERNATIVE C

The management actions under Alternative C would increase VRM Class I and Class II designated areas by 341,669 acres to 508,441 acres throughout the BLM administered VPA. When compared to current conditions under Alternative D (No Action), this large increase in area for the preservation of scenic quality would have greater long-term beneficial effects on recreational opportunities and activities.

4.12.2.10.5. ALTERNATIVE E

Under this alternative, there would be approximately 594,210 acres managed by VRM Class I (preserve the landscape character) and Class II (retain the landscape character) objectives. Class III (partially retain the landscape character) and Class IV (provide for landscape modification) objectives would be prescribed for 1,125,730 acres. Class I and II objectives would limit landscape change but would provide for dispersed and undeveloped recreation opportunities. The opportunities would include a variety of motorized and non-motorized activities like camping, hiking, backpacking, river floating, wildlife viewing, hunting, nature study, and picnicking. Backcountry driving and OHV use would be permitted on designated roads and trails. However, recreation requiring developed sites like campgrounds, picnic areas, or interpretive sites would not be permitted in Class I areas. Non-WSA lands with wilderness characteristics (277,596 acres) would be managed by VRM Class I objectives and provide the same recreation opportunities as described above, except backcountry driving or OHV use. Routes in non-WSA lands with wilderness characteristics would be closed to motorized use in these areas.

4.12.2.11. SUMMARY

4.12.2.11.1. PROPOSED RMP

The Proposed RMP would have a moderate degree of adverse impacts when compared to the action alternatives and major beneficial impacts when compared to Alternative D (No Action).

- Increases in oil and gas production would have major adverse impacts on recreational opportunities.
- Increases in OHV management would have adverse impacts on mechanized recreation, by restricting OHV recreational opportunities in the VPA.
- Increases in OHV management would have beneficial impacts on non-mechanized recreation through protection of wildlife, wilderness values, and the reduction of user conflicts.
- Protection of areas as ACECs and management of SRMAs would have a major beneficial impact on recreation. SRMA acreages would be increased from 87,931 to 133,560.

4.12.2.11.2. ALTERNATIVE A

This alternative would have impacts from minerals development similar to the Proposed RMP alternative, with a moderate degree of adverse impacts when compared to the other action alternatives and major beneficial impacts to recreation when compared to Alternative D (No Action).

- The acreages designated for OHV management would be the same as the Proposed RMP.
- SRMA acreages would be increased to 499,620, and ACEC designation would be increased to 345,850 acres.
- Designation of 357,909 acres of the VPA under VRM Classes I and II for protection of scenic quality.

- Minerals leasing acreage greater than all of the alternatives except Alternative B.

4.12.2.11.3. ALTERNATIVE B

This alternative would have the most adverse impacts to recreation resources due to the large number of acres available for oil and gas leasing. This alternative would permit the most acres within the VPA for surface-disturbing minerals development.

- Protection of wildlife and special status species would be the least under this alternative, with the greatest adverse impacts to recreation values and opportunities that are related to these resources.
- No new ACECs would be designated under this alternative, with 123,227 acres maintained as ACECS (less than Alternative D) so there would be fewer resource protection-related beneficial impacts to recreation from these designations than under the current RMP. SRMA acreages would be the same as Alternative D (No Action) (87,931)
- Limited protection of visual resources would have major adverse impacts on recreational opportunities in which scenic quality is an important component.

4.12.2.11.4. ALTERNATIVE C

This alternative would have the most beneficial impacts on recreation.

- Designation of additional ACECs and eligibility designations of Wild and Scenic River segments would have beneficial impacts or recreation. Designation of the most acreage for SRMA management (522,604) would have major beneficial impacts on all forms of recreation.
- Limits on OHV travel would be greatest under this alternative, producing adverse impacts on mechanized recreational opportunities and beneficial impacts on non-mechanized recreation.
- Limits on oil and gas leasing and increased protection of wildlife and special status species would produce the most beneficial impacts and the least adverse impacts on recreation.
- Designation of the most acreage of the VPA under VRM Classes I and II would provide the most protection to visual resources, and therefore would provide the greatest beneficial impacts to those recreational opportunities in which scenic quality is an important recreational component.

4.12.2.11.5. ALTERNATIVE D (NO ACTION)

Oil and gas leasing would have a major adverse impact on recreation.

- Lack of limits on OHV use would have major beneficial impacts on motorized recreation, and major adverse impacts on all other types of non-motorized recreation.

- Protecting 141,596 acres currently designated as ACECs) with no eligible Wild and Scenic River segments (but with maintained protection of segments along the Upper and Lower Green River) would provide protection-related beneficial impacts to recreation.
- Limited protection of visual resources would have major adverse impacts on recreational opportunities in which scenic quality is an important component.

4.12.2.11.6. ALTERNATIVE E

The focus of this alternative would be the protection of non-WSA lands with wilderness characteristics. That protection would have substantial beneficial impacts on primitive and non-mechanized recreation activities, but it would exclude OHV use on 228 miles of routes and activities dependent on developed sites (e.g., campground and interpretive facilities).

- Designation of ACECs and protection of suitable Wild and Scenic River segments would benefit undeveloped forms of recreation dependent on those settings. Designation of SRMA acreages the same as Alternative C (522,604 acres) would have major beneficial impacts on recreational opportunities within the VPA.
- OHV travel would be limited under this alternative, reducing opportunities for cross-country driving, focusing motorized travel to designated routes, and creating added opportunities for non-motorized recreation.
- Management for preservation and retention of the existing landscape character (VRM Classes I and II objectives) would provide the most opportunity for activities and experiences dependent on natural and undeveloped settings.

4.12.2.12. MITIGATION MEASURES

All of the alternatives would affect recreation resources to varying degrees and so would require varying forms of mitigation measures.

Mitigation measures would include:

- Where prescribed fire treatments overlap recreation areas, promoting recreational use of other areas with similar recreational opportunities.
- Maintaining wildlife viewing opportunities by following mitigation recommendations in the Wildlife and Minerals portions of this RMP.
- Controlling fugitive dust with dust suppressants along scenic byways, oil and gas development areas, and major recreational access routes.
- Separating recreational uses and opportunities, temporally or spatially, to mitigate conflict between user groups.
- Educating the users of recreation resources on the impacts that their activities have on the natural environment, in an effort to reduce the adverse impacts on natural resources, especially by OHV users.

4.12.3. UNAVOIDABLE ADVERSE IMPACTS

Some mineral development activities associated with the management actions of the Proposed RMP and the alternatives would have unavoidable, adverse impacts on recreation resources. Exploration and development would fragment hunting areas and impact OHV and non-motorized trails.

4.12.4. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Short-term use of recreation resources in the VPA would result in negligible impacts on the long-term productivity of the resource.

4.12.5. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

No irreversible impacts to recreation resources or activities are anticipated. There would likely be irretrievable impacts to recreation resources (from a loss of vegetation and from surface disturbances directly and indirectly causing a reduction in scenic quality) produced by cross-country OHV use, and by minerals development in areas formerly used for solitary, remote, and unconfined recreation.

4.13. RIPARIAN AND WETLAND RESOURCES

Impacts to riparian areas in the VPA would be a result of surface-disturbing activities and forage use both within and outside of the riparian zones and are subject to restrictions to insure conditions are improved or at least not degraded. The Utah BLM Standards for Rangeland Health apply to riparian resources in the VPA. The Proposed RMP and all alternatives must adhere to Standard 2 of these standards, "Riparian and wetland areas [must be] in properly functioning condition (PFC). Stream channel morphology and functions are appropriate to soil type, climate, and function" (BLM 1997).

As identified in the preliminary riparian inventory, the VFO would maintain 295 miles and 3,674 acres of riparian areas currently in proper functioning condition. Also, the VFO would improve 133 miles and 1,452 acres functioning at risk and 79 miles and 1,213 acres not in properly functioning condition. These are preliminary numbers and will change as the inventory is completed. Monitoring by the permittee and the BLM would be used to determine the trend and condition of riparian areas (considering the soil type, climate, and land form). Site-specific conditions would need to be documented before modifying any prescriptions.

There are several potential impacts that would adversely affect riparian resources:

- Upland surface disturbance could cause a loss of vegetation that could accelerate soil erosion, which would in turn cause sedimentation in adjacent streams.
- Loss of riparian vegetation would lead to reduced riparian condition and loss of PFC.
- Degradation of riparian-wetland soils would lead to reduced riparian condition and loss of PFC.
- Drawdown of groundwater levels from oil, gas, and CBNG leasing could lead to dewatering of riparian areas.
- Roads would result in an indefinite to permanent loss of vegetation that can increase soil erosion and sedimentation. This can potentially result in channel instability and changes in channel types and/or less stable to instable channel cross sections in certain watersheds.

Decisions making lands unavailable for upland surface disturbance and riparian corridor disturbance may benefit riparian resources. Beneficial impacts may result from stubble height requirements, utilization levels, reduced use, and season of use changes that are proposed in some of the alternatives.

4.13.1. IMPACTS COMMON TO ALL

Under the Proposed RMP and all alternatives, management actions for the following resources would result in negligible impacts to riparian resources: air quality, cultural resources, hazardous materials, human health and safety, and paleontological resources. This is because protecting air quality, maintaining safety around AML sites and reducing the risks of hazardous materials spills and spill-site cleanup, protecting cultural resources under Section 106, protecting known fossil areas for fossil scientific study and recreational fossil collection, and would neither degrade nor improve the water, soil and vegetation components that comprise riparian resources.

Accordingly, the impacts of management actions for each of these resources are not analyzed further in this section.

The BLM would take measures to ensure riparian area productivity and sustainability in the event of wildland fire, drought, or other natural disasters, by reducing or eliminating livestock, wild horses, and/or wildlife forage allocations, reducing or eliminating recreational activities (camping and campfires, OHV use, etc.), and reducing or eliminating mineral exploration and acquisition until riparian conditions are properly functioning. Cultural and paleontological resource management would not have any effect on riparian resources.

Fire Management practices would have short-term, direct adverse impacts to riparian resources through practices such as prescribed burning or fuels reduction by increasing erosion rates, which could result in stream sedimentation. However, these fire management activities would reintroduce the natural fire return interval in the long term, decreasing or eliminating the occurrence of catastrophic rangeland fires, and promoting more productive rangelands, resulting in less soil degradation and subsequent stream sedimentation.

Effects to riparian resources specified under forage and wild horse management decisions would be short-term, direct, and potentially beneficial, depending on season of use and duration. These decisions would also have long-term direct beneficial impacts to riparian resources by improving riparian conditions. AUMs would be adjusted for livestock, wild horses, and/or wildlife when monitoring shows that riparian condition is not at PFC.

Effects from lands and realty decisions would be direct and long-term. Land withdrawals would have a beneficial effect on riparian resources by precluding areas from mineral entry and would result in riparian resource protection. Increasing visitor access to river segments would have long-term, indirect adverse impacts to riparian resources by increasing visitor traffic, bank trampling, and spread of noxious weeds. With respect to right of ways, the BLM has strict riparian area reclamation and restoration guidelines regarding linear projects such as pipelines; therefore, no impacts are expected.

Long-duration grazing would impact riparian areas through loss of vegetative cover and trampling of soils, potentially leading to riparian area degradation. Limited livestock grazing, when properly managed, would benefit riparian areas by stimulating new growth in riparian vegetation. Effects on riparian vegetation vary between seasons of use. For example, grazing riparian areas in late spring allows vegetation to grow through summer and into the fall, where it can protect banks during critical spring runoff and late summer thunderstorms. Any changes to season of use or AUMs would need to be in compliance with Standard 2 (and all other standards) of the Utah BLM Standards for Rangeland Health.

Effects of minerals decisions on riparian resources would be adverse, long-term, and direct, resulting in upland erosion and subsequent stream sedimentation through surface-disturbing activities. The impacts analysis represents relative risks of adverse impacts to riparian resources for the Proposed RMP and all alternatives, due to the incomplete riparian inventory data. Site-specific analyses would need to be undertaken on a case-by-case basis to establish quantitative impacts. Reclamation and restoration of oil and gas, locatable minerals, surface minerals, and

alternative energy sites would be required upon abandonment of the site, resulting in less stream sedimentation. The risks of accidental release of hazardous materials and petroleum products from oil and gas leasing (which includes CBNG) sites would also have an indirect, long-term, adverse impact on riparian resources. Drawdown of groundwater due to techniques used to extract oil, gas, and CBNG could lead to dewatering of riparian areas, increasing the risks of invasive species introduction and reducing water available for riparian ecosystems. Additionally, road development providing access to oil and gas leasing (which includes CBNG) would increase risks sediment runoff and noxious weed infestation into previously undeveloped areas. More roads would also increase access for illegal OHV use in remote riparian areas. Surface mineral developments would not be placed in wetlands and would be at least 100 m from riparian zones, and must occur outside the 100-year floodplain. These stipulations on surface disturbance are discussed in Appendix K, and would be used unless there are no practical alternatives or impacts would be fully mitigated. The limits placed on surface disturbance from locatable minerals would limit the adverse impacts from these activities and there is no measurable difference between alternatives.

Depending on the construction methods and materials used, roads built across riparian areas would result in a direct loss of riparian habitat at the crossing site. The loss of habitat would continue until the reclamation of the road occurs and traffic diminishes to a point that riparian habitat can re-establish itself.

The effects of rangeland improvements on riparian areas would be beneficial, long-term, indirect, and direct. Vegetation treatments would ultimately reduce stream sedimentation and improve riparian vegetative cover. Fencing of riparian areas would reduce impacts from grazing in these areas and development of other water sources away from riparian areas would limit grazing use of river corridors.

The effects of recreation decisions on soils would generally be long-term, indirect, and beneficial, by limiting OHV use to designated areas and by providing management for areas as SRMAs. Adverse effects would occur from increased visitor traffic, development of trails, and OHV use. Adverse impacts would include trampling of banks, compaction of soils, and spread of noxious weeds. Where limits are place on OHV travel off designated routes for big-game retrieval, beneficial effects would occur. The "Tread Lightly" program is invaluable in educating OHV users to stay on existing trails, thereby decreasing impacts to riparian areas. "Sacrifice" areas would be designated for OHV users in areas that are not ecologically sensitive and present little or no risk to riparian condition and other components identified in the Utah BLM Standards for Rangeland Health.

Riparian management would be designed to improve riparian conditions. The effects of maintaining minimum vegetation stubble height thresholds on riparian vegetation would be beneficial, long-term, and direct. Maintaining plant stubble along the banks traps sediment and reduces stream bank erosion, thereby maintaining or enhancing riparian condition. Managing herbaceous and woody vegetation in riparian areas would have long-term direct beneficial effects by trapping sediment, attenuating floods, and providing stability for banks during periods of high flow. Proper functioning condition is the minimum acceptable goal for riparian areas. Riparian-

wetland areas would be maintained, restored, protected, and/or expanded to achieve PFC with respect to soils, vegetation, and hydrology/water quality.

Soils and watershed management would be beneficial to riparian areas by limiting surface disturbance and requiring erosion control on slopes steeper than 20%. Note: The percent varies by alternative and the Proposed RMP, but they all call for restrictions on slopes greater than 20%. Slopes below 20% would not be required to have erosion control plans and would have short-term adverse impacts to riparian areas through increased sedimentation and runoff. The BLM would reduce or eliminate the discharge of pollutants and sediment into surface waters with stipulations on surface disturbance, providing protection for fish, amphibians, wildlife, and water recreation. Oil and gas well pads would not be permitted in active floodplains, protecting watersheds and riparian areas from sedimentation as well. The BLM would examine the effects of prescribed fire, post fire management, invasive weed control, energy development, grazing, OHV use, and range improvement projects prior to taking action.

Special designation areas would have long-term direct beneficial effects to riparian areas, where management plans are designed to protect riparian ecosystems or limit surface disturbance by designating VRM Class I and II areas. WSR designations would have direct, long-term beneficial impacts to riparian resources by limiting development along river corridors. Increased visitor traffic would have long-term indirect adverse impacts due to increases in bank trampling and recreational use of these river segments. Wilderness study areas would be managed in a manner that does not impair riparian condition, as per Standard 2 of the Utah BLM Standards for Rangeland Health. These designations would not allow surface disturbance, thereby providing direct protection for riparian areas.

The effects of special status species on riparian resources would be beneficial, long-term, and direct by limiting surface development. The Proposed RMP and each of the alternatives offers varying level of protection to special status species and their habitats by placing no-disturbance buffers around critical habitat (e.g., raptor nests). Habitat protection indirectly equates to reduced soil disturbance and stream sedimentation. Inventories of these plant and animal resources would provide well-defined protection areas. Ute ladies'-tresses is the only TES plant that occurs in riparian areas within the VPA. The protection of this species' habitat would provide beneficial, long-term effects to riparian areas through limitation of surface-disturbing activities under all alternatives.

Travel decisions would have direct and indirect, short- and long-term beneficial impacts to riparian resources where newly permitted roads and trails are obliterated or returned to their original condition. Repair by maintenance, upgrade, or realignment of roads causing resource damage, and installation of water crossings designed to allow the free passage of aquatic life would be beneficial to riparian resources as well. Direct and indirect, long- and short-term adverse impacts would occur where riparian areas on BLM land are within areas open to OHV use with no limits on travel.

VRM decisions would be beneficial and long term, and would directly affect riparian resources by precluding some areas from surface disturbance due to their proximity to highways, scenic areas, and special designations. However, adverse, short-term, indirect impacts would occur if

vegetation treatments could not be implemented in VRM-sensitive areas. VRM classes range from I to IV; Class I lands are not open to surface disturbance (full retention), and Class IV lands are available for full development.

Wildlife and fisheries management would have limited direct effects on riparian resources. Introduction of moose populations would have long-term, indirect beneficial impacts on riparian resources by increasing biodiversity in these areas. The BLM would provide habitat for a diversity of wildlife and fish species by limiting fragmentation, resulting in less surface disturbance and stream sedimentation. The effects of wildlife management decisions on riparian resources would be beneficial, long term, and indirect, by limiting surface development within specified wildlife buffer zones. Most of the wildlife and fisheries management decisions involve seasonal constraints and would not necessarily preclude surface-disturbing activities. The only measurable component of wildlife and fisheries management decisions on riparian resources would be the preservation of crucial deer winter range and the enhancement of winter range to mitigate surface disturbance. The Proposed RMP and all alternatives are similar with respect to their effects on riparian resources.

Woodlands and Forest management would generally have long-term indirect, beneficial impacts to riparian resources. The BLM would follow national BLM Forest Health and Forest Management Standards and Guidelines to achieve desired future conditions, and minimize impacts to riparian resources, while providing for multiple forest product use. Adverse, short-term, direct impacts to riparian resources would occur with treatments and harvesting in the form of sedimentation. However, in the long term, treatments and harvesting would have the potential to reintroduce natural fire return intervals, reducing stream sedimentation through fewer catastrophic fires.

4.13.2. THE PROPOSED RMP AND ALTERNATIVES IMPACTS

Surface-disturbing activities for the Proposed RMP and all alternatives and all effects would generally be adverse to riparian resources through sedimentation. Surface stipulations in Appendix K would be applied to all surface-disturbing activities, and would limit disturbance of riparian areas. Exceptions to these stipulations could be authorized if: a) there are no practical alternatives; b) impacts could be fully mitigated; or c) the action is designed to enhance the riparian resources. Additionally, mineral developments require a network of access roads, which typically require some form of water crossing. The duration of these impacts is dependent on the action.

4.13.2.1. IMPACTS OF FIRE MANAGEMENT DECISIONS ON RIPARIAN RESOURCES

4.13.2.1.1. ALTERNATIVES A, B, C, E, AND THE PROPOSED RMP

Alternatives A, B, C, E, and the Proposed RMP would allow approximately 3 times more acreage of prescribed burning in the short term than Alternative D (No Action) (156,425 acres versus 50,900 acres). However, in the long term, these fire management activities would reintroduce the natural fire return interval to an area 3 times greater than that proposed in Alternative D (No Action). This would decrease or eliminate the occurrence of catastrophic

wildland fires, which often require aggressive suppression, promoting more productive rangelands with less soil erosion and stream sedimentation.

4.13.2.1.2. ALTERNATIVE D (NO ACTION)

Long-term benefits to riparian resources from prescribed fire would be three times less under Alternative D (No Action) than under other alternatives because the area for proposed fire treatments would be smaller.

4.13.2.2. IMPACTS OF FORAGE AND WILD HORSE MANAGEMENT DECISIONS ON RIPARIAN RESOURCES

4.13.2.2.1. ALTERNATIVES A, B, AND THE PROPOSED RMP

Total AUMs for Alternatives A, B, and the Proposed RMP would be similar; however, Alternative B would have 10% greater forage utilization than Alternative A and the Proposed RMP. Greater forage utilization and more AUMs would put greater stress on riparian areas through loss of cover and trampling. This could potentially result in loss of PFC. The Proposed RMP and these alternatives provide more beneficial impacts to riparian resources than Alternative D (No Action), which has unspecified forage utilization.

4.13.2.2.2. ALTERNATIVE C

Alternative C has the most beneficial impacts to riparian resources relative to Alternative D (No Action) through reductions in livestock use and retention of AUMs for watershed in many localities.

4.13.2.2.3. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) generally provides no specifications for forage utilization and has the highest allocation of AUMs; therefore, it would provide the least beneficial impacts to riparian resources.

4.13.2.2.4. ALTERNATIVE E

The impacts would be the same as Alternative C because the decisions are the same.

4.13.2.3. IMPACTS OF LANDS AND REALTY DECISIONS ON RIPARIAN RESOURCES

4.13.2.3.1. ALTERNATIVE A AND THE PROPOSED RMP

Alternative A and the Proposed RMP would pursue public access to the White River at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. Additionally, Alternative A and the Proposed RMP would pursue acquisition of Indian Trust lands in Bitter Creek and near the confluence of South and Sweetwater Canyons. These actions would have greater long-term, indirect adverse impacts to riparian resources than Alternative D (No Action), by increasing

visitor use, thereby increasing trampling of banks and spread of noxious weeds. The Proposed RMP and Alternative A would preclude mineral entry on 22,814 acres of land withdrawals, and would therefore have less indirect beneficial impacts to riparian resources than Alternative D (No Action), which would preclude mineral and agricultural entry on 35,900 acres of withdrawal lands.

4.13.2.3.2. ALTERNATIVE B

Alternative B would not pursue public access to any new lands nor acquisition of Indian Trust lands, therefore would have similar impacts to Alternative D (No Action). This alternative would preclude mineral entry on 19,202 acres of withdrawal lands, therefore having similar impacts to Alternative A.

4.13.2.3.3. ALTERNATIVE C

Lands and realty decisions and impacts under Alternative C are similar to Alternatives A and the Proposed RMP, except more protective of riparian resources because the BLM would also pursue an easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Wash. Land withdrawal decisions would be similar to Alternative A and the Proposed RMP, except that 13,451 additional acres would be precluded from mineral entry. Alternative C would have slightly greater indirect beneficial impacts to riparian resources than Alternative D (No Action), because 365 more acres would be withdrawn from mineral entry.

4.13.2.3.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) precludes mineral and agricultural entry on 35,900 acres of land. Land access decisions are unspecified under Alternative D (No Action).

4.13.2.3.5. ALTERNATIVE E

Alternative E would have similar impacts to Alternative C with the exception that the 277,597 acres determined to have non-WSA wilderness characteristics would not be available for disposal or exchange. Riparian areas that lie within non-WSA areas with wilderness characteristics would remain in public ownership and be managed as ROW exclusion areas, which would have additional long-term, beneficial protection-related impacts on riparian resources.

4.13.2.4. IMPACTS OF LIVESTOCK AND GRAZING DECISIONS ON RIPARIAN RESOURCES

4.13.2.4.1. ALTERNATIVE A AND THE PROPOSED RMP

Alternative A and the Proposed RMP would use a phenology-based system for timing livestock use. This system would use timing of vegetation growth to determine proper grazing limits. Due to limits on grazing time, the Proposed RMP and Alternative A would provide an intermediate amount of direct, long-term beneficial impacts to riparian resources, as compared to Alternatives

B and C. The Proposed RMP and Alternative A would provide greater direct, long-term beneficial impacts than Alternative D (No Action).

4.13.2.4.2. ALTERNATIVE B

Alternative B would use a billed use-based system for timing livestock use. This system would generally allow more time for grazing than all other alternatives, therefore having more direct, long-term adverse impacts to riparian resources than Alternative D (No Action).

4.13.2.4.3. ALTERNATIVE C

Alternative C would use an adjudicated system for timing livestock use. This system would allow the least time for grazing, compared to all alternatives. The direct, long-term beneficial impacts to riparian resources would be the highest, as compared to Alternative D (No Action).

4.13.2.4.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would use a permitted system for timing livestock use. This system is currently in use and provides an intermediate amount of impacts between other alternatives.

4.13.2.4.5. ALTERNATIVE E

The impacts on riparian resources would be the same as Alternative C because the resource decisions are the same.

4.13.2.5. IMPACTS OF MINERALS DECISIONS ON RIPARIAN RESOURCES

4.13.2.5.1. PROPOSED RMP

The Proposed RMP would potentially develop approximately 6,283 oil, gas, and CBNG wells, which is 535 more than Alternative D (No Action). The Proposed RMP would have a higher risk of more indirect, short- and long-term adverse impacts to riparian resources, due to a higher number of wells, more roads, and more acreage of surface disturbance, as compared to Alternative D (No Action).

4.13.2.5.2. ALTERNATIVE A

Alternative A would potentially develop approximately 6,391 oil, gas, and CBNG wells, which is 428 more than Alternative D (No Action). This alternative would have a higher risk of more indirect, short- and long-term adverse impacts to riparian resources, due to a higher number of wells, more roads, and more acreage of surface disturbance, as compared to Alternative D (No Action).

4.13.2.5.3. ALTERNATIVE B

Alternative B would potentially develop approximately 6,391 oil, gas, and CBNG wells, which is 535 more than Alternative D (No Action). This alternative would have the highest risk of indirect, short- and long-term adverse impacts to riparian resources due to a higher number of wells, more roads, and more acreage of surface disturbance, as compared to Alternative D (No Action).

4.13.2.5.4. ALTERNATIVE C

Alternative C would potentially develop approximately 6,224 oil, gas, and CBNG wells, which is 368 more than Alternative D (No Action). Compared to Alternatives A and B, this alternative would have the lowest risk of indirect, short- and long-term adverse impacts to riparian resources due a lower number of wells, fewer roads, and fewer acres of surface disturbance. Compared to Alternatives D (No Action), and E adverse impacts to riparian resources would be greater.

4.13.2.5.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would potentially develop approximately 5,856 oil, gas, and CBNG wells in the VPA.

4.13.2.5.6. ALTERNATIVE E

Alternative E would potentially develop approximately 6,118 oil, gas, and CBNG wells, which would be 262 more wells than Alternative D (No Action). Compared to Alternatives A, B, and C, this alternative would have the lowest risk of indirect short- and long-term adverse impacts to riparian resources due a relatively lower number of RFD-predicted wells, fewer miles of access roads, and fewer acres of minerals-related surface disturbances. Compared to Alternative D (No Action), the impacts to riparian resources would be more beneficial in the long term because of the greater protection afforded to riparian resources.

4.13.2.6. IMPACTS OF NON-WSA AREAS WITH WILDERNESS CHARACTERISTICS DECISIONS ON RIPARIAN RESOURCES

4.13.2.6.1. PROPOSED RMP

Under the Proposed RMP, approximately 106,178 acres with wilderness characteristics would be managed with VRM Class II objectives, closed to oil and gas leasing and closed to woodland product harvest. OHV use would be limited to designated routes. The impacts would be beneficial in the long term because these potential surface disturbances to riparian resources within non-WSA wilderness characteristics areas would not be allowed; however, the impacts would be minor, as the affected area would be comparatively small. Compared to Alternative D (No Action), the Proposed RMP would be more beneficial because it would indirectly protect riparian areas that lie within non-WSA wilderness characteristics areas.

4.13.2.6.2. ALTERNATIVES A, B, C, AND D

Under these alternatives, areas with non-WSA areas with wilderness characteristics would not be managed for protection of their wilderness values.

4.13.2.6.3. ALTERNATIVE E

Under this alternative, 277,596 acres with wilderness characteristics (including 1,753 acres of riparian area) would be managed as exclusion areas for ROW realty actions, managed under VRM Class I objectives, close to OHV cross-country travel, closed to mineral material disposal and closed to oil and gas and other mineral leasing. The impacts would be beneficial in the long term because these potential surface disturbances to riparian resources within non-WSA wilderness characteristics areas would not be allowed; however, the impacts would be minor, as the affected area would be comparatively small. Compared to Alternative D (No Action), this alternative would be more beneficial because it would indirectly protect riparian areas that lie within non-WSA wilderness characteristics areas.

4.13.2.7. IMPACTS OF RANGELAND IMPROVEMENT DECISIONS ON RIPARIAN RESOURCES

4.13.2.7.1. ALTERNATIVES A, B, C, E, THE PROPOSED RMP, AND D (NO ACTION)

Vegetation treatments for rangeland improvement would total 34,640 acres, 50,900 acres, 45,860 acres, 40,390 for Alternatives A/the Proposed RMP, B, C/E, and D (No Action), respectively. Therefore, Alternative B would be the most beneficial to riparian resources, and Alternative A/the Proposed RMP would be the least beneficial, as compared to Alternative D (No Action). The Proposed RMP fencing and water development projects would have beneficial impacts by improving conditions for timed livestock grazing and would have indirect beneficial impacts on riparian areas. There may be some trampling effects along fence lines, but water developments would provide water to upland range sites, keeping livestock and other ungulates out of riparian areas. Guzzlers, reservoirs, wells, and springs would attract livestock away from riparian areas and would decrease soil disturbance and sedimentation around riparian areas.

4.13.2.8. IMPACTS OF RECREATION DECISIONS ON RIPARIAN RESOURCES

4.13.2.8.1. PROPOSED RMP

The effects of recreation decisions on riparian resources would generally be long-term, indirect, and beneficial, by limiting OHV use to designated areas and by providing management for areas as SRMAs. Adverse effects would occur from increased visitor traffic, development of trails, and OHV use. Adverse impacts would include trampling of banks, compaction of soils, and spread of noxious weeds. Where limits are placed on OHV travel off designated routes for big-game retrieval, beneficial effects would occur.

The Proposed RMP would manage the 4 existing SRMAs: Browns Park (18,490 acres), Nine Mile Canyon (44,168 acres), Red Mountain-Dry Fork (24, 259 acres), and Pelican Lake (1,014 acres). The Proposed RMP would establish 3 new SRMAs: Blue Mountain (42,729 acres), White

River (2,831 acres), and Fantasy Canyon (69 acres). The Proposed RMP would have direct and indirect short- and long-term beneficial impacts to riparian resources (as compared to Alternative D, No Action) by designating the White River SRMA, which would be managed as VRM Class II, limiting surface disturbance within line of sight or up to 0.5 mile either side of the river. The designation of Blue Mountain and Fantasy Park would provide management of OHV use, which would not be managed in these areas under Alternative D (No Action). Under the Proposed RMP, non-WSA lands within SRMAs would be managed for non-motorized recreation, which would have long-term beneficial impacts to riparian areas by limiting the effects of motor vehicles.

Development of up to 400 miles of non-motorized trails would have long-term indirect adverse impacts due to increasing visitor traffic in riparian zones. This would be 345 more miles of trails developed than under Alternative D (No Action) and the same as under Alternative C. Not allowing OHV use for big-game retrieval off designated routes would have long-term indirect beneficial impacts to riparian resources by limiting trampling of riparian vegetation and spread of noxious weeds. OHV use off designated trails for big-game retrieval is unspecified under Alternative D (No Action).

4.13.2.8.2. ALTERNATIVE A

The effects of recreation decisions on riparian resources would generally be long-term indirect and beneficial, by limiting OHV use to designated areas and by providing management for areas as SRMAs. Adverse effects would occur from increased visitor traffic, development of trails, and OHV use. Adverse impacts would include trampling of banks, compaction of soils, and spread of noxious weeds. Where limits are placed on OHV travel off designated routes for big-game retrieval, beneficial effects would occur.

Alternative A would manage (and in some cases expand) the 4 existing SRMAs—Browns Park (52,720 acres), Nine Mile Canyon (81,168 acres), Red Mountain-Dry Fork (24,259 acres), and Pelican Lake (1, 014 acres). Alternative A would establish 3 new SRMAs: Blue Mountain (42,758 acres), Book Cliffs (273,486), and White River (24,183 acres). Alternative A would have direct and indirect short- and long-term beneficial impacts to riparian resources as compared to Alternative D (No Action) by designating the White River SRMA, which would be managed as VRM Class II, limiting surface disturbance within line of sight or up to 0.5 mile either side of the river. The designation of Blue Mountain and Fantasy Park would provide management of OHV use, which would not be managed in these areas under Alternative D (No Action). Long-term indirect adverse impacts would occur to these areas due to increase in visitor traffic.

Development of up to 400 miles of non-motorized trails would have long-term indirect adverse impacts due to increasing visitor traffic in riparian zones. This would be 345 more miles of trails developed than under Alternative D (No Action) and the same as under Alternative C. Not allowing OHV use for big-game retrieval off designated routes would have long-term indirect beneficial impacts to riparian resources by limiting trampling of riparian vegetation and spread of noxious weeds. OHV use off designated trails for big-game retrieval is unspecified under Alternative D (No Action).

4.13.2.8.3. ALTERNATIVE B

Alternative B would not designate any new nor expand current SRMAs (with SRMA designation the same as Alternative D, No Action). Long-term indirect adverse impacts would be the same as Alternative D (No Action), because the SRMA designations are the same. Alternative B and D (No Action) would have the least long-term, indirect, and beneficial impacts resulting from SRMA management and limiting OHV use to designated routes. Alternative B would have beneficial impacts as compared to Alternative D (No Action) as no miles of non-motorized trails would be developed and OHV use off route for big-game retrieval would not be allowed.

4.13.2.8.4. ALTERNATIVE C

In addition to the acreages listed under Alternative A, Alternative C would establish an SRMA for 273,486 acres in the Book Cliffs and would expand Brown's Park SRMA to 52,720 acres, White River SRMA to 47,130 acres and Nine Mile Canyon SRMA to 81,168 acres. Long-term, indirect, adverse impacts would occur to these areas due to increases in visitor traffic. In addition to the beneficial impacts listed in Alternative A, the expansion of Browns Park SRMA (52,720 versus 18,474 acres) would further protect riparian resources in this area, as compared to Alternative D (No Action), by managing parts of the SRMA as closed to OHV use; for VRM Class I landscape objectives; and for primitive, non-motorized, and undeveloped types of recreation. Additionally, under Alternative C, the Bitter Creek drainages and the head of Sweet Water Canyon would be closed to leasing.

4.13.2.8.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would designate no new SRMAs, but would continue managing Browns Park (18,474 acres) and Nine Mile Canyon (44,181 acres). Long-term indirect adverse impacts due to increases in visitor traffic, trampling of bank and spread of noxious weeds would be lower than Alternatives A, C, and E. With fewer acres managed as an SRMA than the other alternatives (except for Alternative B, with the same acreage), Alternative D (No Action) would have fewer long-term indirect and beneficial impacts resulting from limiting OHV use to designated areas and by providing management for areas as SRMAs. Management regarding OHV use off designated routes for big-game retrieval is unspecified.

4.13.2.8.6. ALTERNATIVE E

The impacts would be the same as Alternative C because the recreation decisions are the same.

4.13.2.9. IMPACTS OF RIPARIAN MANAGEMENT DECISIONS ON RIPARIAN RESOURCES

4.13.2.9.1. ALTERNATIVES A, C, AND THE PROPOSED RMP

Alternatives A, C, and the Proposed RMP would offer the most protection for riparian resources, where key streamside herbaceous vegetation, non-streamside herbaceous vegetation, and woody riparian vegetation utilization would be managed. The Proposed RMP and these alternatives would have more long-term direct beneficial impacts to riparian resources than Alternative D

(No Action), which specifies lower stubble heights, does not specify about woody riparian vegetation, and has no utilization requirements.

4.13.2.9.2. ALTERNATIVE B

Alternative B would also protect key streamside herbaceous vegetation, but would graze key non-streambank, herbaceous and woody vegetation more than Alternatives A and C. This alternative would have more direct, long-term beneficial impacts to riparian resources than Alternative D (No Action), but fewer beneficial impacts than Alternatives A and C.

4.13.2.9.3. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) offers the least protection to riparian resources, because the minimum stubble height is less (3 inches versus 4 inches in Alternatives A, B, and C) and percent utilization is not specified.

4.13.2.9.4. ALTERNATIVE E

The impacts would be the same as Alternatives A, C, and the Proposed RMP because the decisions are the same.

4.13.2.10. IMPACTS OF SOILS AND WATERSHED DECISIONS ON RIPARIAN RESOURCES

4.13.2.10.1. ALTERNATIVE A AND THE PROPOSED RMP

Alternative A and the Proposed RMP would use oil and gas industry slope disturbance guidelines (Gold Book) to limit surface disturbances from oil and gas activities, which would provide indirect, long-term beneficial impacts to riparian resources by reducing soil erosion on steep hillsides, and thus reducing the potential for increased stream sedimentation. Under Alternative A and the Proposed RMP, surface disturbances on slopes between 21%–40% would require erosion control, GIS modeling, and surveying, and slopes greater than 40% would not be disturbed unless other proposed construction alternatives would cause unnecessary degradation. These actions would also provide indirect, long-term beneficial impacts to riparian and wetland areas by reducing surface disturbances that cause soil erosion and subsequent stream and wetland sedimentation. These management actions would provide more indirect long-term beneficial impacts to riparian and wetland resources than Alternative D (No Action). The Proposed RMP would be slightly more beneficial than Alternative A, because it would adopt UDEQ BMPs that would limit surface discharges into waters.

4.13.2.10.2. ALTERNATIVE B

Alternative B would use oil and gas industry slope disturbance guidelines (Gold Book) to limit surface disturbances from oil and gas activities, and would require erosion control, GIS modeling, and surveying on slopes greater than 20% for unavoidable surface disturbances, with similar indirect beneficial impacts to riparian and wetland areas as described for Alternative A

and the Proposed RMP, but slightly less beneficial because disturbance would not be limited on slopes greater than 40%.

4.13.2.10.3. ALTERNATIVE C

Alternative C would have greater indirect beneficial impacts on riparian and wetland resources than the other alternatives by applying the same management actions (with similar impacts as Alternative A) on 21%–40% slopes and by prohibiting surface disturbances, and thus reducing the risk of increased stream sedimentation, on slopes greater than 40%.

4.13.2.10.4. ALTERNATIVE D (NO ACTION)

Alternative D proposes restrictions on slopes greater than 40% for mineral production only, and actions on slopes less than 40% are unspecified. Allowing other activities with no restrictions for slopes over 40% and not specifying slope restrictions on slopes less than 40% would have more indirect long-term adverse impacts to riparian and wetland resources, as compared to other alternatives.

4.13.2.10.5. ALTERNATIVE E

The impacts would be the same as Alternative C because the management decisions would be the same.

4.13.2.11. IMPACTS OF SPECIAL DESIGNATION DECISIONS ON RIPARIAN RESOURCES

4.13.2.11.1. PROPOSED RMP

The Proposed RMP would have the least beneficial impacts on riparian resources due to ACEC decisions of any alternative. A total of 131,700 acres of ACECs would be designated, 42,654 fewer acres than under Alternative D (No Action). The effects of WSR designations under the Proposed RMP would be the same as described for Alternative A and C, except that the Proposed RMP would be slightly less beneficial because the White River below Asphalt Wash would not be identified as suitable for WSR designation.

4.13.2.11.2. ALTERNATIVES A AND C

Alternative C would offer the greatest protection to riparian resources through ACEC designations, protecting approximately 481,182 acres more than Alternative D (No Action). Alternative A offers the next best level of protection to riparian resources with approximately 180,069 more acres than Alternative D (No Action). Alternative C has the most miles of riparian corridor recommended for designation as either wild or scenic. Alternatives A, B, and D (No Action) would recommend for designation less miles of wild and scenic rivers than Alternative C.

4.13.2.11.3. ALTERNATIVES B AND D (NO ACTION)

Alternatives B and D (No Action) far less protection to riparian resources than Alternatives A and C, and would protect only half of the area that Alternative A would protect. Alternatives B and D would recommend for designation only the Lower and Upper Green River as Wild and Scenic; other streams, such as the White River, middle Green River, Bitter Creek, Argyle Creek, and Evacuation Creek would not be recommended as suitable for Wild and Scenic designation. Alternatives B and D (No Action) would not recommend for designation any new ACECs or wild and scenic river segments.

4.13.2.11.4. ALTERNATIVE E

The impacts on riparian resources would be the same as Alternative C because the decisions are the same.

4.13.2.12. IMPACTS OF SPECIAL STATUS SPECIES DECISIONS ON RIPARIAN RESOURCES

4.13.2.12.1. ALTERNATIVES A ,C, AND THE PROPOSED RMP

Alternatives A, C, and the Proposed RMP offer the best protection to riparian resources when compared to Alternative D (No Action) and are similar with respect to raptors; however, Alternative C and the Proposed RMP offer slightly more protection (particularly with respect to sage-grouse) than Alternative A.

4.13.2.12.2. ALTERNATIVE B

Alternative B would offer more habitat protection than Alternative D (No Action), providing more direct riparian resource protection, though the level of protection would be less than Alternatives A and C.

4.13.2.12.3. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) offers the least direct protection of riparian resources because raptor buffers for surface disturbance are unspecified in the Book Cliffs Resource Area.

4.13.2.12.4. ALTERNATIVE E

The impact would be the same as Alternative C because the management decisions are the same.

4.13.2.12.5. IMPACTS OF TRAVEL DECISIONS ON RIPARIAN RESOURCES

4.13.2.12.6. ALTERNATIVE A AND THE PROPOSED RMP

Alternative A and the Proposed RMP would obliterate and/or return roads to their original condition when they no longer serve their permitted purpose or public interest. Additionally, roads causing resource damage would be repaired or closed, and water crossings would be

designed and built to allow for the free passage of aquatic life. These actions would provide more long-term direct, and indirect beneficial impacts to riparian resources by limiting sediment input into riparian systems, as compared to Alternative D (No Action), which is unspecified about roads and trails. With respect to OHV use, the Proposed RMP and Alternative A would have 781,657 fewer acres open, 756,200 more acres limited, and 25,457 more acres closed, as compared to Alternative D (No Action). Under the Proposed RMP and Alternative A, 4,860 miles of routes would be designated to OHV travel, where none would be designated under Alternative D (No Action). Alternative A and the Proposed RMP are second to Alternatives C and E with respect to riparian protection and would have more acreage of limited OHV use areas than Alternative C.

4.13.2.12.7. ALTERNATIVE B

Alternative B would not obliterate roads or trails if they serve a public interest. Roads causing resource damage would be repaired, but not closed if they are causing resource damage. These actions would be similar to Alternative D (No Action), with direct and indirect, short- and long-term adverse impacts to riparian resources. With respect to OHV travel, this alternative would have 782,425 fewer acres open, 772,626 more acres limited, and 9,799 more acres closed, as compared to Alternative D (No Action). Under Alternative B, 4,861 miles of routes would be designated to OHV travel.

4.13.2.12.8. ALTERNATIVE C

Alternative C would have similar impacts to Alternative A and the Proposed RMP. With respect to OHV travel, this alternative would have 782,425 fewer acres open, 466,254 more acres limited, and 316,171 more acres closed, as compared to Alternative D (No Action). Under Alternative C, 4,707 miles of routes would be designated to OHV travel. Alternative C would provide the second most protection to riparian areas of any alternative, by having the least acreage accessible to OHV use after Alternative E.

4.13.2.12.9. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would be unspecified about road and trail closure, obliteration, and repair. With respect to OHV travel, this alternative would have 787,859 acres open, 887,275 acres limited, and 50,388 acres closed. These actions would have direct and indirect, short- and long-term adverse impacts to riparian resources through increased sedimentation in riparian areas.

4.13.2.12.10. ALTERNATIVE E

Alternative E would have similar impacts to Alternative C. except that this alternative would manage 782,425 fewer acres as open to cross-country OHV travel, 438,749 more acres as limited to designated routes, and 342,430 more acres closed to OHV travel, when compared to Alternative D (No Action). Under Alternative E, 44,654 miles of routes would be designated to OHV travel (53 fewer miles of OHV routes than Alternative C in order to protect areas with non-WSA wilderness characteristics). Alternative E would provide the most protection to riparian

areas of any alternative, by having the least acreage accessible to OHV use and potential riparian surface disturbances.

4.13.2.13. Impacts of Vegetation Management Decisions on Riparian Resources

Vegetation management decisions that affect riparian resources are a combination of fire management, forage allocation, livestock use, and range management. The direct and indirect impacts are discussed in the sections above.

4.13.2.13.1. Alternatives A, B, C, D (No Action), E, and the Proposed RMP

Generally Alternatives A and the Proposed RMP provide more protection for riparian resources than does Alternative B and less protection than Alternatives C and E. Alternative D (No Action) provides less protection for riparian resources than any other alternative.

4.13.2.14. Impacts of Visual Resource Management Decisions on Riparian Resources

4.13.2.14.1. Proposed RMP

The Proposed RMP would designate 57,776 and 231,911 acres as VRM Classes I and II respectively, which is 4,690 and 118,225 more acres with limits on surface disturbance than Alternative D (No Action). The Proposed RMP would provide more long-term indirect beneficial impacts, when compared to Alternative D (No Action), due lower levels of sedimentation and fragmentation of riparian areas.

4.13.2.14.2. Alternative A

Alternative A would designate 63,136 and 294,773 acres as VRM Classes I and II respectively, which is 10,050 and 181,087 more acres with limits on surface disturbance than Alternative D (No Action). This alternative would provide more long-term indirect beneficial impacts, when compared to Alternative D (No Action), due lower levels of sedimentation and fragmentation of riparian areas.

4.13.2.14.3. Alternative B

Alternative B would designate 52,764 and 114,030 acres as VRM Classes I and II, respectively, which is 322 fewer acres than Alternative D (No Action) under VRM Class I, and 344 more acres more under VRM Class II. This alternative would thus have similar impacts to riparian resources, as compared to Alternative D (No Action).

4.13.2.14.4. Alternative C

Alternative C would designate 145,781 and 362,660 acres as VRM Classes I and II respectively, which is 95,695 and 248,974 more acres with limits on surface disturbance. This alternative would provide the second most long-term indirect beneficial impacts to riparian resources.

4.13.2.14.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would designate 53,086 and 113,686 acres as VRM Classes I and II respectively. This alternative would have long-term indirect beneficial impacts to riparian resources by restricting surface disturbances under the class objectives.

4.13.2.14.6. ALTERNATIVE E

Alternative E would designate 334,516 and 259,694 acres as VRM Classes I and II respectively, which is 281,430 more acres of VRM Class I and 146,008 more acres of VRM Class II, when compared to Alternative D (No Action), with greater limitations on surface disturbance. This alternative would have the most long-term indirect beneficial impacts to riparian resources by managing the most acreage under the VRM Class I objectives that would impose the most restrictions on surface disturbances to riparian resources.

4.13.2.15. IMPACTS OF WOODLANDS AND FOREST MANAGEMENT DECISIONS ON RIPARIAN RESOURCES

4.13.2.15.1. ALTERNATIVES A, B, AND C, AND THE PROPOSED RMP

The Proposed RMP and Alternatives A, B, and C would respectively have 546,152; 552,663; 554,108; and 552,152 acres of woodlands treated or harvested. This would be more than 250,000 more acres of harvesting and/or treatments than Alternative D (No Action), which would have long-term adverse impacts on riparian resources caused by soil erosion. Ecologically sound treatments and harvesting would occur under Alternatives A and C to ensure adequate biodiversity and reintroduce the natural fire return interval. Treatments and harvesting under Alternative B would be conducted with wood products production in mind. The goals of treatments and harvesting are unspecified under Alternative D (No Action).

4.13.2.15.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would have 288,300 acres of harvesting and/or treatments, with the least adverse impacts to riparian resources from soil erosion.

4.13.2.15.3. ALTERNATIVE E

Under Alternative E, there would be fewer impacts than those discussed under the Proposed RMP and Alternatives A, B, and C, but more impacts than under (Alternative D, No Action). Up to 421,133 acres would have treatments or be harvested. However, this would be partially offset by increased protection on 330,573 acres of non-WSA areas with wilderness characteristics that would be managed to prohibit woodland harvesting and wood gathering (primarily willow and cottonwood), with long-term, beneficial preservation-related impacts on riparian resources.

4.13.2.16. SUMMARY

In general, the greatest adverse impacts would be due to livestock and grazing, oil and gas leasing (which includes CBNG), and OHV use. Therefore the alternatives with higher open areas and fewer restrictions on activities would be least beneficial and most adverse to riparian areas. Alternative D (No Action) would have the greatest direct adverse impacts due to unmanaged OHV use and lack of limits on riparian grazing. Alternative B would have the greatest indirect adverse impacts due to oil and gas leasing (which includes CBNG). Alternative A and the Proposed RMP would have a moderate amount of direct and indirect adverse impacts, and Alternatives C and E would have the least direct and indirect adverse impacts of any alternative.

4.13.3. MITIGATION MEASURES

Riparian and wetland areas are protected under Section 404 of the Clean Water Act. Mitigation measures are required for development activities affecting these areas. Administrative actions can be undertaken where riparian resources are being degraded.

4.13.4. UNAVOIDABLE ADVERSE IMPACTS

Any proposed road water crossings would result in the loss of riparian habitat.

4.13.5. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Construction of well pad access roads would provide a short-term mineral use that would eventually result in long-term loss of riparian vegetation due to sedimentation, unless new roads are effectively maintained and restored after use.

4.13.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

There would be no irreversible and irretrievable impacts to riparian habitat from RMP decisions.

4.14. SOCIOECONOMICS

4.14.1. SUMMARY AND GENERAL ASSUMPTIONS

This analysis of impacts to socioeconomics is based on BLM-related management changes that would occur under the Proposed RMP and each of the alternatives. If impacts to some aspect of the socioeconomic situation are not mentioned in this analysis, then a negligible effect should be assumed. This analysis focuses on the socioeconomic aspects of several key resources: lands and realty, minerals, recreation, livestock and grazing, paleontology, VRM, wild horses, wildlife and fisheries, and woodlands.

4.14.1.1. PROPORTIONAL IMPACTS

Based on the information presented in Chapter 3, certain counties rely more heavily on various market sectors of the economy. Counties with a higher proportion of oil, gas, and mineral leases on BLM-administered lands would experience impacts to minerals of proportionally greater magnitude than the rest of the VPA. Similarly, counties with a higher proportion of BLM-administered lands dedicated to recreation, and thus to tourism, would experience more impacts to recreation/tourism than other counties in that market sector. Based on this concept, the following is assumed about the counties within the study area:

- Effects of minerals management will be greater in Uintah and Duchesne Counties, where the economy is largely driven by this industry.
- Effects of recreation management will be greater in Daggett County, where recreation and tourism are the driving forces in the economy.

4.14.1.2. QUALITATIVE VERSUS QUANTITATIVE DATA

Economic impacts are considered with respect to each major sector of the economy in the VPA. Where quantitative data is available, a more detailed analysis is shown. Where quantitative data is not available, a qualitative analysis is performed based on the best available data.

Many human, community impacts cannot be measured in economic terms. Such impacts are analyzed here as social impacts and include detractions from existing lifestyles, quality of life, sense of place, community values, and unjust or unfair impacts or burdens on minority and low-income populations (i.e., environmental justice).

4.14.2. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

The following sections discuss, by resource, the impacts common to the Proposed RMP and all alternatives that may have a measurable effect on socioeconomics.

4.14.2.1. LIVESTOCK AND GRAZING MANAGEMENT

As noted in Section 3.8 in Chapter 3, demand for animal unit months (AUMs) for livestock grazing has never outpaced the allocation of AUMs. Within the VPA, 146,220 animal unit months (AUMs) are allocated for livestock, but active permitted use for the 160 allotments is currently 137,897 AUMs. The demand for forage resources by livestock (the total average actual use) for the past 10 years was only 78,500 AUMs. Comprehensive grazing allotment information is summarized in Appendix L. Because the Proposed RMP and each of the alternatives exceeds the recent demand for AUMs (except for Alternatives C and E which propose slightly less than the 78,500 AUMs average actual use with 77,294 proposed AUMs), the socioeconomic impact would be similar across alternatives and the Proposed RMP. See Section 4.14.3.1 for more details.

According to comments received during the scoping process and the Utah Public Lands Study conducted in 2007 by Utah State University (See Appendix J), Uintah and Duchesne Counties have expressed the desire to remain largely agricultural, specifically in the grazing industry. Preserving the agricultural lifestyle is made possible by the Proposed RMPs and each of the alternatives' forage decisions; the allocation of AUMs under the Proposed RMP and each of the alternatives would allow ranchers to maintain current practices and to maintain the agricultural lifestyle that characterizes the communities in Uintah and Duchesne Counties. Under the Proposed RMP and all alternatives, the ranching communities, which possess a rich culture and history in the planning area, would not be adversely impacted by livestock and grazing management decisions.

4.14.2.2. LANDS AND REALTY

Under the Proposed RMP and all alternatives, actions involving acquisition, use, disposal, and adjustment of land resources, as well as land exchanges, have the potential to impact the planning area's social and economic conditions. Management decisions pertaining to lands and realty would result in a long-term, beneficial effect on the social and economic goals of the communities in the VPA because such decisions would be made in an attempt to maximize the use of the land in the vicinity of these communities. The growth and development of lands resulting from realty actions within the VPA would be in compliance with other goals and objectives in this RMP and other guiding documents (see Section 1.5 and Section 4.06). The BLM would continue to grant reasonable access to SITLA lands and other inholdings as required by law.

4.14.2.3. MINERALS

The following analysis is based on the assumption that the demand for oil and gas resources will remain high over the next 20 years, and that private industry will continue to respond to demand. Should the demand for oil, gas and minerals subside, it is possible that the wells proposed in the Proposed RMP and each of the alternatives would not be developed. Based on the trend of well development outlined in the Mineral Potential Report, a maximum of 6,530 wells is predicted for development over the next 15-20 years (BLM, 2002). Given the amount of predicted wells to be developed over the life of the plan and the subsequent revenues, it is likely that minerals

development would have the greatest impact on local revenues when compared to other BLM management areas such as recreation or forage.

While minerals development would be restricted by the management actions under the Proposed RMP and each alternative, market demand, and industry trends, major development is still projected. Assuming the continuation of the trend in well development, the number of jobs available in this industry would increase, which in turn would increase overall prosperity in the region, because wages in this sector of the economy are typically higher than service or government-related jobs. Increasing jobs would also likely increase the population in the region and create an in-migration to the communities near these jobs. Increased population, in turn, increases the need for social services and infrastructure.

Throughout the VPA, the development of oil shale is speculative at this time and is not susceptible to analysis in this EIS/RMP. If such development should occur the actions would require site-specific NEPA analysis.

Developing alternative sources of energy (i.e., wind, solar, and geothermal energy) would have both short-term and long-term, beneficial effects on local economies. Short-term benefits would take the form of jobs necessary for the construction phases of these energy projects whereas long-term benefits would take the form of job necessary to for the maintenance and operation of the project facilities. Development of alternative sources of energy would further benefit local communities by augmenting the supply of electrical power in the area.

4.14.2.4. RECREATION

Expanding infrastructure for recreational activities would provide a long-term, beneficial impact by creating a better environment for recreation and drawing more visitors to the area, and consequently increasing traveler spending. Increasing recreational opportunities in the VPA would also increase jobs and potentially population, as the demand for retail services would likely increase with greater opportunities for recreation and tourism. In general, therefore, growth in the recreation industry would be a socioeconomic benefit, as it would contribute to the overall prosperity in the communities impacted by BLM management decisions. However, some of the recreation-based employment is not year round, as tourism rates decline in the winter months.

An increase in population resulting from recreation-based employment in the area would increase the need for infrastructure and social services in the communities of the VPA. Impacts resulting from an increase in recreation and the need for additional infrastructure would be minor and short-term.

Tourism generates tax revenue that is used to support the local community, which would potentially decrease if visitation decreases. If tourism and recreation decreased due to the loss of land to other uses (such as mineral development), the tax revenue from tourism in the local community would likely decrease. A decrease in recreation activities would cause a decrease in visitor spending in the region, thus decreasing the tourism economy and the number of dollars spent on local goods and services.

4.14.3. PROPOSED RMP AND ALTERNATIVES IMPACTS

4.14.3.1. IMPACTS OF LIVESTOCK AND GRAZING MANAGEMENT ON SOCIOECONOMICS

4.14.3.1.1. PROPOSED RMP

Because the amount of AUMs under the Proposed RMP (138,402 AUMs) differ less than 5% from Alternative D (No Action) (146,220 AUMs) socioeconomic impacts would be similar to current conditions.

4.14.3.1.2. ALTERNATIVE A

Impacts to socioeconomic conditions would be nearly identical to the Proposed RMP and Alternative D (No Action) as the amount of available AUMs differs by less than 1% with 137,383 AUMs allocated for livestock grazing under Alternative A.

4.14.3.1.3. ALTERNATIVE B

Under Alternative B 139,163 AUMs would be available for permitted use. Because this is just a 5% decrease in AUMs from Alternative D (No Action), socioeconomic impacts to the ranching community would be similar to current conditions.

4.14.3.1.4. ALTERNATIVES C AND E

Under Alternatives C and E 77,294 AUMs would be available for permitted use. This is a 47% decrease in AUMs from Alternative D (No Action). However, a 47% decrease in AUMs is likely to have a negligible adverse impact on the social and economic conditions related to livestock grazing. As noted in Section 3.8 the total average actual use of the AUMs over the past 10 years has been around 78,500 in contrast to the 146,161 total AUMs currently allocated for livestock. Under Alternatives C and E the 77,294 AUMs fall just slightly below the total average actual use.

4.14.3.1.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), 146,220 AUMs are available for permitted use. Under this alternative impacts to the social and economic conditions of the ranching communities in the VPA would be identical to current conditions. Because the demand for AUMs is not anticipated to exceed the supply under current conditions, a loss of income and decline in social well being is not anticipated for ranchers and their families resulting from a loss of available AUMs on public land.

4.14.3.2. IMPACTS OF MINERALS DEVELOPMENT ON ECONOMIC CONDITIONS

Because of undefined market and non-market factors, the following analysis is based on simplified assumptions used to quantify general estimates of development costs, employment, production, and production revenue. Where available, separate data is used for the development

and completion of oil wells, in contrast to natural gas wells. Otherwise, data from the Utah Energy Office (UEO) on the drilling of a natural gas well is used. The direct and indirect effects of the Proposed RMP and each alternative are based on the following assumptions (in addition to the assumptions described in the Minerals section of this chapter):

Development Costs – A single natural gas well in the Mesaverde Group would have a total drilling and completion cost of approximately $2,035,891, according to the UEO (UEO 2004). Much of this cost is determined by how easily the commodity can be extracted from the geologic formation. In this case, the Mesaverde Group hosting the natural gas is several thousand feet thick and is composed of interbedded shales, sands, and coals. Throughout Uintah and Duchesne Counties, the subsurface top of the group ranges between 7,500 feet and 9,200 feet, and the base of the group ranges between 10,200 feet and 12,500 feet. A well depth of 12,000 feet was used the by UEO to calculate well costs. Of the total drilling and completion costs, approximately $1,647,000 (or 80% of the total cost of the well) is assumed to be spent in Uintah and Duchesne Counties, allocated to various local and regional industries and economic sectors, including retail and wholesale trade, construction, services, transportation, and public utilities.

Employment – Using recent data from the State of Utah, it is possible to project the numbers of jobs likely to be created by drilling and completing a well in the Uinta Basin. A study done by the Utah Energy Office (UEO, 2004) estimated the number of jobs in all sectors that drilling and completing a single well in the Basin would create, which UEO estimated at 14.8. The study cautions that the projection is for a single well; additional wells would likely use the most of these same employees. Table 4.14.1 confirms this likelihood. As of 2006, for example (the most recent year for which complete data is available), the number of employees per well in Uintah County was 0.67. For the five years prior to this, the ratio varied from a low of 0.463 to the 0.67 reported for 2006. Similarly, one can compute the number of additional employees in the industry in Uintah County in relationship to the number of new wells drilled. Although the numbers vary somewhat from year to year, Table 4.14.1 shows that the highest multiple was in 2006 at 1.267 additional employees per new producing well brought on-line; the average for all positive years was 1.03. This data is not inconsistent with the UEO study, which estimated that most of the new job creation would be in the services, retail and wholesale trades, with only 1.7 of the 14.8 projected new jobs in the oil and gas industry. The recent lower numbers are likely due to economies of scale resulting from large-scale development. If all wells, including dry holes, were included, the ratio would be less. These results should not be surprising, in that the industry can quickly relocate crews to new drilling platforms as wells are drilled and completed. Once completed, relatively few employees can oversee the operation of numerous wells and associated infrastructure.

As stated above, the UEO study projected an additional non-oil and gas jobs that a single well would create at 13.1 jobs (14.8 total minus 1.7 specific to oil and gas). The information from UEO assumes that employment for 14.8 individuals is required for one well and it would require 14.8 employees for each well thereafter. The numbers used from report do not take into account that one employee may be able to complete the tasks required for numerous wells, for example a clerk in a retail store could accommodate the needs of several oil and gas employees. In other words, one cannot assume a strictly multiplicative increase for additional wells. This is borne out

by a recent study done for the State of Utah by the University of Utah[13]. This study estimated total employment in the Uinta Basin at 19,852 employees. Of this total, the study estimates that 9,835 jobs were directly or indirectly related to the oil and gas industry, with direct employment of 3,959. This suggests a multiplier effect of 2.48 (9835/3959). Although a significant economic impact in itself, this is considerable less than the multiplier suggested by the earlier UEO study. Once again, this can be explained by the fact that the UEO study estimated the impact of a single well, which misses the economies of scale which result from large-scale development of the type currently experienced in the Uinta Basin. Given this recent State-provided data, subsequent analysis in this section will assume 1.26 direct and 2.48 indirect jobs created per additional well drilled over the life of the plan (2006 data). Wage data from the same study, average wages for employees in the oil and gas industry in the Uinta Basin were $65,482 in 2006; average wages for all other jobs were $30,607. Combining this data, the analysis which follows will assume that each new well could create 3.74 jobs, generating $158, 412 wage income annually. These numbers are based on producing wells, rather than wells drilled. Given that not all exploration efforts are successful, the actual economic impact per well drilled, based on the RFD, will probably be lower.

Table 4.14.1. Producing Wells and Employment in the Oil and Gas Industry-Uintah County, 2001-2006

Year	Producing Wells[14]	Employment[15]	Oil and Gas Employment per Well	Change in Well Numbers	Change in Employment	Ratio of Change in Employment to Change in Wells
2001	2650	1376	0.519			
2002	2867	1327	0.463	217	-49	-0.226
2003	3119	1564	0.501	252	237	0.940
2004	3471	1830	0.527	352	266	0.756
2005	3875	2254	0.582	404	424	1.050
2006	4452	2985	0.670	577	731	1.267

Production – The average value of oil, gas, and CBNG in the region is multiplied by that region's production (based on the potential for well development under the Proposed RMP and each alternative) to achieve a long-term sales figure for the region.

As stated in Chapter 3, the Geologic and Engineering Team in the BLM VFO estimated that 6,530 wells could be drilled in the VPA during the planning period. Of these wells, approximately 31% (or 2,055) would be oil, 67% (or 4,345) would be gas, and 2% (or 130) would be CBNG. Given the total number of wells under the Proposed RMP and each alternative,

[13] Source: The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase I - The Uinta Basin, Bureau of Economic and Business Research, University of Utah, November, 2007)
[14] Source: State of Utah, Division of Oil, Gas and Mining
[15] Source: US Bureau of Labor Statistics, Quarterly Census of Employment and Wages (as reported in *The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase I - The Uinta Basin*, Bureau of Economic and Business Research, University of Utah, November, 2007)

the percentages have been used to estimate the different types of wells that could be developed (Table 4.14.2).

Table 4.14.2. Estimated Number of Wells under the Proposed RMP and Each Alternative, by Resource Type

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)[16]	Alternative E
Oil	1,655	1,655	2,015	1,979	1,858	1,957
Gas	4,216	4,216	4,250	4,130	3,886	4,037
CBNG	124	124	126	116	112	114
Total	**6,342**	**6,342**	**6,391**	**6,224**	**5,856**	**6,118**

According to the Energy Information Administration (EIA), the current-day oil price is $60.78 per 42-gallon barrel of oil (EIA 2006). In 2004, the average yearly production per oil well in Utah was 7,141 barrels of oil. Therefore, assuming that 7,141 barrels are recovered, potential recovery value per oil well is $434,030 (7,141 × $60.78). The life of each well is estimated to be 15-20 years. The rate of production per oil well declines approximately 10% per year after the initial year. Therefore, recovery value per well would begin at $434,030 and decrease 10% per year throughout the life of the well.

According to the EIA, the current-day natural gas price is $7.28 per thousand cubic feet (Mcf) (EIA 2006). The UEO report assumes 200 million cubic feet of gas will be produced from a single well over a 1-year period. Therefore, assuming that 200 million cubic feet of natural gas is recovered, potential recovery value per natural gas well is $1.46 million per year (200,000,000 × $7.28/1,000). The life of each well is estimated to be 25 years. The rate of production declines approximately 10% per year after the initial year, according to the UEO. Therefore, the recovery value per well would begin at $1.46 million and decline 10% per year throughout the life of the well.

The natural gas derived from CBNG development accounts for approximately 7% of total natural gas production in the U.S. (MSU 2003). In the VPA, the anticipated production of natural gas from CBNG is approximately 2% of all natural gas (Table 4.14.2). Given the low number of CBNG wells predicted for the area, a detailed socioeconomic analysis of the well production is not provided.

Fiscal Impacts - The drilling and completion of wells in the VPA would have an impact on local and state governments due to services provided and tax and other revenue received. According to the UEO report, the drilling and completion of a single well in the Uinta Basin would result in gross state revenue growth of $74,134. Approximately 26% (or $19,352) of the state revenue is estimated to come from general sales tax. Sales tax in Uintah, Duchesne, and Daggett Counties is 6.5, 6.0 and 6.0 respectively. Oil and gas development generates sales tax for local economies by

[16] Alternative D does not include the split-estate lands within the Hill Creek Extension. Therefore, less wells would be predicted for development when compared to the action alternatives. See Section 4.8.1.1 for more detail on split-estate lands.

purchasing local goods and services. The industry workers spend their earnings in local communities, thereby adding to the sales tax revenue. Other tax revenues contributing to the state and local economy would come from general sales tax, as well as individual income tax, education charges, motor fuel sales tax, and corporate income tax (UEO 2004).

Individual income tax and employee retirement are also large components of gross state revenues. Other charges and revenue, such as education charges, motor fuel sales tax, and corporate income tax, would contribute to smaller portions of gross state revenue. Local gross revenues would grow by $45,974 per well including other charges and revenue, utility and liquor store revenue, and general sales tax. Local governments also receive property tax revenues (ad valorem tax) of $3,216 per well (UEO 2004).

The estimated ad valorem taxes for each commodity type are based on productions, assessed values, and current tax rates. Ad valorem taxes assessed on property associated with oil and gas operations generate tax revenue for the counties in which production takes place; with respect to this RMP, the greater number of producing wells in the VPA, the greater the generation of property taxes associated with oil and gas extraction assets. The projected ad valorem tax revenue for the Proposed RMP and each alternative is provided in the sections below.

Tax and royalty revenue would be realized for the life of the well, with diminishing returns after maximum production is reached in the first year. The severance tax and royalty revenue generated from natural resource development depends on the amount of the commodity produced. Given the uncertainty of both the geology and the market, the quantification of revenue here is somewhat speculative.

The total revenue is allocated to the federal government (Minerals Management Service). Of the total 10% pays administrative fees, 45% is allocated to the federal government (into Reclamation and General Funds), 45% is paid to the state, and the state then redistributes 40% of the royalty back to the county of origin (BLM 2005). The majority of the balance is used to fund other local projects, such as water projects of recreation facilities.

Royalty revenue to the federal, state, and county governments equals approximately 12.5% of production revenue. Assuming the recovery value for one oil well is $434,030 per year, royalty revenues would be $54,253.75 per well at maximum production ($434,030 × 0.125). If the recovery value for one natural gas well is $1.46 million per year, royalty revenues would be $182,500 per well at maximum production ($1.46 million × 0.125). Because the number of natural gas wells to be drilled in the planning area is more than double the amount of oil wells across all alternatives and the Proposed RMP, the following analysis will use recovery value of natural gas wells only. As the reader can see from the revenues listed above, natural gas revenues are higher per well than oil, thus suggesting that overall recovery and revenues would be lower if oil wells were substituted for gas wells. The analysis also assumes that all of the wells under the Proposed RMP and each alternative would be producing at maximum production and operating at the same time.

The severance taxes collected on minerals production are distributed within the state according to a formula published in the Utah State statutes. Severance tax revenues are distributed to a

variety of state and local entities, including the state's general fund, the state highway fund, counties, cities, and towns. Local government entities within the VPA would benefit from only a percentage of severance taxes collected on production within the VPA. However, these entities would also benefit from severance taxes collected on minerals production occurring in other parts of the state (BLM 2003).

In 2002, the severance tax rate for oil and gas development on Utah lands was 3% of the value, up to and including the first $13 per barrel of oil and $1.50 per MCF of natural gas, and 5% of the value above these prices. In Utah, it is estimated that two-thirds of the oil and gas severance tax is due to natural gas production (University of Utah 2003).

It is assumed that the greatest amount of oil and gas activity within the planning area would generate the greatest amount of sales tax revenue for counties and local communities. Because it not possible to accurately distinguish, in most cases, between sales tax revenue from oil and gas-related versus tourism the analysis of sales tax contributions is qualitative. Sales tax revenues are included in the analysis below under state and local revenues based on development costs.

4.14.3.2.1. PROPOSED RMP

Under the Proposed RMP, 1,916,936 acres would be open to CBNG, oil, and gas development under Standard Stipulations, Timing and Controlled Surface Use, and No Surface Occupancy categories of CBNG and oil and gas development. The total predicted number of wells developed would be 6,342. Of the 6,342 total predicted wells, 1,655 would be oil, 4,216 would be gas, and 124 would be CBNG.

Assuming that the drilling and completion of one well would create 3.74 jobs (see section 4.14.3.1), under the Proposed RMP, there would be 23,719 jobs resulting from 6,342 wells (14.8 × 6,342), or 1,185 jobs annually if distributed evenly over 20 years (assuming that all 6,342 wells were in operation at the same time). Increases in the number of potential wells that could be developed under the Proposed RMP would have a long-term direct, beneficial effect on jobs, with an increase of approximately 1,817 jobs throughout the life of the RMP in comparison to Alternative D (No Action). However, increasing jobs in this sector may increase the region's dependency on this industry, which consequently increases the risk of economic downturn due to a bust cycle in oil and gas development.

With an annual estimated wage income at $158,412 per well (see section 4.14.3.1, Proposed RMP would result in $1 billion dollars in wage income over the life of the plan or approximately $50.2 million annually.

Minerals decisions under the Proposed RMP would increase the costs of developing the total predicted oil and gas wells by $0.1 billion, when compared to Alternative D (No Action). Such development would potentially create a total cost of development of $12.9 billion over 20 years (2,035,891 × 6,342 wells), or approximately $645.6 million over one year ((2,035,891 × 6,342) ÷ 20).Increases in the total number of potential wells from current management practices would have a long-term, beneficial effect on state and local revenues. Gross state revenue generated as a result of development costs is estimated to be $470.2 million with the drilling and completion

of all wells under the Proposed RMP ($74,134 × 6,342 wells). Local revenue is estimated to be $291.6 million with the completion of all wells ($45,974 × 6,342). Sales tax contributions from oil and gas developers and their employees would be slightly less (49 less predicted wells) than Alternative B, which has the greatest number of potential wells and greater than Alternative D (No Action), which has 486 less wells than the Proposed RMP. Ad valorem tax revenues for the Proposed RMP would total $20,395, 872 (6,342 × 3,216).

In comparison to Alternative D (No Action), royalties paid to the state and counties from oil and gas sales on federal lands (including mineral lease revenue, and severance taxes) would increase in proportion to the increase in production, which would be a long-term beneficial effect on economics in the region. Royalty and tax revenue paid to the state and local governments resulting from oil and gas development would increase by 7.6% compared to Alternative D (No Action).

Annual recovery value for 6,342 wells under the Proposed RMP is 1.157 billion dollars (182,500 × 6,342), of this 45% or 520.8 million dollars (1,157,415,000 × .45) would be royalty revenue for the federal government and 40% or 462.9 million dollars (1,157,415,000 × .40) in royalty revenue would be distributed back to the counties. An increased number of wells could have a long-term direct adverse impact on the tourism sector of the economy by reducing contiguous areas available for outdoor recreation, and affecting the quality of recreational experiences from visual intrusion and fragmented areas and trails. Tourism generates tax revenue that is used to support the local community, which would decrease if visitation decreases. Reducing outdoor recreation opportunity and quality could also effect employment in this sector.

An additional potential impact to state revenues is the potential loss to SITLA from not being able to lease or develop lands bordered all or in part by non-WSA lands with wilderness characteristics. The value of these lands for oil and gas leasing and/or development may be reduced if all or portions of public lands bordering these state lands are closed to new oil and gas leasing. This in turn could reduce the monies collected by the state (through SITLA), including royalties and severance taxes. These impacts can be estimated using current data, and incorporating several assumptions. If one assumes that SITLA lands whose perimeter is more than 50% bounded by BLM acreage closed to new oil and gas leasing, as a result of implementing the Proposed RMP, would be unavailable for development, and using the projections of the RFD, one can project that less than one well (0.27) would not be drilled over the life of the plan. Using data provided by the State of Utah, royalty payments to wells on SITLA lands averaged $57,065 as of early 2008. Severance taxes averaged $9,335 for all wells, regardless of land ownership. Multiplying these figures by the wells assumed that would not be drilled, the fiscal loss to the state would total $15,361 in royalties and $2,513 in severance taxes in any one year that such wells were not in operation. The more years a well was in operation over the life of the plan, the economic impacts would be proportionately greater

4.14.3.2.2. ALTERNATIVE A

Under Alternative A the amount of wells is identical to the Proposed RMP (6,342); therefore, impacts to socioeconomics would be the same as discussed above in Section 4.14.3.2.1 Proposed RMP.

4.14.3.2.3. ALTERNATIVE B

Alternative B would open 1,914,000 acres in the Standard Stipulations, Timing and Controlled Surface Use, and No Surface Occupancy categories for CBNG and oil and gas development. The total number of predicted wells would be 6,391. Of the 6,391 total predicted wells, 2,015 would be oil, 4,205 would be gas, and 126 would be CBNG.

Assuming that the drilling and completion of one well would create 3.74 jobs, under Alternative B, there would be 23,902 jobs resulting from 6,391 wells, or 1,195 jobs annually if distributed evenly over 20 years (assuming that all 6,391 wells were in operation at the same time). Increases in the number of potential wells under Alternative B would have a long-term direct beneficial effect on jobs. An increase of 369 potential wells over Alternative D (No Action) would result in an increase of approximately 2,000 jobs in this industry over 20 years, or approximately 100 jobs in one year. However, increasing jobs in this sector may increase the region's dependency on this industry, which consequently increases the risk of economic downturn due to a bust cycle in oil and gas development.

With an annual estimated wage income at $158,412 per well, Alternative B would result in $1.01 billion dollars in wage income over the life of the plan or approximately $50.6 million annually.

Minerals decisions under Alternative B would increase the costs of developing the total predicted oil and gas wells by $1.1 billion, compared to Alternative D (No Action). Such development would potentially create a total cost of development of $13.0 billion over 20 years, or approximately $650.9 million over one year.

An increase in the total number of potential wells from current management practices would have a long-term, beneficial effect on state and local revenue. Gross state revenue generated as a result of development costs is estimated to be $473.8 million with the drilling and completion of 6,391 wells under Alternative B. Local revenue is estimated to be $293.8 million with the completion of all wells under Alternative B. Ad valorem tax revenues for the Alternative B would total $20,553,456. Sales tax contributions from oil and gas developers and their employees would be greatest under Alternative B because the greatest amount of wells and employees needed to operate these wells would be anticipated under this alternative.

In comparison to Alternative D (No Action), royalties paid to the state and counties from oil and gas sales on federal lands (including mineral lease revenue and severance taxes) would increase in proportion to the increase in production, which would be a long-term, beneficial effect on economics in the region. Royalty and tax revenue paid to the state and local governments resulting from oil and gas development would increase by 8.3% compared to Alternative D (No Action).

Annual recovery value for 6,391 wells under Alternative B would be $1.166 billion, of this 45% or $524.8 million would be royalty revenue for the federal government and 40% or $466.5 million in royalty revenue would be distributed back to the counties. Federal and local royalty revenues would be greatest under Alternative B, thus having the most substantial beneficial impact on effected economies when compared to the other alternatives.

An increased number of wells could have a long-term direct adverse impact on the tourism sector of the economy by reducing contiguous areas available for outdoor recreation, and affecting the quality of recreational experiences from visual intrusion and fragmented areas and trails. Tourism generates tax revenue that is used to support the local community, which would decrease if visitation decreases. Reducing outdoor recreation opportunity and quality could also effect employment in this sector.

4.14.3.2.4. ALTERNATIVE C

Alternative C would open 1,914,000 acres in the Standard Stipulations, Timing and Controlled Surface Use, and No Surface Occupancy categories for CBNG and oil and gas development. The total number of predicted wells under Alternative C would be 6,225. Of the 6,225 total predicted wells, 1,979 would be oil, 4,130 would be gas, and 116 would be CBNG.

Assuming that the drilling and completion of one well would create 3.74 jobs, under Alternative C, there would be 23,277 jobs resulting from 6,225 wells, or 1,163 jobs annually if distributed evenly over 20 years (assuming that all 6,225 wells were in operation at the same time). Increases in the number of potential wells under Alternative C would have a long-term direct beneficial effect on jobs compared to Alternative D (No Action), as Alternative C would potentially increase the jobs in this industry by approximately 1,376 over 20 years, and approximately 68 jobs in one year. However, increasing jobs in this sector may increase the region's dependency on this industry, which consequently increases the risk of economic downturn due to a bust cycle in oil and gas development.

With an annual estimated wage income at $158,412 per well, Alternative C would result in $986 million dollars in wage income over the life of the plan or approximately $49.3 million annually.

Minerals decisions under Alternative C would increase the costs of developing the total predicted oil and gas wells by $0.8 billion, compared to Alternative D (No Action). Such development would potentially create a total cost of development of $12.7 billion over 20 years, or approximately $633.7 million over one year.

An increase in the total number of potential wells from current management practices would have a long-term, beneficial effect on state and local revenue. Gross state revenue generated as a result of development costs is estimated to be $461.5 million with the drilling and completion of 6,225 wells under Alternative C. Local revenue is estimated to be $286.2 million with the completion of all wells under Alternative C. Ad valorem tax revenues for the Alternative C would total $20,016,384. Sales tax contributions from oil and gas developers and their employees would be slightly than Alternatives A and B because the total amount of predicted wells is 117 less than Proposed RMP and 166 less than Alternative B. With 369 more wells proposed than Alternative D (No Action), sales tax revenues would be greater under Alternative C.

In comparison to Alternative D (No Action), royalties paid to the state and counties from oil and gas sales on federal lands (including mineral lease revenue and severance taxes) would increase in proportion to the increase in production, which would be a long-term, beneficial effect on

economics in the region. Royalty and tax revenue paid to the state and local governments resulting from oil and gas development would increase by 5.9% compared to Alternative D (No Action).

Annual recovery value for 6,225 wells under the Proposed RMP is $1.136 billion, of this 45% or $511.2 million would be royalty revenue for the federal government and 40% or $454.4 million in royalty revenue would be distributed back to the counties. The overall contributions from royalty revenues under Alternative C would be greater than Alternative D (No Action), but slightly less than Alternatives A and B.

4.14.3.2.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would open 1,725,500 acres in the Standard Stipulations, Timing and Controlled Surface Use, and No Surface Occupancy categories for CBNG and oil and gas development.[17] A total of 5,856 wells is predicted under this alternative. The total number of newly created jobs would be approximately 19,910 over 20 years, or 995 if distributed evenly over a 20-year period (assuming that all 5,856 wells were in operation at the same time). With an annual estimated wage income at $158,412 per well, Alternative D (No Action) would result in $927.6 million dollars in wage income over the life of the plan or approximately $46.4 million annually.

Of the 5,856 total predicted wells, 1,858 would be oil, 3,886 would be gas, and 112 would be CBNG. Total development costs under Alternative D (No Action) would be $11.9 billion over a 20-year period, or approximately $596.1 million over one year. Gross state revenue from oil and gas development costs would be estimated to be $434.1 million with the drilling and completion of the 5,856 wells predicted under Alternative D (No Action), and local revenue is estimated to be $269.2 million. Ad valorem tax revenues for the Alternative D (No Action) would total $18,832,896. Sales tax contributions from oil and gas developers and their employees would be substantially less under Alternative D (No Action), compared to Alternative B (maximum amount of wells) , because 535 less wells would require fewer employees and overall development costs within the planning area.

Annual recovery value for 5,856 wells under Alternative D (No Action) is $1.068 billion, of this 45% or $480.9 million would be royalty revenue for the federal government and 40% or $427.4 million in royalty revenue would be distributed back to the counties. This alternative would generate the least amount of royalty revenues compared to all of the alternatives. Under Alternative D (No Action), royalties paid to the state and counties from oil and gas sales on federal lands (including mineral lease revenue and severance taxes) would be the least of the five alternatives (this is because the Hill Creek Extension [188,500 acres] is not included in the total acreage calculations of Alternative D, No Action).

4.14.3.2.6. ALTERNATIVE E

Alternative E would open 1,914,000 acres in the Standard Stipulations, Timing and Controlled Surface Use, and No Surface Occupancy categories for CBNG and oil and gas development. The total number of predicted wells under Alternative E would be 6,118. Of the 6,118 total predicted wells, 1,957 would be oil, 4,037 would be gas, and 114 would be CBNG.

Assuming that the drilling and completion of one well would create 3.74 jobs; under Alternative E, there would be 22,881 jobs resulting from 6,118 wells, or 1,144 jobs annually if distributed evenly over 20 years (assuming that all 6,118 wells were in operation at the same time). Increases in the number of potential wells under Alternative E would have a long-term direct beneficial effect on jobs compared to Alternative D (No Action), as Alternative E would potentially increase the jobs in this industry by approximately 979 over 20 years, and approximately 49 jobs in one year. However, increasing jobs in this sector may increase the region's dependency on this industry, which consequently increases the risk of economic downturn due to a bust cycle in oil and gas development.

With an annual estimated wage income at $158,412 per well, Alternative E would result in $969.1 million dollars in wage income over the life of the plan or approximately $48.4 million annually.

Minerals decisions under Alternative E would increase the costs of developing the total predicted oil and gas wells by $0.6 billion, compared to Alternative D (No Action). Such development would potentially create a total cost of development of $12.5 billion over 20 years, or approximately $623 million over one year.

An increase in the total number of potential wells from current management practices would have a long-term, beneficial effect on state and local revenue. Gross state revenue generated as a result of development costs is estimated to be $453.6 million with the drilling and completion of 6,118 wells under Alternative E. Local revenue is estimated to be $281.3 million with the completion of all wells under Alternative E. Ad valorem tax revenues for the Alternative E would total $19,675,488. Sales tax contributions from oil and gas developers and their employees would be slightly less than Alternative C because the total amount of predicted wells is 106 less than Alternative C. With 262 more wells proposed than Alternative D (No Action), sales tax revenues would be greater under Alternative E.

In comparison to Alternative D (No Action), royalties paid to the state and counties from oil and gas sales on federal lands (including mineral lease revenue and severance taxes) would increase in proportion to the increase in production, which would be a long-term, beneficial effect on economics in the region. Royalty and tax revenue paid to the state and local governments resulting from oil and gas development would increase by 4.5% compared to Alternative (No Action).

Annual recovery value for 6,118 wells under Alternative E is $1.116 billion, of this 45% or $502.4 million would be royalty revenue for the federal government and 40% or $446.6 million in royalty revenue would be distributed back to the counties. The overall contributions from

royalty revenues under Alternative E would be greater than Alternative D (No Action), but slightly less than Alternative C.

An additional potential impact to state revenues is the potential loss to SITLA from not being able to lease or develop lands bordered all or in part by non-WSA lands with wilderness characteristics. The value of these lands for oil and gas leasing and/or development may be reduced if all or portions of public lands bordering these state lands are closed to new oil and gas leasing. This in turn could reduce the monies collected by the state (through SITLA), including royalties and severance taxes. These impacts can be estimated using current data, and incorporating several assumptions. If one assumes that SITLA lands whose perimeter is more than 50% bounded by BLM acreage closed to new oil and gas leasing, as a result of implementing Alternative E, would be unavailable for development, and using the projections of the RFD, one can project that over twenty-four wells (24.49) would not be drilled over the life of the plan. Using data provided by the State of Utah, royalty payments to wells on SITLA lands averaged $57,065 as of early 2008. Severance taxes averaged $9,335 for all wells, regardless of land ownership. Multiplying these figures by the wells assumed that would not be drilled, the fiscal loss to the state would total $1,425,379 in royalties and $233,171 in severance taxes in any year in which all 24.49 wells would have been in operation. This amount could increase over the life of the plan, as it is likely that some fraction of these wells would be in operation in several (or even all) years of the plan.

The following table summarizes the effects of oil and gas development on the regional economy.

Table 4.14.3. Summary of the Impacts of Oil and Gas Development in the VPA

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)*	Alternative E
Predicted Wells						
Total Acreage	1,916,936	1,914,000	1,914,000	1,914,000	1,725,500	1,914,000
Acreage Open	1,727,194	1,850,162	1,861,450	1,685,754	1,672,960	1,358,454
% of Total Acreage Open	90%	96%	97%	88%	97%	71%
Total Well Potential	6,342	6,342	6,391	6,224	5,856	6,118
Jobs (Based on 3.74 jobs per Well)						
Total Jobs over 20 Years	23,719	23,719	23,902	23,277	19,910	22,881
Jobs per Year (if distributed evenly over 20 years)	1,185	1,185	1,195	1,163	995	1,144
Annual Wage Income (Based on $158,412)						
Total Income Over 20 Years	1.00 billion	1.00 billion	1.01 billion	986.0 million	969.1 million	969.1

Table 4.14.3. Summary of the Impacts of Oil and Gas Development in the VPA

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)*	Alternative E
Total Income Per Year (if distributed evenly over 20 years; millions of dollars)	50.2	50.2	50.6	49.3	46.4	48.4
Development Costs (Based on Average $2,035,891 Development Cost per Well)**						
Development Cost over 20 Years (billions of dollars)	12.9	12.9	13.0	12.7	11.9	12.5
Development Cost per Year (if distributed evenly over 20 years; millions of dollars)	645.6	645.6	650.6	633.7	596.1	623
Ad Valorem Tax Revenue						
Total Ad Valorem Tax per well over 20 years (millions of dollars)	20.4	20.4	20.5	20.0	18.8	19.6
Total Recovery Value Annually***						
Recovery Value based on wells per alternative and the Proposed RMP (billions)	1.157	1.157	1.166	1.136	1.068	1.116
Gross Annual Royalty Revenue ***						
Federal Revenue (millions of dollars)	520.8	520.8	524.8	511.2	480.9	502.4
County Revenue (millions of dollars)	462.9	462.9	466.5	454.4	427.4	446.6

*The Hill Creek Extension (188,500 acres) was not leased in the Book Cliffs RMP and therefore is not included in the total acreage calculations of Alternative D (No Action).

** Development costs do include a portion of the income effects from employment, as such this leads to some double-counting

***Assuming wells are producing at maximum production.

Data for development costs, ad valorem taxes, and projected gross revenue from UEO 2004 Final Report.

4.14.3.3. Impacts of Minerals Development on Social Conditions

Social well-being in communities is often disrupted during boom periods, characterized by extreme growth rates that can double population in a decade or less. Studies in natural resource driven communities—including in Utah—have found that disruptive social effects may not last once stability is re-established (Smith et al. 2001). The rapid population growth that can fuel these disruptive social effects, however, has not occurred to date in the planning area. State of Utah population estimates put the overall population growth for the three counties comprising the planning area at approximately 10% from 2000–2006. Conversely, the State of Utah as a whole grew 14.1% in the same period, a rate of growth 40% higher than the planning area. The rate of population growth in the planning area may be understated, as it does not include transient workers. Even if all employees in the minerals industry in Uinta Basin were transient (an unlikely scenario), population growth would still not approach the levels cited in the Smith et al study.

Another negative social impact often mentioned as a consequence of a boom environment is an increase in crime, presumably due to a more transient workforce which may not share many local values. This, however, has not occurred within the planning area. Table 4.14.4 shows crime indices as reported by the State of Utah for the State as a whole and for Uintah County and Vernal City, areas which presumably feel most of the impact from any increase in crime resulting from a boom in minerals development.

As Table 4.14.4 indicates, Uintah County as a whole has consistently reported lower crime than the State of Utah as a whole. Vernal City reported higher crime rates than both the state and the county up to 1985. Since 2000, however, Vernal City's reported crime rate has been very similar to the State of Utah, and lower from 2003-2005. This data suggests that an increase in crime, although not outside the realm of possibility in the future, has not yet occurred.

Table 4.14.4. Reported Crime Indices for State of Utah, Uintah County and Vernal City, 1980-2005

Year	State	Uintah	Vernal
1980	5,880.6	1,974.6	10,177.2
1985	5,317.3	1,843.4	8,505.8
1990	5,659.9	231.9	9,738.1
1995	6,090.8	2,523.3	8,383.7
2000	4,476.1	1,758.2	4,491.3
2001	4,243.0	1,832.8	5,561.2
2002	4,452.4	1,558.4	5,986.8
2003	6,640.4	1,527.3	5,113.1
2004	9,831.7	2,149.0	7,682.7
2005	6,054.9	2,070.5	3,984.4

Data sources:
http://www.justice.utah.gov/Research/Crime/CrimeRate.pdf;
http://bci.utah.gov/Stats/StatsHome.html

A major factor that could alleviate or even mask a decline in social well-being is the recognition that the area has come to depend more on oil and gas development over the recent past .The Smith et al study concludes that even communities which suffer social disruptions due to minerals booms tend to recover quickly once the boom has ended.

4.14.3.4. IMPACTS OF NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS DECISIONS ON SOCIOECONOMICS

4.14.3.4.1. PROPOSED RMP

Under the Proposed RMP, 106,178 acres lands would be managed for the protection of non-WSA lands with wilderness characteristics. Managing the 106,178 acres (15 areas) to maintain their wilderness characteristics could have potential beneficial *or* adverse impacts on socioeconomics depending on the resource impacted. Impacts to resources as a result of management prescriptions for non-WSA lands with wilderness characteristics not listed in the sections below are anticipated to have negligible impacts to socioeconomics.

4.14.3.4.1.1. Livestock Grazing

Under the Proposed RMP livestock grazing would not be permitted in Desolation Canyon non-WSA lands with wilderness characteristics. The absence of grazing would likely improve riparian conditions and watershed values over time. Improving the natural condition of the area would sustain the setting necessary to support wilderness-related recreation opportunities (e.g., hiking, backpacking, river floating, hunting, and wildlife viewing). Improving the recreation opportunities (and overall quality of the visitor experience) within the Nine Mile area could lead to an increase in tourism and subsequent tourist related spending in the surrounding communities, thus having a beneficial impact on the local economies.

Because the amount of AUMs area identical under Alternative D (No Action) and the Proposed RMP, regardless of the designation of non-WSA lands with wilderness characteristics, adverse impacts to the ranching community would not be likely.

4.14.3.4.1.2. Minerals

All or parts (between 70% and 100%) of 13 non-WSA lands with wilderness characteristics, totaling up to 162,844 acres, would lose their natural characteristics and opportunities for solitude and primitive recreation due to surface disturbance and the presence and noise of people and equipment during exploration for and development of oil and gas resources in the VPA. See Section 4.10.2.5.1.1 for which areas would be impacted. Given the existing leases in the area, resource potential, and past production it is likely that all of these areas would loose their wilderness potential. This could have an adverse effect on visitors to the area who are seeking opportunities for solitude and primitive recreation activities.

Under the Proposed RMP 106,178 acres (15 areas) of lands non-WSA lands with wilderness characteristics would be managed to maintain their primitive nature. As such, these areas would

be closed to future mineral leasing and minerals disposal. Because the desired location of future oil and gas wells is not known, it is not possible to quantify the amount of wells and subsequent revenue that would not be generated as a result of the closure. However, with a total of 1,640,569 acres open to mineral development under the Proposed RMP only 6% would be closed to development as a result of the non-WSA lands with wilderness characteristics management restrictions. The loss of revenue based on a 6% decrease in the number of wells drilled over the life of the RMP would likely be negligible to the local economies.

4.14.3.4.1.3. Lands and Realty

Under the Proposed RMP, non-WSA lands with wilderness characteristics managed to protect their wilderness characteristics would be managed as ROW avoidance areas. Avoidance from future ROW development for pipelines and power lines would prevent surface disturbance and the placement of human-made structures on the land and protect the natural characteristics of the landscape. The protection and enhancement of opportunities to participate in unconfined and primitive recreation would likely contribute to a positive visitor experience, should the visitor be seeking these types of opportunities.

Section 4.9.2 states that lands and realty decisions would have minor to negligible impacts on mineral development (a potential revenue-generating resource for the VPA) regardless of alternative selected. Consequently, an adverse impact to socioeconomics from the management of non-WSA lands with wilderness characteristics is not anticipated.

4.14.3.4.1.4. Recreation

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would shift the focus of recreation to primitive and unconfined activities (e.g., hiking, backpacking, river floating, hunting, and wildlife viewing), opportunities for solitude, and the settings needed to achieve these opportunities. Coupled with the lands managed for their wilderness characteristics, SRMAs would generally retain the natural characteristics of the landscape, allowing minor development consistent with VRM Class II objectives. Retaining a natural setting would support opportunities for solitude and primitive forms of recreation. The long-term management of lands to retain their natural characteristics would likely have beneficial impacts on visitor experience, tourist-related revenues to local communities, and increase the likelihood that visitors would return to the area for a similar experience. See Section 4.12.2.6.1 for details on recreation management decisions.

Proposed management stipulations for non-WSA lands with wilderness characteristics would limit OHV use to designated routes, which would adversely reduce the recreational opportunities for motorized and mechanized recreation within these areas. Visitors to the area seeking motorized experiences would have fewer opportunities for these types of experiences as 75,845 acres would be closed to OHV use. However, with 6,202 acres designated as "open" for cross-country travel and 1,643,475 designated as "limited" to OHV travel, less than 4% of the VPA would be closed to OHV travel as a result of the non-WSA lands with wilderness characteristics management practices.

Managing lands for wilderness characteristics may have some positive economic benefits to the local economy, above and beyond recreation benefits to individual users of these areas. There is an extensive body of literature which argues that protecting lands as wilderness provides local, regional and national economic benefits. A paper prepared by the United State Forest Service (Bowker et al. 2005) summarizes some of the more relevant research on this topic. For example, some research suggests that private property located next to or near protected lands increases in value due to this proximity. Other research suggests that areas with protected lands are more likely to attract higher income individuals, as well as businesses, who value the types of recreation activities provided in protected areas. Still other research argues that certain types of high-dollar recreation, such as hunting, are enhanced by wilderness protection. Whereas most of these studies have focused on the benefits accruing to designated wilderness, it is possible that the same arguments may be applicable to non-WSA lands with wilderness characteristics.

4.14.3.4.2. ALTERNATIVES A- D

In these alternatives, it is not proposed to protect wilderness characteristics outside of designated WSAs. There would be a beneficial impact to socioeconomics by allowing a greater area to be developed for oil and gas and other resource extractions. This benefit would be somewhat offset by loss of recreational opportunities and the resulting economic benefits.

4.14.3.4.2.1. Alternative E

The impacts to socioeconomics from management of lands to maintain the wilderness characteristics of the non-WSA lands with wilderness characteristics would be the same as those described for the Proposed RMP, but it would affect more acres, including all of the non-WSA lands with wilderness characteristics. Under Alternative E, all 25 non-WSA lands with wilderness characteristics, totaling 277,596 acres would be managed to maintain their wilderness characteristics. See Section 4.01.2.14.3 for management prescription details.

Protecting wilderness characteristics limits activities that would impair them. Specifically, mineral development and extraction would be limited as a result of protecting wilderness characteristics. Oil and gas development would be limited to that which could be accomplished with no surface occupancy (i.e., directional drilling). The areas would also be closed to mineral material disposal, although locatable mineral entry and development would still be allowed.

Protection of wilderness characteristics would have minor to substantial, negative impacts upon extraction and development, as they would exclude lands from minerals development and lower the number of locations where potential wells could be drilled. The lower number of locations could indirectly lead to a lower yield and commercial supply of oil and natural gas and fewer royalties paid to the federal government and/or the State of Utah. An approximate monetary impact would be difficult to speculate because desired future locations of development in proposed non-WSA lands with wilderness characteristics is unknown. However, with a total 1,499,491 acres open for mineral development under Alternative E, 15% of the land in the VPA would be closed to mineral development. In general, and with specific regard to management of lands for wilderness characteristics, Alternative E would have the greatest potential for a

decrease in federal, state, and local revenues compared to the other Action Alternatives and the Proposed RMP.

4.14.3.5. EFFECT OF PALEONTOLOGY ON SOCIOECONOMICS

Management actions for paleontological resources would have negligible impacts on socioeconomic resources because the recreational and scientific collection of fossils, as well as the protection of these resources would be similar to current conditions and are the same for the Proposed RMP and across all alternatives. Personal collection of invertebrate and plant fossils would be allowed throughout the VPA. The recreational collection of vertebrate fossils, as well as of noteworthy invertebrate and plant fossils, is already prohibited within the VPA. Therefore, the recreational collection of fossils from BLM-administered lands would have minimal impacts on the local economy. The economic contributions, including sales and hotel tax revenue, from scientific collection would also be negligible under the Proposed RMP and all alternatives.

Additional information on fossils and collecting rules would be provided to the public through websites, publications, and personal contacts would occur under the Proposed RMP and all alternatives. Educational information regarding the paleontological resources could attract tourists to the local area.

Areas found rare and significant invertebrate and plant fossils would be closed to hobby collection under the Proposed RMP and all alternatives. This management decision could adversely impact those hobbyists currently allowed to pursue such collection.

4.14.3.6. IMPACTS OF RECREATION ON SOCIOECONOMICS

The relationship between changes in decisions pertaining to recreation use and the economic impacts associated with those changes is difficult to quantify. In this analysis, assumptions regarding this relationship include:

- Increasing recreation opportunities could positively affect visitation, which in turn could affect traveler spending at local businesses and overall spending in the region.
- Improving the recreation experience would have a beneficial effect on the social aspects of recreation and potentially increase visitation.
- From a social perspective, improving the quality of the recreation experience could also improve quality-of-life factors for local residents by providing greater recreational opportunity.
- A portion of the tourism related tax dollars, such as transient room tax and restaurant tax, comes from oil and gas development related services (lodging, food, and other services for mining sector employees). Although it is nearly impossible to extract whether a tourist dollar was generated from a tourist or a temporary mining employee, both are beneficial to the retail and service sectors of the local economy. A decrease in temporary oil and gas-related jobs may lead to a decrease in "tourism-related" revenue for the county. On the other hand, a decrease in oil and gas-related jobs could lead to an increase in actual tourism-related revenue.

- Special Recreation Management Areas (SRMAs) are also intended to reduce user conflict as the BLM manages them more broadly for a specific recreational experience in comparison to focus areas. Each SRMA has been previously identified as an area where recreation impacts or management concerns occur. SRMAs would still allow for other recreational uses within their boundaries but emphasize particular recreation opportunities that lie within the SRMA. See Section 4.12.2.6.1.2 for the focus of each SRMA.

4.14.3.6.1. PROPOSED RMP

Recreation decisions under the Proposed RMP would have long-term, indirect, beneficial effects to socioeconomics, as they would establish new recreational activities, expand and improve current recreational facilities, and limit other uses above and beyond recreation decisions under Alternative D (No Action). The effects would potentially include increased visitation, which would translate into an increase in overall tourist spending in surrounding communities.

The Proposed RMP is most likely to provide an increase in the demand for a range of recreation/tourism-associated goods and services and the number of jobs related to the tourism industry when compared to the all alternatives. Long-term, indirect beneficial effects to local residents would also occur: local residents would have the opportunity to enjoy a larger number of recreational sites, and they would have a higher quality recreational experience in those recreational areas.

4.14.3.6.1.1. Backcountry Byways

Under the Proposed RMP three existing roads would be proposed as backcountry byways. Seep Ridge, Book Cliff Divide, and Atachee Ridge would provide opportunities for backcountry sightseeing, scenic driving, and educational interpretation of the area. Expanding the range of recreation and educational opportunities for visitors to the area would likely contribute to in increase in positive visitor experience. A positive recreational experience could contribute to an increase in the amount of recreationists to the area, potential return visitors, and increases in tourism-related spending in the local communities. Thus, the designation of Backcountry Byways under the Proposed RMP could have beneficial impacts to the social and economic conditions.

4.14.3.6.1.2. SRMAs

The Proposed RMP would beneficially increase the combined acreage of SRMAs from 87,931 acres under current management to 133,560 acres. Each of the SRMAs would manage for the type and range of recreational activities and opportunities that lie within a given SRMA. Under the Proposed RMP seven SRMAs would be designated and a range of opportunities would be emphasized within the SRMAs. For example, the Blue Mountain SRMA (42,729 acres) would be managed with an emphasis on OHV use, special recreation activities, and competitive events. Fantasy Canyon (69 acres) would be managed to emphasize self-guided touring and hiking. See Section 4.12.2.6.1.2 for details on SRMAs management emphases. SRMAs in the VPA would emphasize recreation opportunities for a range of user groups. Because it is assumed that the SRMAs are managed to reduce user conflict, it is likely that the diverse range of recreationists

would have positive visitor experiences. The positive experiences could lead to an increase in tourism over the area in the short and long-term and therefore increased spending in the local communities. Also, local outfitters specializing to recreation activities could benefit from the designation of SRMAs as their services would be needed to serve the recreational visitor.

4.14.3.6.1.3. Non-WSA Lands with Wilderness Characteristics

The Proposed RMP would manage 15 areas totaling 106,178 acres to ensure their wilderness characteristics. The protection of these areas provides opportunities for primitive and unconfined recreation. These additional opportunities may produce both social benefits for the recreationists who desire such opportunities. An increase in recreationists seeking this type of experience or return recreationists to the area could have positive economic impacts on local economies with regard to tourist-generated sales and tax revenues. Local recreation outfitters may also benefit from recreationists seeking guided excursions in the 15 areas.

Conversely, those recreationists enjoying unlimited motorized access may suffer negative social impacts as they would not be able to recreate in the 15 areas with wilderness characteristics. This could have an adverse impact on local sales and tax revenues generated from tourists visiting the planning area.

4.14.3.6.1.4. Trails

Up to 400 miles of non-motorized trails used for hiking, horseback riding, and mountain biking would be signed, improved or developed under the Proposed RMP, compared to 50 miles under Alternative D (No Action). With a substantial increase in trails, compared to Alternative D (No Action), those seeking hiking, and/or riding opportunities would have numerous opportunities for recreation. Drawing more hiker, bikers, and horseback riders to the area could have positive impact on the local economy as more recreation-related spending would take place.

Under the Proposed RMP, up to 800 miles of motorized routes would be signed, improved, and/or developed. In contrast, Alternative D (No Action) does not specify the development of any new motorized trails and the Red Mountain Trail is currently the only designated motorized trail. The additional number of trail miles would reduce the density of OHV users, increase user safety, and reduce user conflicts. The designation would also alleviate strains on trails currently used for a variety of recreational activities and would potentially reduce overland OHV use. It is anticipated that the overall reduction on user conflicts and increased trail-riding opportunities for OHV users would lead to improved visitor experiences for OHV users as well as those individuals who choose non-motorized travel on existing trails. Positive visitor experiences for all groups could lead to an increase in tourist-related revenues for the local communities.

4.14.3.6.2. ALTERNATIVE A

Many recreation decisions under Alternative A closely resemble the recreational opportunities provided in the Proposed RMP. The amount of Backcountry Byways, trails, and cabins proposed under Alternative A are identical to the Proposed RMP, therefore impacts to socioeconomics would be identical.

Under Alternative A 499,588 acres would be designated as SRMAs. This is a 568% increase from Alternative D (No Action). The increase of 411,660 SRMA-managed acres within the VPA would be the result of expand the existing Browns Park and Nine Mile SRMAs by 71,233 acres (the 24,259-acre Red Mountain-Dry Fork SRMA would remain the same size), with the remaining acreage encompassing the proposed White River, Blue Mountain and Book Cliffs SRMAs. Special Recreation Management Area-designated acreage would comprise 29% of the 1,725,512 acres of BLM administered lands within the VPA. Each of the 6 SRMAs would be managed for range of recreational opportunities and activities. See Section 4.12.2.6 for recreation emphasis per SRMA.

In comparison to Alternative D (No Action), this alternative would have more beneficial impacts on recreational opportunities because more area would be managed under SRMAs to protect recreation resources and provide opportunities for a range of recreational activities. In addition, user conflict would likely be substantially reduced when compared to Alternative D (No Action). The reduction in user conflict would result in increases in visitor satisfaction. Increases in visitor satisfaction could lead to an increase in tourists seeking a specific recreation experiences and repeat visitors to the area. Tourist-related business and a range of recreation outfitters could experience long-term beneficial impacts under Alternative A.

4.14.3.6.3. ALTERNATIVE B

Recreation decisions under Alternative B closely match the recreational opportunities provided in Alternative D (No Action), the current trend in the economics associated with tourism would continue (described below under Alternative D). However, Alternative B would establish Backcountry Byways similar to the Proposed RMP. Alternative B would provide slightly fewer opportunities for recreation than the Proposed RMP, therefore having slightly less beneficial long-term direct and indirect social and economic impacts. Identical to Alternative D (No Action), four SRMAs would continue to be managed for their cultural, scenic, cultural, wildlife and/or recreational values. Alternative B, similar to Alternative D (No Action), would provide less of a demand for recreation/tourism associated goods and services in the local economies, compared to the Proposed RMP. Local residents would have less of an opportunity to enjoy the increased recreational sites and thus, possibly providing a lesser-quality recreational experience to the Proposed RMP.

Under Alternative B 400 miles of non-motorized trails would not be developed under this alternative. This could lead to increases in user conflicts between user groups and a decrease in visitor satisfaction which could, in turn, adversely impact tourist-spending at the local level.

4.14.3.6.4. ALTERNATIVE C

Recreation decisions under Alternative C are similar to the Proposed RMP and would have similar long-term, beneficial effects to socioeconomics. However, under Alternative C Backcountry Byways would not be designated, thus adversely limiting recreational scenic driving in the VPA. Alternative C would provide more potential for increased, tourism-related visitation and contribution to the economic conditions of the region than Alternatives B and D, but less than the Proposed RMP.

4.14.3.6.5. ALTERNATIVE D (NO ACTION)

The long-term direct effects of Alternative D (No Action) would be the continuation of current visitation patterns and trends and a continuation of the existing contribution of tourism to the local economy. Current recreation opportunities in the three counties support over 2.5 million visitors annually (based on regional visitation counts), total traveler spending of $99.5 million annually, and a total tax benefit to the three counties of approximately $2.08 million per year. A total of 2,580 jobs are attributable to the recreation/tourism sector within the three counties (Utah Department of Travel Development 2004).

Given the increase in OHV use in the VPA and across the state, conflicts between user groups would like increase over time. An increase in user conflicts would like result in a degradation of visitor experience. Dissatisfaction with recreation opportunities could lead to adverse long-term impacts to the tourism-based revenues generated in local communities.

4.14.3.6.6. ALTERNATIVE E

With 277,596 acres in 25 areas of non-WSA lands with wilderness characteristics to be managed to protect wilderness characteristics, Alternative E would provide the greatest amount of opportunities for primitive and unconfined recreation. These recreation opportunities would have the potential to produce the greatest amount of social benefits to those seeking solitude and quiet travel. In addition, under Alternative E local outfitters and local economies could benefit from recreation patrons visiting the planning area.

On the other hand, those enjoying unlimited motorized access would be most adversely impacted under Alternative E. The inability to access an additional 277,596 acres may negatively impact their recreation experience and discourage visitation to the area. Potential sales and tax revenues from motorized users in local communities could decrease under Alternative E.

Eight SRMAs focusing on a range of recreational opportunities would be designated under Alternative E. However, with an emphasis on 277,596 acres of non-WSA lands with wilderness characteristics the focus would shift to recreation to primitive and unconfined activities (e.g., hiking, backpacking, river floating, hunting, and wildlife viewing), opportunities for solitude, and the settings needed to achieve these opportunities.

Similar to the Proposed RMP, 400 miles of non-motorized trails would be signed, improved or developed. Providing additional opportunities for hiking, biking, and horseback riding would accommodate demand and reduce user densities on current trails. Increasing trail-usage opportunities has the potential to increase tourism-related spending by drawing additional and repeat trail-users to communities in or near the VPA.

Under Alternative E, no motorized trails would be improved or developed. The lack of trails produced under this alternative could lead in increases in user conflicts on existing trails, potentially decreasing visitor safety and satisfaction.

4.14.3.7. Impacts of Special Designations on Socioeconomics

4.14.3.7.1. Proposed RMP and Alternatives A–E

4.14.3.7.1.1. ACECs

Protecting the specific, identified relevance and importance values of ACECs limits activities that are considered incompatible with specific values and resources of concern. Specifically, mineral development and extraction would be limited as a result of ACEC designations. It is important to note the ACEC designation does not completely restrict development. Standard stipulations, and controlled surface use is permitted in areas that do not compromise the values or resources of concern. Mineral development with no surface occupancy (i.e., directional drilling) is also permitted within ACECs. Table 4.14.4 shows the number of acres under NSO and Closed leasing categories within the proposed ACECs for the Proposed RMP and each alternative.

The designations of ACECs would have minor to substantial, negative impacts upon minerals resource extraction and development. The designation would exclude lands from minerals development and lower the number of locations where potential wells could be drilled, especially under Alternatives C and E which would designate 681,310 acres. Alternative A proposes 345,400 acres designated as ACECs. The Proposed RMP would have the least amount of acres(131,700) designated as ACECs and therefore greatest potential of minerals development.

The lower number of locations could indirectly lead to a lower yield and commercial supply of oil and natural gas and fewer royalties paid to the federal government and/or the State of Utah. An approximate monetary impact would be difficult to estimate because desired future locations of development in proposed ACECs sites are unknown.

Table 4.14.5. Minerals Leasing Restrictions Acreages within Proposed ACECs, for the Proposed RMP and each Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Total	83,539	83,539	23,390	257,006	47,167	261,602

Under the Proposed RMP and Alternatives A–D OHV use would be allowed in ACECs on designated routes. Alternative E would close OHV use in those portions of ACECs in which wilderness characteristics would be protected. Allowing OHV access within ACEC designations would be beneficial in the long-term for socioeconomics because opportunities would remain available for recreational access. Revenue generated in local communities by OHV users would be similar to current conditions.

When compared to Alternatives A–E, visitors to the area seeking opportunities for primitive travel and solitude would have fewest opportunities under the Proposed RMP. Fewer opportunities for primitive travel may mean visitors would choose not to visit the area and patronize local businesses. Local outfitters who specialize in backcountry, non-motorized travel

could be adversely impacted with the designation of fewer ACECs. See Section 4.16.1 for areas and acres of ACECs designated by the Proposed RMP and all alternatives.

4.14.3.7.1.2. Wild and Scenic River Designation

The Proposed RMP recommends 52 river miles of Wild and Scenic River (WSR) designations. Alternative B and D also recommend 52 miles to be designated as WSR. Alternative A recommends 86 total river miles and Alternatives C and E recommends 216 river miles be designated as WSRs. See Section 4.16.2 for locations of proposed WSR designations.

Management prescriptions for mineral activities in riparian and floodplains within WSR designations do not allow surface occupancy. Therefore, Alternative E would most adversely impact mineral resource extraction and development, as it proposes the greatest amount of river miles as WSR and lower number of locations where wells could be drilled. This lower number of locations could potentially lead to a lower yield of oil and natural gas and fewer royalties paid to the federal government and/or the State of Utah.

The designation of WSRs under the Proposed RMP and all alternatives could potentially lead to an increase in tourism revenue to the BLM and local communities, thus having long-term beneficial impact on the local economies. The designation of rivers and/or river segments could attract more people to the area who enjoy the type of recreation that often accompanies these designations (including high scenic qualities and opportunities for solitude). The increase in tourism based on river recreation could lead to increased revenue to local river running companies, increased permit revenue, and increase in tourist dollars spent within nearby communities. Alternatives A, C, and E would have the greatest potential to increase tourism revenue for river-based recreation based on the amount of river miles determined suitable for WSR designation.

Under the Proposed RMP and Alternatives A, B, C, and E all eligible river segments would be in a limited or closed OHV category, with most of the segments limited. River corridors would largely be protected from disturbance related to OHV activity. Under Alternative D (No Action) river corridors remain in an open category for OHV use, which could exacerbate user conflicts and decrease wilderness experience for river runners and other who prefer non-motorized recreation along river corridors. Alternative D would provide OHV users with the greatest amount of access to river corridors.

4.14.3.8. Impacts of Travel Decisions on Socioeconomics

4.14.3.8.1. Proposed RMP

Under the Proposed RMP, areas within the VPA designated as Open to OHV cross-country travel would be limited to approximately 6,202 acres (a decrease of approximately 781,657 acres when compared to Alternative D, No Action). The impacts of limiting the number of open-designated acres would be long-term direct and indirect, adverse and beneficial on recreation. Long-term direct adverse effects would include the reduction in opportunities for OHV cross-country recreation-related travel. However, this loss would be offset by the 800 miles of trails

proposed for OHV use in the Proposed RMP. The decrease in acres designated as "open" leads to fewer opportunities for OHV travel, as such these recreationists may reduce their visitation to the area.

Areas designated as Limited to Designated Routes for OHV travel would be increased to 1,643,475 acres (an increase of 756,200 acres compared to current management in Alternative D, No Action), which would have direct long-term beneficial impacts on recreation by increasing the level of OHV management within the VPA. This would have direct beneficial impacts on recreation by reducing recreational resource-use conflicts. Under the Proposed RMP, OHV travel limited to designated routes would include the 106,178 acres of non-WSA lands with wilderness characteristics. Reducing user conflicts will likely result in more positive visitor experiences in the long and short-term.

Designating areas as Closed to OHV travel would be increased from 50,388 acres (under Alternative D) to 75,845 acres (an increase of 25,457 acres) and the miles of designated routes would increase from zero miles under existing conditions (Alternative D, No Action) to 4,860 miles. This increase in designated closed OHV routes would have direct long-term beneficial impacts on other non-motorized recreational opportunities activities by reducing recreation resource-use conflicts, and by reducing the OHV-related disturbances to soil, water, and wildlife habitat resources. Visitation by recreationists preferring non-motorized travel may increase within the VPA under the Proposed RMP.

4.14.3.8.2. ALTERNATIVE A

Impacts under Alternative A would be identical to the Proposed RMP as the designation of routes and closed areas are the same.

4.14.3.8.3. ALTERNATIVE B

The effects of Alternative B would be similar to those described under the Proposed RMP, for areas open to OHV travel. Areas closed to OHV travel would increase to a total of 60,187 acres (an increase of 9,799 acres compared to Alternative D, No Action). However, it is the least amount of all the action alternatives which would give OHV users the greatest opportunity for OHV travel on designated routes. Alternative B would have long-term beneficial impacts on other recreation resources similar to those described under the Proposed RMP.

4.14.3.8.4. ALTERNATIVE C

Alternative C would be the most restrictive to OHV use and provide the greatest amount of opportunities for non-motorized recreation. Areas closed to OHV travel would be increased from 50,388 acres (under Alternative D, No Action) to 366,559 acres. Areas designated as limited to designated routes for OHV travel would be increased to 1,353,529 acres, allowing for increased use in a more managed setting, and potentially sustaining the existing levels of OHV use.

A decrease in the number of acres available for OHV use would have long-term beneficial impacts on other non-motorized forms of recreation by reducing resource-user conflicts and by

enhancing and/or protecting recreation resources as described under the Proposed RMP. However, those recreationists who enjoy the OHV experience would have fewer opportunities for recreation and may reduce their visitation and patronization to the area.

4.14.3.8.5. ALTERNATIVE D (NO ACTION)

Current management practices designate a total of 787,859 acres as open to cross-country OHV travel, 887,275 acres as limited to designated routes, and 50,388 acres as closed to OHV use. No OHV routes would be designated under this alternative. Travel management under current conditions would be less restrictive to OHV users when compared to the action alternatives, but would maintain the current adverse impacts to natural and cultural resources and to non-motorized users, as discussed above. Continued adverse impacts to non-motorized users, as well as the natural and cultural resources could have long-term adverse impacts to tourism and tourist-related spending the area.

4.14.3.8.6. ALTERNATIVE E

Under Alternative E, 5,434 acres would be open to cross-country OHV travel, the same as under Alternatives B and C and a reduction of 782,425 acres from Alternative D (No Action). Under this alternative, motorized travel would be focused on designated routes, not cross-country. Although the experience of cross-country driving would be limited to 5,434 acres, motorized travel for access and recreation would still be available on 4,654 miles of road and trails.

There are 228 miles of routes that exist in the non-WSA lands with wilderness characteristics. Under this alternative, these routes would be closed to motorized travel, foreclosing the opportunity for backcountry driving, vehicle-supported camping, and other motorized forms of recreation.

OHV users would be most adversely impacted by the travel limitations of Alternative E. Although they may reduce visitation to the area, recreationists who enjoy non-motorized travel may increase visitation to the area over the short and long-term.

4.14.3.9. IMPACTS OF VISUAL RESOURCE MANAGEMENT DECISIONS ON SOCIOECONOMICS

The demand for a range of recreation opportunities would not be limited as a result of VRM (Visual Resource Management) classifications; therefore, impacts to socioeconomics from recreational visitation would be minor under the Proposed RMP and all alternatives. Opportunities for recreation with high levels of scenic quality (VRM Class I and Class II) would remain throughout Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs), Special Recreation Management Areas (SRMAs), and along eligible Wild and Scenic river segments. See Section 4.14.3.6 for more details on recreation impacts to socioeconomics.

The proposed designation of VRM Class acreages for the Proposed RMP and each of the alternatives are tabulated below in Table 4.14.6. Alternatives C and E provide the most benefit to tourists to the area who value scenic vistas. These alternatives could lead to a greater potential for increased and repeat tourists to the area who enjoy high levels of scenic quality. The large

amounts of VRM Class I and II could have adverse impacts to local industries that would have to spend more money mitigating for scenic quality disturbances.

Under the Proposed RMP, approximately 106,178 acres of non-WSA lands with wilderness characteristics would be managed under VRM Class II objectives in order to preserve their wilderness characteristics and values, which would have long term, preservation-related, beneficial impacts on scenic quality and visual resources.

Alternatives B and D would provide the least amount of VRM Class I and II acreages. Tourists enjoying high levels of visual quality would be most adversely impacted by these alternatives. Adverse impacts to industries resulting from visual mitigation would be least under these Alternatives.

Under Alternative E, approximately 277,596 acres of non-WSA lands with wilderness characteristics would be managed under VRM Class I objectives in order to preserve their wilderness characteristics and values (see Table 4.19.3). Based on these visual management objectives, Alternative E would provide the highest degree of protection to scenic quality under VRM I and II, followed by Alternative C, then Alternatives A and the Proposed RMP. Alternatives B and Alternative D (No Action) would provide the least protection to scenic quality under combined VRM I and II acreages.

Table 4.14.6. VRM Class Acreages for the Proposed RMP and all Alternatives

VRM Class	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
VRM I and	57,776	63,136	52,764	145,781	53,086	334,516
VRM II	231,911	294,773	114,030	362,660	113,686	259,694
VRM III	786,612	716,186	199,179	580,846	199,192	535,586
VRM IV	643,641	645,845	1,353,967	630,653	1,353,976	590,144
Total	1,719,940	1,719,940	1,719,940	1,719,940	1,719,940	1,719,940
VRM I and II	289,687	357,909	166,794	508,441	166,772	594,210
VRM III and IV	1,430,253	1,362,031	1,553,146	1,211,499	1,553,168	1,125,730

4.14.3.10. Impacts of Wild Horses on Socioeconomics

4.14.3.10.1. Proposed RMP and Alternative B

No wild horses would be maintained within the VPA under the Proposed RMP and Alternative B. The national constituency for the wild horse and burro program would be adversely impacted under the Proposed RMP and Alternative B. It is possible that the group's sense of "well-being" will be harmed by this decision. In addition, those who enjoy the sight of these animals may be less likely to visit the planning area.

4.14.3.10.2. ALTERNATIVES A, C, AND E

Those who enjoy the presence of the wild horse and burros in the VPA would benefit most under these alternatives. The greatest amount of protection to their habitat would be protected under these alternatives. Those who enjoy the sight of the animals may be more likely to visit the planning area and contribute to the local economy.

4.14.3.10.3. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would maintain current levels of adverse indirect, long-term impacts on wild horses in the HA and HMAs. Sense of well-being to those who support the animals would be maintained at current levels. Current contributions to the local economy from related tourists would remain the same.

4.14.3.11. IMPACTS OF WILDLIFE AND FISHERIES ON SOCIOECONOMICS

To the extent that habitat and forage would be protected for the emigration and/or reintroduction of Rocky Mountain Bighorn Sheep and moose populations, those who enjoy hunting and wildlife viewing would be beneficially impacted. Alternatives A, C, and E that implement the greatest amount of habitat and forage protection would be the most beneficial to hunting guides and outfitters in the VPA.

4.14.3.12. IMPACTS OF WOODLAND AND FORESTS ON SOCIOECONOMICS

Woodland management actions common to the Proposed RMP and all alternatives would have negligible impacts on the social and economic conditions of communities in Uintah, Duchesne, and Daggett counties, because the private and commercial use of woodland products is not a substantial contributor to the local economy. However, the forest and woodland could have potential beneficial impacts to public health and safety as the risk of catastrophic fire would be reduced. Also, to the extent the woodland and timber harvesting contributes to the overall health of local forests, benefits to wildlife and corresponding benefits to those who enjoy viewing or hunting could benefit.

4.14.4. SUMMARY

4.14.4.1. PROPOSED RMP

The Proposed RMP provides the second greatest opportunities for minerals development and the subsequent generation of royalties and revenues when compared to the alternatives. Although the potential increase in revenues related to minerals development would have beneficial impacts on the local economy, adverse impacts to recreation may occur with user conflicts and a decrease in visitor satisfaction.

However, with 15 areas of non-WSA lands with wilderness characteristics (106,178 acres) to be managed to preserve wilderness qualities, recreationists seeking solitude and opportunities for primitive recreation would have areas available to meet their needs. In addition, the increase in SRMA acreage would also recreationists focused recreation areas. The increase in SRMAs and

management of non-WSA lands with wilderness characteristics would have long-term beneficial impacts on socioeconomics as SRMA and non-WSA lands with wilderness characteristics would likely reduce user conflicts and increase visitor satisfaction.

A decrease in areas designated as "open" to OHV travel and an increase in the areas designated as "closed," compared to Alternative D (No Action), could have adverse impacts on motorized recreationists. Decreases in opportunities for "cross-country" travel and increase in closed areas may result in decreases in visitor satisfaction for the user group and a potential loss of revenue generated by this group.

Impacts to socioeconomics from other resources including livestock, wood harvest, paleontology, visual resource management, lands and realty would likely have negligible impacts to socioeconomic conditions under the Proposed RMP as well as the other alternatives given that the resource is not a substantial contributor to the local economy or changes resulting from the Proposed RMP or any of the alternatives would not likely have measurable beneficial or adverse impacts.

4.14.4.2. ALTERNATIVE B

This alternative would permit the most acres within the VPA for minerals development which would provide the greatest potential related revenue and royalties. This alternative would have the most adverse impacts to recreation resources due to the large number of acres available for oil and gas leasing. For visitors seeking opportunities for primitive travel and solitude, this alternative would have the greatest amount of long-term adverse effects. This could result in long-term decreases in tourist-based revenue for local communities. Impacts to OHV users would be similar to those under the Proposed RMP.

4.14.4.3. ALTERNATIVE C

Alternative C would have the least amount of acreage open for mineral development among the action alternatives. Consequently, the amount of revenues and royalties would be less under Alternative C. Limits of OHV travel would be greatest under this alternative, producing adverse impacts on mechanized recreational opportunities.

This alternative would have the most beneficial impacts on recreation. Designation of additional ACECs and eligibility designations of Wild and Scenic River segments would have beneficial impacts on recreation. Designation of the most acreage for SRMA management (522,604) would have major beneficial impacts on all forms of recreation. Long-term positive impacts on recreation users would likely result in increases to the local economy in terms of tourist-related spending.

4.14.4.4. ALTERNATIVE D (NO ACTION)

Because Alternative (No Action) does not include the Hill Creek Extension (more than 180,000 acres), the total amount of wells to be developed over the life of the plan, and subsequent revenue generated from the wells, would be the least of all the alternatives. Resource decisions

regarding minerals development would be less restrictive than those made for Alternatives C and E, more restrictive than Alternative A, and only slightly more restrictive than Alternative B.

Recreation decisions under Alternative B closely match the recreational opportunities provided in Alternative D (No Action), the current trend in the economics associated with tourism would continue. However, it is likely the due to an increase in OHV use, user conflicts will escalate and visitor experiences would be degraded. Thus, a reduction in tourist-related spending could decrease.

4.14.4.5. ALTERNATIVE E

The focus of this alternative would be the protection of non-WSA lands with wilderness characteristics. That protection would have substantial beneficial impacts on primitive and non-mechanized recreation activities, but it would exclude OHV use on 228 miles of routes and activities dependent on developed sites (e.g., campground and interpretive facilities). Recreationists seeking primitive recreation activities would benefit most from this alternative, which may result in long-term increases in visitor spending as overall visitation would increase and visitors would return to the area for similar experiences. Conversely, those seeking motorized recreation opportunities would have fewer opportunities for recreation. A potential for a decrease in revenues from this group would be greatest under Alternative E.

Minerals development and the revenue generated from them would be most adversely impacted under this alternative as the percentage of land open for development is nearly 30% less.

4.14.5. UNAVOIDABLE ADVERSE IMPACTS

There would be no unavoidable, adverse impacts to socioeconomics.

4.14.6. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

There are no foreseeable impacts for short-term use versus long-term productivity.

4.14.7. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

There are no foreseeable irreversible or irretrievable impacts to socioeconomics.

4.15. SOIL AND WATER RESOURCES

All of the alternatives and the Proposed RMP would impact soil and water resources within the VPA, as all of them contain plans for surface disturbance of some kind. Activities involving surface disturbance would disturb soils and water resources to varying degrees, due to the amount, placement, and type of surface disturbance; the disturbed soil's characteristics; and the surface hydrology.

The BLM manages 1,725,522 acres within the VPA. Many of the soils are derived from shale formations and are, therefore, highly erodible. Many of the soils also have limitations on rehabilitation after disturbance, which is one of the primary factors in evaluating the effects of other resource management decisions on soil and water resources. Table 4.15.1 displays acreage of soils with chemical or physical limitations and their percentage of the VPA. Some soil limitation areas overlap; therefore, the numbers listed in this table add up to a higher number than the total number of acres in the VPA.

For the purposes of this programmatic-level analysis, the acreages disclosed in Table 4.15.1 are assumed to be evenly distributed across the smallest nominal geographic area represented in each table. The analyses are done for all of the VPA, but Table 4.15.1 lists limiting soils by RFD area so specific analysis can be done for future projects. Limiting soils have specific chemical or physical properties that affect normal use and management. These limiting features (as defined by NRCS in soil interpretation tables) include but are not limited to high sodium or gypsum content, high erosion hazard, steep slopes, high rock content, high water table, high wind erosion hazard. The limitations of this type of broad scale analysis are best seen in cases when surface disturbance is concentrated in areas that are either highly erodible or highly non-erodible. Fortunately, limitations in analysis have been anticipated and will be compensated for by the surface stipulations found in Appendix K and site-specific analyses of water quality and soil stability. Approximate soil loss from water erosion due to oil and gas leasing (which includes CBNG) was analyzed by RFD area based on soil erosion potential (k-factor) and percent slope. Soils with a k-factor of ≥0.32 and a slope of greater than 10% were classified as erodible.

Table 4.15.1. Vernal Soils with Limitations by RFD Area

Limitation	Altamont-Bluebell	East Tavaputs Plateau	Manila-Clay Basin	Monument Butte-Red Wash	Tabiona-Ashley Valley	West Tavaputs Plateau	Total	% of VPA
Water Erodible	513	27,947	4,144	45,612	66,959	17,640	**162,815**	**9%**
Wind Erodible	15,997	410,494	34,760	560,157	267,055	73,191	**1,361,654**	**79%**
Sodic (sodium rich)	35	11,719	133	130,047	6,318	13,093	**161,345**	**9%**
Saline (high salt content)	6,679	40,006	1,816	219,781	83,096	14,473	**365,851**	**21%**
Gypsic (gypsum rich)	0	41,877	0	89,358	1,471	0	**132,706**	**8%**

4.15.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

Surface-disturbing activities that are currently occurring and are expected to continue include grazing, access to and maintenance of existing oil and gas wells and access roads, recreation and OHV use, and woodland harvest/vegetation removal. As a result of surface-disturbing activities in areas having soils with limitations, impacts common to the Proposed RMP and all alternatives include soil erosion, sedimentation, and impacts to surface and ground water quantity and quality. Surface disturbance can result in loss of vegetation or prevention of revegetation, increased soil erosion and sedimentation, and increased salinity in surface waters. Erosion control practices for slopes greater than 20% would be the same for the Proposed RMP and all alternatives, as per Utah's Non-Point Source Management Plan (UDEQ 2000). Careful planning of development to ensure impacts to soil and water are limited is important in protecting water quality and soil productivity. BLM will work towards compliance with water quality standards currently not in compliance at Pariette Draw Creek [TDS, selenium, and boron for 54.1 stream miles], Willow Creek, excluding Hill Creek, [TDS for 57.2 stream miles] and Nine Mile Creek [stream temperature on the VFO portion of 119.1 miles] where the BLM-administered lands make up a large percentage of the total acreage at these sub-basins. Efforts towards compliance can include limiting the concentrations of sediments. In general, TDS levels can often be proportional to sediment levels.

The Utah BLM Standards for Rangeland Health (Appendix F) apply to soil resources in the VPA. The Proposed RMP and all alternatives must adhere to Standards 1 and 4:

- Upland soils [must] exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform.
- BLM will apply and comply with water quality standards established by the state of Utah (R317.2) and the federal clean water and safe drinking water acts. Activities on BLM lands will fully support the designated beneficial uses described in the Utah Water Quality Standards (R317.2) for surface and groundwater.
- Site-specific conditions would need to be documented before modifying any prescriptions. Activities that would not comply with Standards 1 and 4 in the short term would require reclamation and rehabilitation to ensure water quality, soil productivity and sustainability. Additionally, the BLM would take measures to protect water quality, ensure soil productivity and sustainability in the event of wildland fire, drought, or other natural disasters, by reducing or eliminating livestock, wild horses, and/or wildlife forage allocations, recreational activities (e.g., camping and campfires, OHV use, etc.), and mineral exploration and acquisition until soils are stabilized. Monitoring would be used to determine the condition of water and soils and determine if water quality or soil productivity trends tended upward, downward, or static (considering the soil type, climate, and landform).

4.15.1.1. IMPACTS COMMON TO ALL FIRE MANAGEMENT DECISIONS

Fire management would have short-term, adverse impacts to soils and water via prescribed burning or fuels reduction, which would increase erosion rates. Some areas would be difficult to reclaim because of the soil's physical and chemical limitations (e.g., soils with high sodium, salt, or gypsum content). Additional post-fire erosion (i.e., a short-term, direct, adverse impact) would

occur from fire suppression activities such as the digging of fire lines and the bulldozing of roads.

However, in the long term, these fire management activities would reintroduce the natural fire return interval, thereby decreasing or eliminating the occurrence of catastrophic rangeland fires and promoting more productive rangelands with less water and soil degradation. The reduction of catastrophic fires would limit the aggressive fire suppression activities necessary for wildfire control, thereby minimizing indirect impacts to soil and water resources. As well, proper oversight for fire suppression activities would further reduce the potential for adverse impacts.

4.15.1.2. Impacts Common to All Lands and Realty Management Decisions

Lands and realty management decisions would have beneficial, long-term impacts to soils and water resources by pursuing locatable mineral withdrawals in specified areas within the VPA. Mineral withdrawals would provide indirect, long-term benefits to water quality by reducing soil erosion and sedimentation in streams.

On the other hand, pursuing public access under the Proposed RMP and various action alternatives would open specified areas up to recreation, potentially resulting in soil degradation along proposed travel routes and water quality degradation in stream corridors. Long-term direct adverse impacts would also occur where new ROWs are designated for development of roads or utility corridors.

4.15.1.3. Impacts Common to All Livestock and Grazing, Forage, and Wild Horse Management Decisions

The effects of livestock and grazing, forage and wild horse decisions on soils would generally be short-term and direct. Through monitoring and changes in range use, soils should not become degraded to the point where they lose productivity; therefore no long-term impacts should occur. Management decisions for livestock and grazing, forage, and wild horse resources could potentially result in loss of vegetative cover and subsequent wind and water erosion, and loss of biological soil crusts, where they occur. However, these potentially adverse impacts on soils would depend on a number of factors, such as grazing season of use, timing, and grazing intensity.

Forage and wild horse management decisions would affect soils and water resources when AUMs for livestock, wild horses, and/or wildlife are adjusted in response to evidence from monitoring that water quality or soil degradation is eminent or occurring. Depending on season of use and duration, adjusting AUMs would be a short-term, direct, and potentially beneficial impact, as it would slow the loss of ground cover. On the other hand, greater forage utilization and more AUMs in a given area put greater stress on the soils via trampling and loss of cover. The loss of vegetation would have direct, long-term, adverse impacts to water quality and soil productivity, especially in areas with soil limitations.

With respect to livestock grazing, the Proposed RMP and all alternatives vary between season of use and duration of use. Due to growing seasons, effects on vegetation (and subsequently, on

water and soils) vary depending on the season of use. For example, limiting grazing before periods of high runoff (generally due to spring runoff and late summer thunderstorms) reduces adverse impacts: banks that retain their vegetation are protected from erosion caused by high flows. A longer duration of use would result in greater impacts to vegetation, soils, and water in a given area.

The Proposed RMP and all alternatives contain restrictions to livestock grazing during seasons of use as well. If all areas are grazed equally, the Proposed RMP and all alternatives should help retain watershed health and provide indirect, long-term benefits to water quality by reducing soil disturbance during critical periods of vegetation establishment and soil vulnerability.

4.15.1.4. Impacts Common to All Minerals Management Decisions

The Proposed RMP and all alternatives would result in surface disturbance, minerals exploration and development, and road building. With more land available for leasing and higher levels of development, the risk of adverse impacts to soil and water resources (both surface and groundwater) would increase. Under the Proposed RMP and all alternatives, the effects of minerals decisions on water and soils would be direct, short- and long-term, and adverse.

General impacts to soil and water resources would be erosion, loss of soil productivity, increased runoff, landslides, flooding, and water quality degradation.

Direct, long-term, adverse impacts to surface water quality, in the form of increased sediment levels due to erosion and increased flows from runoff, would increase as the number of well sites increases.

Water quality may be affected by hazardous materials leaks or disposal of wastewater from wells.

Groundwater may become contaminated if drilling fluids and chemicals from the well bore escape into underground reserves or if minerals migrate between geological formations during drilling.

Groundwater impacts may also take the form of changes in total dissolved solids (TDS) or salinity; pollution from pipeline or storage tank leaks; leaks from mud pits; and disposal of water by injection wells.

If streambeds are altered during development, changes in volume or location of flows that feed streams would result from alterations.

Water channelization and runoff could result from improper road building and maintenance.

Due to the explosives used and the digging, leveling, and scraping required, mixing of soils and loss of vegetative cover may occur during exploration activities; construction of roads and well pads; and installation of pipelines.

Soils would be compacted due to the use of trucks and other heavy equipment.

Oil and gas leasing (which includes CBNG) under No Surface Occupancy or Closed to Leasing categories would result in no surface disturbance, and would have no impact on surface water quality. However, No Surface Occupancy areas could still impact groundwater quality. The CBNG development process removes large amounts of groundwater and, in the VPA, reinjects it into the ground via injection wells. This can create changes in groundwater movement and has the potential to adversely affect groundwater. This results in a consumptive use of water, where wastewater is injected into deep areas to minimize adverse effects on water quality.

Gilsonite, phosphate, and disposal of mineral materials, all with Standard Lease Terms, would result in indirect, long-term, adverse impacts to water quality in the form of increased soil erosion and sedimentation in streams (see Table 2.1.9 in Chapter 2, Minerals and Energy Resources).

Reclamation and restoration of oil and gas, locatable minerals, surface minerals, and alternative energy sites would be required upon abandonment of sites to reduce long-term impacts.

4.15.1.5. Impacts Common to All Rangeland Improvement Decisions

The effects of rangeland improvements on soils and water would be generally beneficial, long-term, and direct.

Vegetation treatments, in the form of increased vegetative cover, would ultimately improve soil quality and would have indirect, long-term benefits to water quality and soil productivity through reduced soil erosion and sedimentation in streams.

Fencing of riparian areas would improve soil conditions within exclosures and protect water quality.

Water developments would provide water to upland range sites and keep livestock and other ungulates from seeking out water in sensitive riparian areas; riparian water quality would thus receive indirect, long-term benefits.

On the other hand, localized soils around the guzzlers, reservoirs, wells, and springs would be increasingly disturbed, as the water sources would attract ungulate traffic. Short-term adverse impacts would also occur due to surface disturbance during the building of guzzlers/reservoirs and pipelines and the improvement of wells/springs. These adverse impacts could be mitigated through proper placement and limitations on surface disturbance in areas with fragile soils or in floodplains. Fragile soils have a high erosion hazard, are difficult to reclaim or restore due to physical and chemical properties e.g. high salt concentration, high rock content, or low available water, or soils that are more susceptible to impacts and damage due to high water tables (hydric or wetland/riparian soils).

4.15.1.6. Impacts Common to All Recreation Management Decisions

Recreational activities would have limitations in place that would reduce adverse impacts to soils. Limiting OHV use to designated trails would provide short- and long-term, beneficial impacts to soils and water resources. "Sacrifice" areas would be designated for OHV users in areas that are not ecologically sensitive and present little or no risk to soils, watersheds, and other components identified in the Utah BLM Standards for Rangeland Health (Appendix F). Some areas may need to be entirely closed to OHV use and planned travel routes.

Increasing visitor access to certain areas would have long-term, adverse impacts to soils and water; stream banks would be increasingly trampled, and more trails would likely be developed.

Proper management and public education would reduce adverse impacts to soils and water resources. The Tread Lightly Program is invaluable for encouraging OHV users to stay on existing trails, thereby decreasing impacts to soil.

4.15.1.7. Impacts Common to All Riparian Management Decisions

Proper functioning condition (PFC) is the minimum acceptable goal for riparian areas. Riparian-wetland areas would be maintained, restored, and managed to achieve PFC with respect to soils, vegetation, and hydrology/water quality. Thus, riparian management would have short- and long-term direct beneficial impacts to soils and water where use of streamside vegetation is reduced.

Maintaining plant stubble along the banks traps sediment and reduces stream bank erosion. Managing key riparian woody vegetation maintains bank stability by providing root structure, holding banks together, and reducing sediment transport. Maintaining riparian vegetation would also attenuate floodwaters and, therefore, lower runoff amounts and flooding levels.

4.15.1.8. Impacts Common to All Soil and Water Management Decisions

Soil and watershed decisions would reduce or eliminate the discharge of pollutants and sediment into surface waters, providing protection for fish, amphibians, wildlife, and water recreation. Decisions to limit development on steep slopes would have short- and long-term direct beneficial impacts to soils and water resources. Oil and gas well pads would not be permitted in active floodplains, protecting watersheds from sedimentation. With respect to biological soil crusts, the BLM would take measures to protect or restore soil crust functions and avoid soil crust areas where possible. The BLM would examine the effects of prescribed fire, post fire management, invasive weed control, energy development, grazing, OHV use, and range improvement projects prior to taking action.

Erodible soils on slopes between 20% and 40% are required to have an erosion control plan, as outlined in Appendix K. These stipulations would limit the soil loss from these areas and thus limit adverse impacts to soils and water resources in the VPA. Slopes less than 20% are not required to have an erosion control plan and would likely experience more soil loss than areas in the high and very high erodibility categories. This analysis did not take into account road densities, which are a factor in soil loss. Erosion from roads that do not have an all-weather

surface also would likely contribute sediment to total soil loss, but proper engineering design would limit or reduce these losses.

4.15.1.9. Impacts Common to All Special Designations

Designating new ACECs and expanding current ACECs would have long-term direct and indirect, beneficial impacts to soils and water by protecting relevant and important values and limiting OHV travel to designated routes (although designation would not preclude oil and gas development within these areas). Specific management guidelines would be created for each ACEC and would require further analysis of impacts to soils and water resources. Special designations of ACECs would continue in Browns Park, Red Mountain-Dry Fork, Lears Canyon, Pariette Wetlands, Nine Mile Canyon, and Red Creek Watershed; therefore, these designations will not be analyzed by individual alternative.

The designation of segments of the Upper and Lower Green River as Wild and Scenic Rivers also provides long-term direct and indirect beneficial impacts to soils and water, as it limits development along the river segments.

WSAs would limit development in these areas resulting in short- and long-term direct and indirect, beneficial impacts to soils and water.

4.15.1.10. Impacts Common to All Special Status Species Management Decisions

The effects of special status species decisions on water and soils would be beneficial, long-term, and direct, as they would limit development. The Proposed RMP and all alternatives are similar: implementation of spatial and seasonal, no-disturbance buffers around critical habitat (e.g., raptor nests) would likely result in less development and surface disturbance and would thus cause indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams and fewer salinity increases. Inventories of these plant and animal resources would provide well-defined protection areas.

4.15.1.11. Impacts Common to All Travel Management Decisions

The effects of travel decisions on water and soils generally would be beneficial, long-term, and direct, primarily by limiting OHV activities to open areas and restricted travel routes. Soil and water resources are greatly affected by runoff from roads and trails; therefore, these travel limits would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams, and thus, fewer salinity increases.

Leaving newly permitted roads open would have an indirect, long-term, adverse impact on water quality, manifest as increased soil disturbance. Under the Proposed RMP and all action alternatives, roads and trails currently causing resource damage would be maintained, upgraded and/or realigned. Roads and trails would be designed and built with water crossings that would allow for free passage of aquatic life. All action alternatives (A, B, C, and E) would have fewer long-term direct adverse impacts to soils and water resources than Alternative D (No Action), which is unspecified with respect to roads and trails causing resource damage.

4.15.1.12. Impacts Common to All Vegetation Management Decisions

Vegetation management including prescribed burns, mechanical and chemical treatments, and rangeland improvements would have short-term direct adverse impacts to soils and water resources by increasing surface disturbance. Long-term indirect impacts would be beneficial due to increased ground cover. The impacts due to these management decisions are discussed under fire management and rangeland improvements.

4.15.1.13. Impacts Common to All Visual Resource Management Decisions

Visual resource management (VRM) decisions would be beneficial and long term. They would directly affect water and soil resources by precluding some areas from surface disturbance due to their proximity to highways, scenic areas, and special designation areas. However, adverse, short-term, indirect impacts would occur if vegetation treatments were not implemented in VRM-sensitive areas.

4.15.1.14. Impacts Common to All Wildlife Management Decisions

The effects of wildlife management decisions on water and soils would be beneficial, long-term, and indirect, by limiting surface development. Most of the wildlife and fisheries management decisions involve seasonal constraints but would not necessarily preclude surface-disturbing activities.

The only impacts of wildlife and fisheries management decisions upon water and soils that can be measured are the preservation of crucial deer winter range and the reclamation of disturbance within sagebrush habitat. Reclamation of disturbance within sagebrush habitat would stabilize soils and increase vegetation, thereby benefiting soil productivity by reducing soil erosion and sedimentation in streams. The allowance of new surface disturbance within crucial winter range would result in indirect, long-term, adverse impacts to water quality and soil productivity. The BLM would provide habitat for a diversity of wildlife and fish species by limiting fragmentation, thereby keeping soils intact and sediment out of streams.

4.15.1.15. Impacts Common to All Woodlands and Forest Management Decisions

Salvage operations and permitted use of certain vegetation products in specified areas would result in indirect, short-term, adverse impacts to water quality and soil productivity in the form of increased soil erosion and sedimentation in streams. Adverse, short-term, direct impacts to water and soils would occur as soil erosion during treatments and harvesting.

However, in the long term, treatments and harvesting have the potential to reintroduce the natural fire return interval, indirectly reducing soil erosion through fewer catastrophic fires.

The effects of woodlands and forest management on soils and water would be reduced by following National BLM Forest Health and Forest Management Standards and Guidelines (BLM 2004) to achieve desired future conditions and minimize impacts to water and soils while providing for multiple uses of forest products.

4.15.2. PROPOSED RMP AND ALTERNATIVES IMPACTS

Surface disturbance activities for the Proposed RMP and all alternatives and all effects would generally increase risks of adverse effects on water and soil resources by increasing erosion potential, sedimentation, soil compaction, loss of soil productivity, and impacts to biological soil crusts. Water quality would be impacted due to rises in salinity, sediment load, and increases in Selenium and Boron concentrations. The duration of these impacts would depend on the action. Mitigation outlined in Appendix K contains stipulations on surface disturbance that could be implemented to reduce impacts to soils and water resources; therefore some of the impacts discussed below would be reduced or eliminated.

4.15.2.1. IMPACTS OF FIRE MANAGEMENT DECISIONS ON WATER AND SOILS

4.15.2.1.1. PROPOSED RMP AND ALTERNATIVES A, B, C, AND E

Under the Proposed RMP and Alternatives A, B, C and E, prescribed burns on 156,425 acres of the VPA would result in 3 times more surface disturbance than Alternative D (No Action). In the short term, 13% (20,335 acres) of the burned area would occur on water erodible soils, 79% (123,575 acres) would occur on wind erodible soils, 9% (14,078 acres) would occur on sodic soils, 20% (31,285 acres) would occur on saline soils, and 7% (10,949 acres) would occur on gypsic soils. Proper location of prescribed burns would limit adverse effects due to fire management.

4.15.2.1.2. ALTERNATIVE D (NO ACTION)

Continuing current management would have fewer short-term adverse impacts and long-term benefits to water and soils from prescribed fire. Surface disturbance would be 3 times less under Alternative D (No Action) than under Alternatives A, B, and C.

4.15.2.2. IMPACTS OF FORAGE MANAGEMENT DECISIONS ON WATER AND SOILS

4.15.2.2.1. PROPOSED RMP AND ALTERNATIVE A

Utilization under the Proposed RMP and Alternative A would be 50%, which would provide more beneficial impacts to soils and water by limiting utilization, than Alternative D (No Action), which does not specify forage utilization. Approximately 245,607 and 245,649 AUMs are allocated under the Proposed RMP and Alternative A, respectively.

4.15.2.2.2. ALTERNATIVE B

Utilization under Alternative B is 60%, which provides more beneficial impacts to soils and water by limiting utilization, than Alternative D (No Action). Approximately 244,034 AUMs are allocated under this alternative.

4.15.2.2.3. ALTERNATIVES C AND E

Utilization under Alternatives C and E is the same as the Proposed RMP and Alternative A. Approximately 187,450 AUMs are allocated under these alternatives, which is 58,678 fewer than Alternative D (No Action). These alternatives would cause the fewest adverse impacts from forage utilization.

4.15.2.2.4. ALTERNATIVE D (NO ACTION)

Forage utilization under Alternative D (No Action) is not specified, which would result in long-term, adverse impacts to soils and water due to overutilization of forage and loss of cover. Approximately 245,108 AUMs are allocated under this alternative.

4.15.2.3. IMPACTS OF LANDS AND REALTY DECISIONS ON WATER AND SOILS

4.15.2.3.1. PROPOSED RMP AND ALTERNATIVES A, C, AND E

The Proposed RMP and Alternatives A, C, and E would pursue public access to the White River and acquisition of Indian Trust Lands in Bitter Creek, Willow Creek, and near the confluence of South and Sweetwater Canyons. The Proposed RMP and these alternatives would result in increased, adverse impacts to soil and water resources, due to increased public access as compared to Alternative D (No Action), where increased access would not specifically be pursued and agricultural entry would be precluded in withdrawal areas.

4.15.2.3.2. ALTERNATIVE B

Alternative B would not pursue access to the White River and would only pursue administrative access across Indian Trust Lands in Bitter Creek and near the confluence of South and Sweetwater Canyons. With respect to access, this alternative would have similar effects to soils and water as Alternative D (No Action).

4.15.2.3.3. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) precludes agricultural entry on 35,900 acres of land. Mineral and agricultural withdrawals under Alternative D (No Action) would provide fewer indirect, long-term adverse impacts to water quality and soil productivity than the Proposed RMP and other alternatives by reducing soil erosion and sedimentation in streams. Alternative D (No Action) would not pursue public access to any new land.

4.15.2.4. IMPACTS OF MINERALS DECISIONS ON WATER AND SOILS

Table 4.15.2 shows the acreages of erodible soils by RFD area for oil and gas leasing (which includes CBNG). The areas with No Surface Occupancy or No Leasing were removed from the acreages analyzed. The largest source of sediment input to waters is expected from slopes 0-20%, with ≥0.32 k-factor. These acreages have been highlighted in the table. Impacts to soils

would have indirect, short- and long-term adverse impacts to water quality through subsequent sedimentation and salinity rises.

The RFD area with the highest amount of water erodible soils not subject to surface stipulations is Monument Butte-Red Wash. This area also has the greatest number of potential wells, with 1,700 oil and 3,100 gas wells identified for reasonably foreseeable development. The location of wells within the RFD areas may or may not be on BLM lands; therefore, the analysis may overstate the amount of water erodible areas that would be impacted on BLM lands.

Table 4.15.2. Acres of VPA Erodible Soils Open to Oil and Gas Development, by RFD Area

Erodible Soil	Altamont-Bluebell	East Tavaputs Plateau	Manila-Clay Basin	Monument Butte-Red Wash	Tabiona-Ashley Valley	West Tavaputs Plateau
Proposed RMP						
KFACT < 0.32, Slope = 0-10%	6,217	20,021	1,937	94,799	16,394	11,886
KFACT < 0.32, Slope = 11-20%	0	0	725	0	1,242	0
KFACT < 0.32, Slope = 21-40%	0	5,266	0	7,999	24,470	0
KFACT ≥ 0.32, Slope = 0-10%	**1,732**	**7,288**	**4,010**	**58,008**	**16,697**	**1,696**
KFACT ≥ 0.32, Slope = 11-20%	**0**	**854**	**0**	**3,618**	**5,072**	**0**
KFACT ≥ 0.32, Slope = 21-40%	0	0	3,397	24,954	35,005	0
Total	***7,949***	***33,429***	***10,069***	***189,378***	***98,880***	***13,582***
Alternative A						
KFACT < 0.32, Slope = 0-10%	6,217	20,142	3,147	102,581	17,001	11,886
KFACT < 0.32, Slope = 11-20%	0	0	1,097	0	1,687	0
KFACT < 0.32, Slope = 21-40%	0	5,574	780,30	7,999	34,935	0
KFACT ≥ 0.32, Slope = 0-10%	**1,732**	**7,320**	**4,153**	**58,008**	**19,548**	**1,696**
KFACT ≥ 0.32, Slope = 11-20%	**0**	**854**	**0**	**3,618**	**5,480**	**0**
KFACT ≥ 0.32, Slope = 21-40%	0	0	5,419	24,954	45,570	0

Table 4.15.2. Acres of VPA Erodible Soils Open to Oil and Gas Development, by RFD Area

Erodible Soil	Altamont-Bluebell	East Tavaputs Plateau	Manila-Clay Basin	Monument Butte-Red Wash	Tabiona-Ashley Valley	West Tavaputs Plateau
Total	***7,949***	***33,890***	***13,816***	***189,600***	***124,221***	***13,582***
Alternative B						
KFACT < 0.32, Slope = 0-10%	6,217	20,200	3,173	102,813	17,001	12,406
KFACT < 0.32, Slope = 11-20%	0	0	1,097	0	1,687	0
KFACT < 0.32, Slope = 21-40%	0	5,574	0	7,999	35,061	0
KFACT ≥ 0.32, Slope = 0-10%	**1,732**	**7,680**	**4,153**	**59,846**	**19,548**	**2,405**
KFACT ≥ 0.32, Slope = 11-20%	**0**	**854**	**0**	**3,618**	**5,480**	**0**
KFACT ≥ 0.32, Slope = 21-40%	0	0	5,418	24,954	45,570	0
Total	***7,949***	***34,308***	***13,841***	***191,630***	***124,347***	***14,811***
Alternative C						
KFACT < 0.32, Slope = 0-10%	6,217	13,160	3,139	102,450	14,769	11,621
KFACT < 0.32, Slope = 11-20%	0	0	1,097	0	1,687	0
KFACT < 0.32, Slope = 21-40%	0	5,570	0	7,999	31,877	0
KFACT ≥ 0.32, Slope = 0-10%	**1,730**	**6,400**	**4,153**	**57,758**	**17,262**	**1,681**
KFACT ≥ 0.32, Slope = 11-20%	**0**	**854**	**0**	**3,618**	**5,195**	**0**
KFACT ≥ 0.32, Slope = 21-40%	0	0	5,419	24,954	34,937	0
Total	***7,947***	***25,984***	***13,808***	***189,180***	***105,727***	***13,302***
Alternative D (No Action)						
KFACT < 0.32, Slope = 0-10%	6,054	20,409	3,244	99,575	16,900	10,923
KFACT < 0.32, Slope = 11-20%	0	0	1,092	0	1,652	0
KFACT < 0.32, Slope = 21-40%	0	5,685	6,685	7,038	35,689	0

Table 4.15.2. Acres of VPA Erodible Soils Open to Oil and Gas Development, by RFD Area

Erodible Soil	Altamont-Bluebell	East Tavaputs Plateau	Manila-Clay Basin	Monument Butte-Red Wash	Tabiona-Ashley Valley	West Tavaputs Plateau
KFACT ≥ 0.32, Slope = 0-10%	**1,855**	**5,941**	**4,153**	**48,919**	**17,290**	**1,921**
KFACT ≥ 0.32, Slope = 11-20%	**0**	**753**	**0**	**3,505**	**4,793**	**0**
KFACT ≥ 0.32, Slope = 21-40%	0	0	5,375	24,954	42,486	0
Total	***7,909***	***32,788***	***20,549***	***183,991***	***118,810***	***12,844***
Alternative E						
KFACT < 0.32, Slope = 0-10%	6,217	13,103	1,937	101,408	14,347	11,053
KFACT < 0.32, Slope = 11-20%	0	0	725	0	1,242	0
KFACT < 0.32, Slope = 21-40%	0	5,300	0	7,999	22,457	0
KFACT ≥ 0.32, Slope = 0-10%	**1,730**	**6,141**	**4,010**	**50,159**	**15,778**	**1,610**
KFACT ≥ 0.32, Slope = 11-20%	**0**	**854**	**0**	**3,618**	**4,793**	**0**
KFACT ≥ 0.32, Slope = 21-40%	0	0	3,868	24,954	26,743	0
Total	***7,947***	***25,398***	***10,540***	***188,138***	***85,360***	***12,663***

Table 4.15.3 is provided to compare acreages, well numbers, and short- and long-term impacts due to the Proposed RMP and the alternatives.

Table 4.15.3. Proposed RMP and Alternatives Comparison for Minerals Decisions

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)[2]	Alternative E
Oil, Gas and CBNG						
Standard Lease Terms	860,651	982,904	1,113,116	858,619	918,315	818,891
Controlled Surface Use	779,730	793,878	706,281	768,466	617,715	680,570
No Surface Occupancy	86,789	66,483	42,053	58,670	136,930	47,629

Table 4.15.3. Proposed RMP and Alternatives Comparison for Minerals Decisions

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)[2]	Alternative E
No Leasing	190,434	70,734	52,550	228,246	52,540	367,037
Total short-term impacts	5,045	5,066	5,088	5,020	4,886	4,703
Total long-term impacts	13,815	13,879	13,945	13,737	13,326	12,765
Other Minerals						
Phosphate	76,208	87,724	87,724	63,571	84,600	52,063
Gilsonite[1]	172 / 36,846	172 36,846	172 / 36,846	172 / 36,846	168 / 36,009	163 / 34,967
Mineral Disposal - Open	389,788	415,395	430,172	378,785	387,700	344,682
Total Projected Wells[3]	**3,665**	**3,688**	**3,712**	**3,637**	**3,488**	**3,285**

[1]Gilsonite data are represented in miles / acres.

[2]The decrease in leasing in Alternative D (No Action) is due to the closure to leasing of the 188,500-acre Hill Creek Extension.

[3]Total Projected Wells data are represented in numbers of wells. All other data is represented in acres.

4.15.2.4.1. PROPOSED RMP

The Proposed RMP would have more direct and indirect adverse impacts to water quality and soil productivity due to oil and gas leasing (which includes CBNG), as compared to Alternative C and Alternative D (No Action). Approximately 1,640,535 acres would be administratively available for oil and gas leasing (which includes CBNG) subject to Standard Lease Terms or Controlled Surface Use, which is approximately 104,560 acres more than Alternative D (No Action). Total disturbance from oil and gas development would occur on 18,826 acres of soils, with adverse impacts to soils, which is 759 more acres more than for Alternative D (No Action).

Total wells under the Proposed RMP would be approximately 3,665 which are approximately 177 more than Alternative D (No Action); therefore more direct, long-term impacts to water due to drawdown would be expected for water resources. With respect to hydrocarbon leasing, and mineral materials, the Proposed RMP impacts more acreage than Alternatives C and D, and therefore would have greater direct adverse impacts to soil and water resources.

4.15.2.4.2. ALTERNATIVE A

Alternative A would have more direct and indirect adverse impacts to water quality and soil productivity due to oil and gas leasing (which includes CBNG), as compared to Alternative C and Alternative D (No Action). Approximately 1,780,879 acres would be administratively available for oil and gas leasing (which includes CBNG) subject to Standard Lease Terms or

Controlled Surface Use, which is approximately 244,905 acres more than Alternative D (No Action). Total disturbance from oil and gas development would occur on 18,945 acres of soils, with adverse impacts to soils, which is 732 more acres more than for Alternative D (No Action).

Total wells under this alternative would be approximately 3,688 which are approximately 200 more than Alternative D (No Action), therefore more direct, long-term impacts to water due to drawdown would be expected for water resources. With respect to hydrocarbon leasing, and mineral materials, Alternative A impacts more acreage than Alternatives C and D (No Action), and therefore would have greater direct adverse impacts to soil and water resources.

4.15.2.4.3. ALTERNATIVE B

Alternative B would have the greatest adverse impacts to water quality and soil productivity due to oil and gas leasing (which includes CBNG), as compared to the Proposed RMP and Alternative D (No Action). Approximately 1,819,397 acres would be administratively available for oil and gas leasing (which includes CBNG) subject to Standard Lease Terms or Controlled Surface Use, which is approximately 283,367 acres more than Alternative D (No Action). Total disturbance would occur on 19,033 acres, causing direct adverse impacts to soils, and affecting 821 more acres than Alternative D (No Action).

Total wells under this alternative would be approximately 3,712, which is approximately 224 more than alternative D (No Action), therefore more direct, long-term impacts to water due to drawdown would be expected for water resources. With respect to hydrocarbon leasing, and mineral materials, Alternative B impacts more acreage than Alternatives A, C, D and E, and therefore would have greater direct adverse impacts to soil and water resources.

4.15.2.4.4. ALTERNATIVE C

Alternative C would have the second least adverse impacts to water quality and soil productivity, as compared to other action alternatives and Alternative D (No Action). Approximately 1,627,085 acres would be administratively available for oil and gas leasing (which includes CBNG) subject to Standard Lease Terms or Controlled Surface Use, which is approximately 91,055 acres more than Alternative D (No Action). Total disturbance from oil and gas development would adversely affect 18,757 acres of soils, which is 545 acres more than Alternative D (No Action). This alternative also designates the second largest number of acres classified as no surface occupancy or as closed to leasing.

Total wells under this alternative would be approximately 3,637, which is approximately 149 more wells than Alternative D (No Action); therefore greater direct, long-term impacts to water due to drawdown would be expected for water resources. With respect to hydrocarbon leasing, and mineral material disposal Alternative C would adversely impact fewer acres than Alternatives A and B, but more than Alternatives D (No Action) and E.

4.15.2.4.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would have approximately 1,536,030 acres administratively available for oil and gas leasing (which includes CBNG) subject to Standard Lease Terms or Controlled Surface Use. Total disturbance from oil and gas development would occur on 18,212 acres. The number of wells projected under this alternative would be approximately 3,488.

4.15.2.4.6. ALTERNATIVE E

Alternative E would have the least adverse impacts to water quality and soil productivity, as compared to other action alternatives and Alternative D (No Action). Approximately 1,499,461 acres would be administratively available for oil and gas leasing (which includes CBNG) subject to Standard Lease Terms or Controlled Surface Use, which is approximately 36,569 fewer acres than under Alternative D (No Action). Total disturbance from oil and gas development would adversely affect 17,468 acres of soils, which is 744 fewer acres than (No Action). This alternative also designates the largest number of acres classified as no surface occupancy or as closed to leasing.

Total wells under this alternative would be approximately 3,285, which is approximately 203 fewer wells than Alternative D (No Action); therefore the least direct, long-term impacts to water due to drawdown would be expected for water resources. With respect to hydrocarbon leasing and mineral material disposal, Alternative E would adversely impact fewer acres than any other alternative.

4.15.2.5. IMPACTS OF NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS ON WATER AND SOILS

4.15.2.5.1. PROPOSED RMP

Under the Proposed RMP, 106,178 acres of non-WSA lands would be managed with special protections to maintain their wilderness characteristics. This area would be managed as VRM Class II, closed to mineral disposal, managed for avoidance of new ROWs, closed to road construction, closed to wood cutting and seed collecting, and retained for federal ownership. This management would result in less surface disturbance and would therefore have the beneficial impacts to water and soils, as described elsewhere in this section (4.15). Compared to Alternative A–D, the Proposed RMP would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation and salinity in streams.

4.15.2.5.2. ALTERNATIVES A–D

Under these alternatives, lands with wilderness characteristics outside of designated WSAs would not be subject to protective management to maintain those characteristics. Depending on management decision for other resources, there would be varying levels of development and surface disturbance within these areas, which would have indirect, long-term, adverse impacts to water quality and soil productivity.

4.15.2.5.3. ALTERNATIVE E

Under Alternative E, 277,596 acres of non-WSA lands would be managed with special protections to maintain their wilderness characteristics. This area would be managed as VRM Class I, closed to OHV use, closed to mineral disposal, managed for avoidance of new ROWs, closed to road construction, closed to wood cutting and seed collecting, and retained for federal ownership. This management would result in less surface disturbance than under any other alternative and would therefore have the greatest beneficial impacts to water and soils, as described elsewhere in this section (4.13). Compared to the Proposed RMP and Alternatives A-D, Alternative E would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation and salinity in streams.

4.15.2.6. IMPACTS OF RANGELAND IMPROVEMENT DECISIONS ON WATER AND SOILS

4.15.2.6.1. PROPOSED RMP AND ALTERNATIVE A

The Proposed RMP and Alternative A would provide 34,640 acres of vegetation treatment, which would be 5,750 fewer acres than Alternative D (No Action). Thus, Alternative A would result in fewer indirect, long-term, beneficial impacts to soil and water resources. The miles of fencing, number of guzzlers/reservoirs, number of wells/springs, and miles of pipeline planned under Alternative A would have similar impacts to Alternative D (No Action).

4.15.2.6.2. ALTERNATIVE B

Alternative B would provide 50,900 acres of vegetation treatments, 368.5 miles of fencing, 1,165 guzzlers/reservoirs, and 51 miles of pipelines. Compared to Alternative D (No Action), this alternative would have 10,510 more acres of vegetation treatment and 303.5 more miles of fencing, which would result in more indirect, long-term, beneficial impacts to soil and water resources.

Compared to Alternative D (No Action), this alternative would also implement 390 more guzzlers/reservoirs and 16 more miles of pipeline, which would result in more direct, short-term adverse impacts to soil and water than Alternative D (No Action).

Development of wells/springs and the associated impacts would be similar to Alternative D (No Action).

4.15.2.6.3. ALTERNATIVES C AND E

Alternatives C and E would provide 45,860 acres of vegetation treatments and 129 miles of fencing would be developed. Compared to Alternative D (No Action), these alternatives would have 5,470 more acres and 64 more miles of fencing, thereby providing more long-term beneficial impacts to soil and water resources. Water developments would have similar impacts to Alternative D (No Action).

4.15.2.6.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would result in 40,390 acres of vegetation treatments, 65 miles of fencing, 775 guzzlers/reservoirs, 74 wells/springs, and 35 miles of pipeline.

4.15.2.7. IMPACTS OF RECREATION DECISIONS ON WATER AND SOILS

4.15.2.7.1. PROPOSED RMP AND ALTERNATIVE A

Designating Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads as BLM Backcountry Byways would have more long-term, indirect, adverse impacts to soil and water resources compared to Alternative D (No Action) in the form of increased public visitation and use of these roads. Alternative D (No Action) does not specify these Backcountry Byways.

Management of the White River area as an SRMA under Alternative A would provide more long-term, beneficial impacts to water and soil than Alternative D (No Action).

Management of the Blue Mountain, Fantasy Canyon (Proposed RMP only, not Alternative A), Browns Park, Red Mountain-Dry Fork, and Nine Mile Canyon areas as SRMAs would limit OHV use to trails and therefore provide greater direct long-term beneficial impacts to soils and water, as compared to Alternative D (No Action). Although increased public visitation would have greater indirect, long-term adverse impacts to water quality and soil productivity than Alternative D (No Action).

Under Alternative A, development or improvement of up to 400 miles of trails for non-motorized use and up to 800 miles of motorized trails would result in increased public visitation and would have indirect, long-term adverse impacts to water quality and soil productivity. Proper placement of trails would reduce the adverse impacts to soils and water resources.

Not allowing OHV use off designated trails for big game retrieval would limit adverse impacts to soils and water resources, compared to Alternative D (No Action), which places far fewer restrictions on OHV travel.

Cabin improvement and construction proposed under Alternative A would result in surface disturbance (a more indirect, long-term, adverse impact to water quality and soil productivity) compared to Alternative D (No Action), which does not specify cabin improvements.

4.15.2.7.2. ALTERNATIVE B

Designation of Backcountry Byways and improvement of up to 800 miles of motorized trails would have essentially the same impacts as Alternative A and the Proposed RMP.

Providing minimal or no management of the White River, Blue Mountain, Fantasy Canyon, Book Cliffs, Browns Park, Red Mountain-Dry Fork, and Nine Mile Canyon would have no beneficial impacts to soils and water resources due to minimal management of OHV use, which would be the same as Alternative D (No Action).

OHV travel off of designated trails for big-game retrieval would be allowed under this alternative, which would result in long-term, adverse impacts to soil and water resources.

4.15.2.7.3. ALTERNATIVES C AND E

Alternatives C and E would have the same impacts as Alternative A for SRMA designation, except that Fantasy Canyon (69 acres) would be designated as an SRMA and the White River SRMA would increase in size from 24,183 acres to 47,130 acres. Backcountry Byways, motorized trails and cabins would not be developed under these alternatives. Therefore, these alternatives would generally have less adverse impacts and greater beneficial impacts than under other alternatives, including Alternative D (No Action).

4.15.2.7.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would result in more direct and indirect, short- and long-term, adverse impacts than any other alternative due to lack of limits on OHV use. Other impacts from Alternative D (No Action) are similar to those under Alternative B.

4.15.2.8. IMPACTS OF RIPARIAN MANAGEMENT DECISIONS ON WATER AND SOILS

4.15.2.8.1. PROPOSED RMP AND ALTERNATIVES A, C, AND E

The Proposed RMP, along with Alternatives A, C, and E, would implement the same management of riparian resources. The Proposed RMP and these alternatives propose stubble heights of 4 inches (30% utilization) where conditions are to be maintained and 6 inches (less than 20% utilization) if conditions are to be improved. Compared with Alternative D (No Action), the Proposed RMP and Alternatives A, C, and E would foster improved riparian conditions and more beneficial impacts on water quality and soil productivity. Key herbaceous riparian species would provide more trapping and retention of sediment during high water events than Alternative D (No Action) provides. Key riparian woody vegetation would be managed more under the Proposed RMP and Alternatives A, C, and E, providing both direct and indirect, long-term benefits to water quality and soil productivity via reduced soil erosion and sedimentation in streams. By contrast, no management of woody species is specified under Alternative D (No Action).

4.15.2.8.2. ALTERNATIVE B

Key herbaceous riparian vegetation, other than the stream banks, under Alternative B would not be grazed more than 50% during the growing season and not more than 60% during the dormant season. In this respect, Alternative B provides more beneficial impacts than Alternative D (No Action), which does not specify percent utilization. Key riparian woody vegetation would not be used more than 50%. Thus, Alternative B provides more protection to woody vegetation than Alternative D (No Action), which has no parameters specified for woody vegetation. Alternative B would implement the same management of key streamside herbaceous vegetation as Alternatives A and C.

4.15.2.8.3. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) has fewer beneficial impacts to soils and water than any other alternative, as it has a lower minimum stubble height after livestock grazing (Diamond Mountain: 3 inches, Book Cliffs: unspecified) and unspecified percent utilization. As well, key riparian woody vegetation use is not specified under Alternative D (No Action).

4.15.2.9. IMPACTS OF SOILS AND WATER RESOURCES DECISIONS ON WATER AND SOILS

4.15.2.9.1. PROPOSED RMP AND ALTERNATIVE A

The Proposed RMP and Alternative A would use oil and gas industry slope disturbance guidelines (Gold Book) to limit surface disturbances from oil and gas activities, which would provide indirect, long-term beneficial impacts to soil and water quality by reducing soil erosion on steep hillsides, and thus reducing the potential for increased stream sedimentation. Under the Proposed RMP and Alternative A, surface disturbances on slopes between 21%–40% would require erosion control, GIS modeling, and surveying, and slopes greater than 40% would not be disturbed unless other proposed construction alternatives would cause unnecessary degradation. These actions would also provide indirect, long-term beneficial impacts to soils and water by reducing surface disturbances that cause soil erosion and subsequent stream sedimentation. The Proposed RMP would be slightly more protective of water quality than Alternative A because UDEQ BMPs would be implemented to prevent surface runoff.

4.15.2.9.2. ALTERNATIVE B

Similar to the Proposed RMP, Alternative B would use oil and gas industry slope disturbance guidelines (Gold Book) to limit surface disturbances from oil and gas activities, and would require erosion control, GIS modeling, and surveying on slopes greater than 20% for unavoidable surface disturbances, with similar indirect beneficial impacts to soils and water quality as described for the Proposed RMP. This alternative would not restrict surface disturbances to slopes greater than 40%, and thus would not provide indirect beneficial impacts to soils and water quality, and would not protect steep slopes from surface-disturbance-caused erosion.

4.15.2.9.3. ALTERNATIVES C AND E

Alternatives C and E would have greater indirect beneficial impacts on soils and water quality than the other alternatives by applying the same management actions (with similar impacts) on 21%–40% slopes as the Proposed RMP and by prohibiting surface disturbances (and thus reducing the risk of increased stream sedimentation) on slopes greater than 40%.

4.15.2.9.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) proposes restrictions on slopes greater than 40% for mineral production only. Allowing other activities with no restrictions for slopes over 40% and not

specifying slope restrictions on slopes less than 40% would have more indirect long-term adverse impacts to water quality and soil productivity, as compared to other alternatives.

4.15.2.10. Impacts of Special Designation Decisions on Water and Soils

4.15.2.10.1. Proposed RMP

Under the Proposed RMP, Lears Canyon (1,375 acres), Pariette (10,437 acres), Red Mountain-Dry Fork (24,285 acres), Red Creek (24,475 acres), Nine Mile Canyon (44,168 acres), Lower Green River (8,470 acres), and Browns Park (18,490 acres) would continue to be managed as ACECs. These actions would have indirect long-term benefits to water quality and soil productivity, in the form of reduced soil erosion and sedimentation in streams.

The Proposed RMP would manage for continued recommendation for designation of river segments on the Upper and Lower Green River. This action may increase visitation but would prevent surface disturbance in the immediate vicinity and would overall have indirect, long-term benefits to water quality and soil productivity.

4.15.2.10.2. Alternative A

In addition to existing ACECs, Alternative A proposes ACEC designation of Bitter Creek (68,834 acres), Coyote Basin (87,743 acres), and the White River corridor (17,810 acres), as well as slight expansion of Nine Mile Canyon (48,000 acres) ACEC. This alternative would result in less surface disturbance and would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. By contrast, Alternative D (No Action) does not designate any of these ACECs except the Lower Green River, Browns Park, and Nine Mile Canyon.

Alternative A recommends designation of new river segments on the White River (44 miles), as Wild and Scenic Rivers. This action may increase visitation, but would prevent surface disturbance in the immediate vicinity and would overall have more direct and indirect, long-term benefits to water quality and soil productivity, as compared to Alternative D (No Action).

4.15.2.10.3. Alternative B

Alternative B would propose designation of 47,659 acres in Coyote Basin as a new ACEC, which would provide more beneficial impacts to soils and water resources than Alternative D (No Action), which would not designate this area. This alternative would not designate any other new ACECs nor Wild and Scenic Rivers and therefore would have similar impacts to soil and water resources, as compared to Alternative D (No Action).

4.15.2.10.4. Alternatives C and E

Alternatives C and E would offer the greatest protection to soil and water resources through proposed ACEC designations. In addition to existing ACECs, Alternatives C and E propose ACEC designation of Bitter Creek (147,425 acres), Coyote Basin, which would include Kennedy

Wash, Snake John, Shiner, and Myton Bench (124,161 acres), Middle Green River (6,768 acres), White River corridor (47,130 acres), Four Mile Wash (50,280 acres), and Main Canyon (100,915 acres) and expansion of the lower Green River (10,170 acres) and Nine Mile Canyon (81,168 acres) as ACECs. These alternatives would result in less surface disturbance and would have indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams. By contrast, Alternative D (No Action) does not designate any of these ACECs except the Lower Green River and Nine Mile Canyon.

Alternatives C and E recommend designation of new river segments on the White River (44 miles), Nine Mile Creek (2 segments: 19 miles), middle Green River (36 miles), Evacuation Creek (21 miles), Bitter Creek (22 miles), and Argyle Creek (22 miles) as Wild and Scenic Rivers. This action may increase visitation, but would prevent surface disturbance in the immediate vicinity and would overall have more direct and indirect long-term benefits to water quality and soil productivity, as compared to Alternative D (No Action).

4.15.2.10.5. Alternative D (No Action)

Alternative D (No Action) proposes no new designation of ACECs or WSRs This alternative would result in the greatest amount of surface disturbance, and would have indirect, long-term, adverse impacts to water quality and soil productivity.

4.15.2.11. Impacts of Special Status Species Decisions on Water and Soils

The Proposed RMP and Alternatives A and C would result in the most beneficial, indirect impacts to water and soils and are similar with respect to raptors; however, the Proposed RMP offers the most protection and Alternative C offers slightly more protection than Alternative A. Alternative B would offer some habitat protection (and thus, soil protection), but the level of protection would be less than Alternatives A and C and the Proposed RMP. Alternative D (No Action) offers the least indirect protection of water and soil resources because raptor buffers for surface disturbance are unspecified in the Book Cliffs area.

Improvement and maintenance of stream habitat in Bitter, Upper Willow, Beaver, Sears, Crouse, Tolivers, Davenport, Jackson, and Sweetwater Creeks, or others as found applicable, including tributaries, would have direct, long-term benefits to water quality and soil productivity by stabilizing stream banks and reducing erosion and subsequent stream sedimentation and salinity increases.

4.15.2.12. Impacts of Travel Decisions on Water and Soils

4.15.2.12.1. Proposed RMP and Alternative A

Under the Proposed RMP and Alternative A, newly permitted roads or trails would be obliterated and/or returned to their original condition when they no longer serve their permitted purpose or public interest. Roads causing resource damage would be closed if maintenance, upgrade or realignment is not feasible. In contrast, Alternative D (No Action) is unspecified with respect to roads and trails.

With respect to OHV travel, the Proposed RMP and Alternative A would allow open travel on 6,202 acres, limited travel on 1,643,475 acres and no travel on 75,845 acres and would designate 4,860 miles of routes. Compared to Alternative D (No Action), the Proposed RMP and Alternative A would allow unlimited travel on 781,657 fewer acres, would allow limited travel on 756,200 more acres, and would allow no travel on 25,457 more acres, and would designate 4,860 more miles of routes for OHV travel. Alternative A would cause fewer adverse and more beneficial impacts to soils and water by limiting OHV use; thus, it would likely reduce soil erosion and sedimentation in streams.

4.15.2.12.2. ALTERNATIVE B

Under Alternative B, newly permitted roads or trails and roads adversely impacting water and soils would not be obliterated if the road or trail serves a public interest. This alternative would have the same impacts as Alternative D (No Action), with respect to obliteration and closing roads and trails.

With respect to OHV travel, Alternative B would allow unlimited travel on 5,434 acres, limited travel on 1,659,901 acres and no travel on 60,187 acres and would designate 4,861 miles of routes. Compared to Alternative D (No Action), Alternative B would allow unlimited travel on 782,425 fewer acres, would allow limited travel on 772,626 more acres, would allow no travel on 9,799 more acres, and would designate 4,861 more miles of routes for OHV travel.

4.15.2.12.3. ALTERNATIVE C

Under Alternative C, newly permitted roads or trails would be obliterated, and roads and trails causing resource damage would be closed if maintenance, upgrade or realignment would not protect resources.

With respect to OHV travel, Alternative C would allow unlimited travel on 5,434 acres, limited travel on 1,353,529 acres and no travel on 366,559 acres and would designate 4,707 miles of routes. Compared to Alternative D (No Action), Alternative C would allow unlimited travel on 782,425 fewer acres, allow limited travel on 466,254 more acres, allow no travel on 316,171 more acres, and would designate 4,707 more miles of routes for OHV travel. This alternative would result in more beneficial and less adverse impacts to soils and water resources than all other alternatives except Alternative E.

4.15.2.12.4. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), actions related to resource damage and newly created roads and trails are unspecified. With respect to OHV travel, Alternative D (No Action) would allow unlimited travel on 787,859 acres, would allow limited travel on 887,275 acres, and would allow no travel on 50,388 acres. Alternative D (No Action) provides relatively unrestricted OHV access, which would have an indirect long-term, adverse impact to water quality and soil productivity in the form of increased soil erosion and sedimentation in streams, which, in turn, would cause increases of salinity and loss of soil productivity.

4.15.2.12.5. ALTERNATIVE E

Under Alternative E, newly permitted roads or trails would be obliterated, and roads and trails causing resource damage would be closed if maintenance, upgrade or realignment would not protect resources.

With respect to OHV travel, Alternative E would allow unlimited travel on 5,434 acres, limited travel on 1,326,024 acres and no travel on 392,818 acres and would designate 4,654 miles of routes. Compared to Alternative D (No Action), Alternative E would allow unlimited travel on 782,425 fewer acres, allow limited travel on 438,749 more acres, allow no travel on 342,430 more acres, and would designate 4,654 more miles of routes for OHV travel. This alternative would provide the most beneficial and least adverse impacts to soils and water resources compared to all other alternatives.

4.15.2.13. IMPACTS OF VISUAL RESOURCE MANAGEMENT DECISIONS ON WATER AND SOILS

4.15.2.13.1. PROPOSED RMP

The Proposed RMP would designate approximately 289,687 acres as VRM Class I and II. This designation would generally result in less development and surface disturbance than Alternative D (No Action) and, thus, would result in fewer indirect, long-term adverse impacts to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams.

4.15.2.13.2. ALTERNATIVE A

This alternative would designate 357,909 acres for management under VRM Class I and Class II. This designation would generally result in less development and surface disturbance than Alternative D (No Action) and, thus, would result in fewer indirect, long-term adverse impacts to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams.

4.15.2.13.3. ALTERNATIVES B AND D

Alternatives B and D propose designation of approximately 166,794 and 166,772 acres respectively as VRM Class I and II. This designation would result in the lowest limitations of development and surface disturbance and, thus, would result in fewer indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams.

4.15.2.13.4. ALTERNATIVE C

Alternative C proposes designation of approximately 508,441 acres as VRM Class I and II. This designation would generally result in less development and surface disturbance than Alternative D (No Action) and would result in the second most indirect, long-term benefits to water quality and soil productivity in the form of reduced soil erosion and sedimentation in streams (following Alternative E).

4.15.2.13.5. ALTERNATIVE E

Alternative E proposes designation of approximately 594,210 acres as VRM Class I and II. This designation would generally result in less development and surface disturbance than Alternative D (No Action) and would result in the most indirect long-term benefits to water quality and soil productivity (following Alternative C) in the form of reduced soil erosion and sedimentation in streams.

4.15.2.14. IMPACTS OF WILDLIFE AND FISHERIES MANAGEMENT DECISIONS ON WATER AND SOILS

4.15.2.14.1. THE PROPOSED RMP AND ALTERNATIVES A, B, C AND E

The Proposed RMP and Alternatives A, B, C, and E propose restriction of surface-disturbing activities. Qualitatively, the Proposed RMP and these alternatives would likely result in less development and surface disturbance and would have indirect, long-term benefits to water quality and soil productivity by reducing soil erosion and sedimentation in streams.

4.15.2.14.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) proposes restriction of surface-disturbing activities to mineral exploration. This alternative would have more indirect, long-term adverse impacts to water quality and soil productivity than any action alternative by reducing soil erosion and sedimentation in streams.

4.15.2.15. IMPACTS OF WOODLANDS AND FOREST MANAGEMENT DECISIONS ON WATER AND SOILS

4.15.2.15.1. THE PROPOSED RMP ALTERNATIVE A

The Proposed RMP would manage up to 552,152546,152 acres for treatments or be harvested to reduce fuel loadings and to provide salvage of products that are dying due to fire, disease, insect-kill, and/or other disturbance, with the management intent of promoting healthy forest and woodlands. In addition, no vegetation removal would occur in WSAs. These management actions would have short-term, indirect adverse impacts on soil and water quality by increasing soil erosion and increasing stream sedimentation from surface disturbances during harvesting or treatments. The long-term impacts would be beneficial to soils and water by reducing the risks of wildland fire, and thus, reducing the risks of large-scale soil erosion and subsequent degradation of stream water quality. In comparison, management actions are unspecified under Alternative D (No Action) and would have more adverse impacts to water quality than under the Proposed RMP, due to increased erosion and stream sedimentation.

4.15.2.15.2. ALTERNATIVE BA

Alternative A would manage up to 552,152 acres for treatments or be harvested to reduce fuel loadings and to provide salvage of products that are dying due to fire, disease, insect-kill, and/or

other disturbance, with the management intent of promoting healthy forest and woodlands. In addition, no vegetation removal would occur on 13,606 acres within WSAs. These management actions would have short-term, indirect adverse impacts on soil and water quality by increasing soil erosion and increasing stream sedimentation from surface disturbances during harvesting or treatments. The long-term impacts would be beneficial to soils and water by reducing the risks of wildland fire, and thus, reducing the risks of large-scale soil erosion and subsequent degradation of stream water quality. In comparison, management actions are unspecified under Alternative D (No Action) and would have more adverse impacts to water quality than under the Alternative A, due to increased erosion and stream sedimentation.

4.15.2.15.3. ALTERNATIVE B

The impacts of Alternative B would be similar to those described under Alternative A, except that 554,108 acres would be treated or harvested.

4.15.2.15.4. ALTERNATIVE C

The impacts under this alternative would have the same number of acres managed for treatments and harvesting as Alternative A (552,152), with similar impacts to soils and water as described for Alternative A. Woodland and forest species salvaging, under Alternative C, would not be allowed except when woodland, forest, or other resources are threatened in proposed ACECs, which would result in fewer indirect, long-term adverse impacts to soil and water resources through reduced surface disturbance; thus limiting soil erosion and sedimentation in streams.

4.15.2.15.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) provides for treatment or harvesting of up to 88,200 acres of forest and 200,100 acres of woodlands. This alternative would likely reduce the risk of catastrophic wildfire, providing indirect, long-term benefits to water quality and soil productivity. Depending on management restrictions, treatment and harvest activities would also result in short-term and long-term, indirect, adverse impacts to water quality and soil productivity due to soil erosion and sedimentation.

4.15.2.15.6. ALTERNATIVE E

Under this alternative 421,133 acres would be managed for treatments and harvesting, with similar impacts to soils and water as described for Alternative C. Woodland and forest species salvaging, under Alternative E, would not be allowed in areas proposed for protection of wilderness characteristics, which would result in fewer indirect, long-term adverse impacts to soil and water resources through reduced surface disturbance; thus limiting soil erosion and sedimentation in streams.

4.15.2.16. SUMMARY

The primary impacts to soil and water resources from the proposed alternatives are surface disturbance and vegetation loss, which would affect soil erosion, stream salinity, and

sedimentation. Other impacts are loss of soil productivity, increased road-bank erosion, localized headcutting in drainage channels from adjacent streams, and increased bank erosion from development within active channels of drainages. These processes have major impact on surface water quality and soil productivity. For this reason, almost all resource management decisions have some effect on soil and water resources.

4.15.2.16.1. THE PROPOSED RMP AND ALTERNATIVE A

Under the Proposed RMP and Alternative A, fire management, vegetation treatment, oil and gas leasing, and land withdrawals have the greatest impact on soil and water resources because they encompass large areas of land. These activities result in long-term indirect impacts to surface and ground water quality and long-term direct impacts to soil productivity. Riparian management will have the most direct benefit to water quality, though it encompasses a smaller area. Mineral extraction also has adverse effects, including direct impacts to soil productivity and surface water quality, indirect impacts through surface disturbance, as well as potential impacts to groundwater quality.

Overall, for the Proposed RMP and Alternative A, compared to current management conditions there will be direct and indirect benefits to soil productivity, watershed health, and water quality. Because the Proposed RMP designated more areas as ACECs and has somewhat more protective management restrictions for Special Status Species, it would have slightly greater beneficial effects on water and soils than Alternative A.

4.15.2.16.2. ALTERNATIVE B

Alternative B will generally result in more surface disturbance and indirect, long-term adverse impacts to soil productivity and surface water quality as compared to Alternative A. However, compared to current conditions, there will likely be little overall improvement or decline in soil productivity, watershed health, and water quality.

4.15.2.16.3. ALTERNATIVE C

Alternative C will generally result in slightly less surface disturbance than the Proposed RMP, and will result in slightly greater benefit to soil and watershed health and water quality. Compared to current conditions, there will be an overall benefit to soil productivity, watershed health, and water quality from Alternative C.

4.15.2.16.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) will result in no improvement or decline in soil productivity, watershed health, or surface water quality compared to current conditions.

4.15.2.16.5. ALTERNATIVE E

Alternative E would generally result in less surface disturbance than the Proposed RMP and Alternatives A, B, C, and D. It would, thus result in the greatest benefits to soil and watershed

health and water quality. Compared to current conditions, there would be an overall benefit to soil productivity, watershed health, and water quality from Alternative E.

4.15.3. MITIGATION MEASURES

Mitigation for impacts to water and soil resources would generally take the form of avoidance of activities likely to cause major resource degradation. Under standard Non-Point Source Management policies (UDEQ 2000), activities within the VPA are required to take into account storm-water runoff controls. Best Management Practices would be used in areas where runoff, erosion, or range management could affect water quality and soil productivity. Reduction of surface-disturbing activities in and near streams and rivers would also mitigate adverse effects. Administrative actions such as halting surface-disturbing activities, changes in grazing management, and increased enforcement of travel restrictions can be taken where water and soil resources are being degraded.

4.15.4. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts from the Proposed RMP include short-term, increased erosion and sedimentation and short-term nutrient release to surface waters due to prescribed burning and vegetation management; increases to surface water temperature due to vegetation treatment and woodland harvesting immediately adjacent to streams; and loss of soil productivity and water quality degradation due to proposed oil and gas facilities and infrastructure.

4.15.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Construction of oil and gas facilities and infrastructure would provide a short-term mineral use that would eventually result in long-term loss of soil productivity unless well pads are effectively restored. Long-term impacts to surface water quality and soil productivity are primarily the result of vegetation removal or prevention of revegetation, which allows continued erosion of soil and its resulting impact on surface waters. All activities described are surface-disturbing in nature and can result in long-term impacts due to short-term land uses. Impacts will persist as long as surface disturbance and vegetation loss continue. As oil and gas areas increase towards full field development, water quality degradation would shift from a short-term impact to one that is more long-term.

4.15.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

All activities discussed result in short-term or long-term changes to soil productivity and surface water quality due to surface disturbance or loss of vegetation. However, almost all activities discussed are reversible with respect to surface water quality with appropriate revegetative or mitigation measures.

Soil is a finite resource, and soil productivity would experience localized irreversible impacts if excessive erosion were to occur without mitigative control structures or practices. These irreversible impacts would be applicable to all activities described above. Sedimentation in

surface waters resulting from excessive soil erosion and loss would also be an irreversible impact.

Impacts to groundwater quality resulting from improper well construction and accidental releases of contaminated production water during oil and gas drilling would be considered to be irreversible on a reasonable time scale.

4.16. SPECIAL DESIGNATIONS

In general, management of specially designated areas (such as ACECs, WSRs, and WSAs) is focused on protection of their special values, while allowing those uses and activities that are considered compatible with the specific, special resources of concern, and restricting those uses and activities that would impact those identified value(s). In the case of ACECs, the management focuses on protecting and preventing irreparable damage to specific, identified relevant and important values. For river segments that are eligible / suitable for congressional designation into the National Wild and Scenic River System, the management focuses on protecting the identified, outstandingly remarkable values, free-flowing water, and tentative classifications for eligible river segments. For WSAs, the management focuses on maintaining the wilderness setting, characteristics and experience.

Some of the actions proposed in this plan would have no adverse impacts on existing or potential ACECs, eligible river segments, or wilderness characteristics regardless of the alternative chosen. Only decisions that may affect the values of these areas are analyzed further.

4.16.1. ACECs

4.16.1.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

With the Proposed RMP and all alternatives, seven currently designated ACECs (Browns Park, Nine Mile Canyon, Lears Canyon, Lower Green River Corridor, Red Mountain-Dry Fork, Red Creek Watershed, and Pariette Wetlands) would be designated and continue to be managed as ACECs, and their relevant and important values, including historic, cultural, scenic, and fish and wildlife resources, would continue to be protected, subject to valid existing rights. See Table 4.16.1 that follows for acreages under the Proposed RMP and each alternative.

With the Proposed RMP and all alternatives, relevant and important values of existing and potential ACECs would benefit from the special management attention they would receive if designated, including development of comprehensive, integrated activity plans in some cases. The plans would address the maintenance and development of OHV or non-motorized trails, minimal facilities necessary for human health and safety, and other surface-disturbing activities that would be complementary to the goals and objectives of each ACEC.

In the Proposed RMP and alternatives where some potential ACECs would not be designated or where surface disturbance would occur, the relevance and importance of these areas may be at some risk of irreparable damage during the life of the plan, depending upon the specific resource use or other actions proposed by the Proposed RMP or alternative.

Decisions that would generally have a positive impact on existing and potential ACECs, regardless of whether the Proposed RMP or other alternative are chosen, include those involving fire management, soil and watershed, and vegetation (including riparian and upland vegetation) management. Vegetation treatments would, in the long-term, restore vegetative communities to

resemble more natural ecosystems, which are important to protecting the identified relevant and important values in some of the ACECs.

In general, the more acres where mineral development is likely within existing and potential ACECs, the fewer acres there would be that would retain relevant and important values. In cases where mineral development would be allowed, the likelihood of surface disturbance affecting relevant and important values would be much greater in areas where standard stipulations or timing and controlled surface use stipulations would be applied. Also, some areas are at risk where cross country OHV travel ("open" areas) would continue under the Alternative D (No Action).

4.16.1.2. ALTERNATIVES IMPACTS

The following table summarizes the acres proposed for ACEC designation by the Proposed RMP and alternatives.

Table 4.16.1. Areas and Acres of ACECs That Would Be Designated by Alternative

Area	Proposed RMP (acres)	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (No Action) (acres)	Alternative E (acres)
Bitter Creek	0	68,834	0	68,834	0	68,834
Bitter Creek – P.R. Spring	0	0	0	78,591	0	78,591
Browns Park	18,490	52,721	18,474	52,721	52,721	52,721
Coyote Basin	0	87,743	47,659	0	0	0
Coyote Basin – Coyote Basin	0	0	0	26,590	0	26,590
Coyote Basin – Kennedy Wash	0	0	0	10,670	0	10,670
Coyote Basin – Myton Bench	0	0	0	36,670	0	36,670
Coyote Basin – Shiner	0	0	0	21,957	0	21,957
Coyote Basin – Snake John	0	0	0	28,274	0	28,274
Four Mile Wash	0	0	0	50,280	0	50,280
Lears Canyon	1,375	1,375	1,375	1,375	1,375	1,375
Lower Green River	8,470	10,170	8,470	10,170	8,470	10,170
Main Canyon	0	0	0	100,915	0	100,915
Middle Green River	0	0	0	6,768	0	6,768
Nine Mile Canyon	44,168	48,000	44,181	81,168	44,181	81,168

Table 4.16.1. Areas and Acres of ACECs That Would Be Designated by Alternative

Area	Proposed RMP (acres)	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (No Action) (acres)	Alternative E (acres)
Red Creek Watershed	24,475	24,475	24,475	24,475	24,475	24,475
Red Mountain-Dry Fork	24,285	24,285	24,285	24,285	24,285	24,285
Pariette Wetlands	10,437	10,437	10,437	10,437	10,437	10,437
White River Corridor	0	17,810	0	47,130	0	47,130
Totals	**131,700**	**345,850**	**179,356**	**681,310**	**165,944**	**681,310**

4.16.1.2.1. Bitter Creek and Bitter Creek-P.R. Spring ACECs

The Proposed RMP and Alternatives B and D (No Action) would not designate Bitter Creek or Bitter Creek-P.R. Springs as ACECs and would not afford special management protection. However, other resource decisions would continue to protect some of the relevance and importance values. Leasing for oil and gas development would be limited to NSO for the old growth pinyon pine area (160 acres). These management actions would preserve pinyon pine habitat, with indirect positive benefits to wildlife that use that type of habitat (See Wildlife Section). These management actions would also result in decreased fire risk and improved water quality in streams in the Bitter Creek Watershed.

Under Alternative A, 68,834 acres would be designated as the Bitter Creek ACEC/Research Natural Area to protect high-value old-growth pinyon pine, cultural resources, historic features, and watersheds. Special management actions would include establishing a research/monitoring program, enhancing habitat using forest treatments, and restricting wood-cutting around the old growth pinyon. Leasing for oil and gas development would be limited to NSO for the old growth pinyon pine area (160 acres). These management actions would preserve pinyon pine habitat, with indirect positive benefits to wildlife that use that type of habitat (See Wildlife Section). These management actions would also result in decreased fire risk and improved water quality in streams in the Bitter Creek Watershed.

Under Alternatives C and E, 68,834 acres would be designated as the Bitter Creek ACEC and 78,591 acres would be designated as the Bitter Creek/P.R. Spring ACEC. The ACECs are adjoining, and together would be managed as a contiguous polygon of 147,425 acres. For either alternative the management would be the same. The area would be managed to protect old-growth pinyon pine, cultural resources, historical features, and watersheds. Special management actions would include the following: establishing a research/monitoring program, enhancing habitat through forest manipulation, and restricting wood cutting around old-growth pinyon forests. These management actions would preserve pinyon pine habitat, with indirect positive benefits to wildlife that use that type of habitat. These management actions would also result in decreased fire risk and improved water quality in streams in the Bitter Creek Watershed.

Alternatives C and E would designate both ACECs, and there would be more than double the acreage protected, compared with Alternative A. This would result in roughly twice the protection to existing habitat and watershed health in the area.

Alternatives C and E would also place similar restrictions on OHV use and mineral development in the area. These two alternatives would require somewhat more area to be closed to leasing or leased with an NSO stipulation. Based on the acres designated under each alternative and these increased restrictions, Alternative C and E would result in greater restrictions to mineral development in the ACEC, followed by Alternatives A and the Proposed RMP and Alternatives B and D (No Action), respectively.

Under Alternative E, parts of the ACECs would be managed to protect non-WSA lands with wilderness characteristics, including Bitter Creek (33,488 acres), Rat Hole Ridge (11,367 acres), Cripple Cowboy (13,603 acres), and Sweet Water Canyon (6,994 acres). To protect those values, management of the non-WSA lands with wilderness characteristics would limit surface disturbance, including avoidance from rights-of-way location; management to VRM Class I objectives; and closure to OHV use, oil and gas leasing, fire wood cutting, mineral material sales, and road construction (see Table 2.1.10). These measures would limit the vegetation manipulation needed to enhance the relevant and important watershed values of the ACEC to the use of prescribed fire. On the other hand, limitations on surface disturbance would protect the relevant and important old growth pinyon, cultural resources, and historic values of the ACEC.

4.16.1.2.2. Coyote Basin ACEC and the Coyote Basin Complex ACEC[18]

Under the Proposed RMP and Alternative D (No Action), Coyote Basin would not be designated as an ACEC, affording no special management attention or protection to the identified relevant and important values. However, other resource decisions would continue to protect some of the relevance and importance values. The VRM Class II objectives, limiting OHV travel to designated routes, and oil and gas leasing with controlled surface use would limit surface disturbance that would protect habitat for the white-tailed prairie dogs.

Alternative A would designate 87,743 acres as a Research Natural Area ACEC for protection of critical ecosystem for the white-tailed prairie dog and other special status species associated with the ecosystem. Under Alternative B, the Coyote Basin ACEC would include 47,659 acres of critical ecosystem for the black-footed ferret. Under Alternatives C and E, the Coyote Basin Complex ACEC would include the sub-complexes of Coyote Basin, Snake John, Shiner, Kennedy Wash, and Myton Bench for a total of 124,161 acres. These areas are proposed as ACECs because they contain populations of white-tailed prairie dogs and/or habitat. Plague has resulted in adverse impacts to white-tailed prairie dog in Utah. Designation of the Coyote Basin ACEC and the Coyote Basin Complex ACEC would not prevent the continued adverse impacts from the plague, but it would preserve essential habitat for remaining prairie dog populations in the planning area.

[18] There are two different polygons under the title Coyote Basin ACEC. One is proposed in Alternatives A and B and comprises 87,743 acres and 47,659 acres, respectively. In addition, there is a Coyote Basin sub-complex called Coyote Basin under Alternatives C and E that comprises 26,590 acres. They are all somewhat inclusive of one another regarding geographic location. Refer to Figures 29–32.

Alternatives C and E would provide the greatest amount of habitat and, therefore, the greatest potential protection to prairie dogs. Alternative A would provide the next greatest benefit followed by Alternative B. The Proposed RMP and Alternative D (No Action) would not designate either ACEC, offering no additional protection of the white-tailed prairie dog or black-footed ferret.

Each of the areas under Alternatives A, B, C, and E would be designated as a Research Natural Area, which would provide additional opportunities for research to identify the potential vectors for transmission of plague. This, in turn, could provide some long-term information for the treatment of this disease. However, designation of these ACECs does not guarantee the continued population viability of the white-tailed prairie dog in view of the potential mortality from continued spread of the disease.

Designation of the Coyote Basin ACEC or the Coyote Basin Complex ACEC would impact other resources found within the ACECs. These ACECs would provide essential habitat for the potential reintroduction of black-footed ferret. The white-tailed prairie dog provides forage for the black-footed ferret and is considered necessary for its successful recovery in the project area.

Accordingly, Alternatives C and E would provide the greatest potential positive benefit to the black-footed ferret, followed by Alternatives A and B. Under Alternatives A, B, C, and E, habitat in the ACEC would also be managed to protect critical habitat for other wildlife species that use the Coyote Basin ACEC. These species include the pronghorn, and sensitive species such as Bobolink, Ferruginous Hawk, Peregrine Falcon, Sage Grouse, Long-billed Curlew, Grasshopper Sparrow, Short-eared Owl, big free-tailed bat, black-footed ferret, ringtail cat, and dwarf shrew. Accordingly, Alternatives C and E would have the greatest potential benefits to these species and their habitat, followed by Alternatives A and B.

Under Alternatives C and E, the area would be subject primarily to standard lease terms, but would include areas managed with timing and controlled surface use and NSO for oil and gas leasing. Alternatives A and B would be subject primarily to standard lease terms and timing and controlled surface use. OHV use would be limited to designated routes and closed under all alternatives. These stipulations, combined with the size of the proposed Coyote Basin ACEC or Coyote Basin Complex ACEC, would manage oil and gas development and OHV use to ensure protection of the species and their habitat under Alternatives A, B, C, and E. These surface management stipulations would also apply to the development of other solid mineral resources in the ACEC.

4.16.1.2.3. Four Mile Wash ACEC

Under the Proposed RMP and Alternatives A, B, and D, Four Mile Wash would not be designated as an ACEC. Alternatives C and E would designate 50,280 acres in the Four Mile Wash area as an Outstanding Natural Area ACEC to protect high-value scenery, riparian ecosystems, and special status fish species. Management actions include closing the area to oil and gas leasing. Visual resources would be managed as Class II, III, and IV. OHV use would be limited to designated routes. However, under the Proposed RMP, other resource decisions would continue to protect some of the relevance and importance values. The VRM Class II objectives,

limiting OHV travel to designated routes, and oil and gas leasing with NSO in the river corridor and controlled surface use would limit surface disturbance that impact T&E species in the Green River.

Under Alternative E, much of the ACEC would be managed to preserve the wilderness characteristics on 43,013 acres of the Desolation Canyon non-WSA lands with wilderness characteristics that lie within the ACEC. Protection of wilderness characteristics would limit surface disturbance in the ACEC by closing the non-WSA lands with wilderness characteristics to OHV use and oil and gas leasing and by managing for little or no change to the landscape under VRM Class I objectives. Alternative E would limit surface disturbances, offering more protection to the relevant and important scenery, riparian ecosystem, and fisheries than offered by Alternative C. These limits on surface disturbance and motorized vehicle use would emphasize primitive and non-motorized recreation activities and experiences by preserving a natural setting and prohibiting motorized recreation that intrudes upon primitive activities.

Accordingly, Alternatives C and E would provide the greatest protection to wildlife and their habitat, scenery, and recreation opportunities in the area. The Proposed RMP and Alternatives A, B, and D (No Action) would have greater impacts to these resources, as they would impose the fewest restrictions to oil and gas development.

4.16.1.2.4. MIDDLE GREEN RIVER ACEC

The Proposed RMP and Alternatives A, B, and D would not designate this area as an ACEC. Currently, this section of the river is used for recreational use (hunting and fishing), as well as some OHV use. However, other resource decisions would continue to protect some of the relevance and importance values. The VRM Class II objectives, limiting OHV travel to designated routes, and oil and gas leasing with controlled surface use would limit surface disturbance that would protect riparian resources, water quality, as well as T&E species.

Under Alternatives C and E, 6,768 acres of the Middle Green River (line of sight from the centerline of the river up to one-half mile along both sides) between Dinosaur National Monument and the boundary of the Ouray National Wildlife Refuge would be designated as an ACEC to protect the riparian ecosystem. Special management attention would include permitting only surface-disturbing activities found complimentary to the goals and objectives of the ACEC. The area would be open to oil and gas leasing subject mostly to standard lease terms and managed with timing and controlled surface use stipulations. Visual resources would be managed as Class II (115 acres), III (3,492 acres) or IV (3,161 acres). OHV use would be limited to designated routes.

ACEC designation would result in some protection to riparian resources. Impacts to riparian resources under Alternative C would be protective in the form of reduced potential disturbance to riparian resources with associated improvements in riparian wildlife habitat and water quality. This section of the Green River provides habitat for Colorado pikeminnow and razorback sucker. Accordingly, designation of this section as an ACEC would have some positive impact on these species. However, the management actions associated with this ACEC would not extensively change the use of the area, therefore, these benefits are unlikely to be substantial in relation to

the other existing threats to these species (i.e., exotic fish introductions and existing dams on the Green River). This section of the Green River is used for recreational boaters. Limiting development along this corridor to activities complimentary to maintaining the riparian area would improve the recreational experience for these users.

4.16.1.2.5. LOWER GREEN RIVER CORRIDOR AND EXPANSION ACECS

The Proposed RMP and Alternatives B and D (No Action) would designate 8,470 acres of the Lower Green River Corridor as an ACEC to provide special management attention to scenery and the riparian ecosystem, extending only west from the centerline of the river. Oil and gas leases would be issued primarily with an NSO stipulation. Visual resources would be managed as Class II. OHV would be limited to designated routes. These restrictions would limit surface disturbance and protect both riparian and upland habitat along the corridor. This would have a protective effect on resident and migrating birds and other wildlife. It would also protect critical habitat for such sensitive species as the American White Pelican, Bald Eagle, Long-billed Curlew, Black Tern, Mountain Plover, Caspian Tern, Common Yellow Throat, Ferruginous Hawk, Osprey, Peregrine Falcon, Grasshopper Sparrow, Lewis' Woodpecker, Short-eared Owl, black-footed ferret, Townsend's big-eared bat, Utah milk snake, Colorado pikeminnow, razorback sucker, roundtail chub, and the Uinta Basin hookless cactus. The river corridor is a prime location for prehistoric and historical cultural sites as well. Therefore, this alternative would result in reduced potential surface disturbance and impacts to these resources, and enhance recreational opportunities. The Proposed RMP as well as Alternatives B and D would not designate 1,700 acres of the Lower Green River Expansion as an ACEC. However, other resource decisions would continue to protect some of the relevance and importance values. The VRM Class II objectives, limiting OHV travel to designated routes, and oil and gas leasing (NSO) would limit surface disturbance that would protect riparian resources, water quality, as well as T&E species. Alternatives A, C, and E would designate 10,170 acres of the Lower Green River between the Ouray National Wildlife Refuge and the Carbon County line as an ACEC. This is an expansion of the existing Lower Green River ACEC as described in the Proposed RMP and Alternatives B and D (No Action). The 1,700-acre increase adds the eastern portion of the river (line of sight from the center line of the river up to 0.5 mile). The impacts of ACEC management on other resource values and uses under Alternatives A, C, and E would be similar to those under the Proposed RMP and Alternatives B and D (No Action), affecting a larger area of land.

The Proposed RMP and Alternatives B and D (No Action) would have benefits similar to those described above for Alternatives A, C, and E but to a lesser degree because fewer acres would be designated for special management protection. Alternative E would have the same impacts of ACEC designation and management as Alternatives A and C, except that under Alternative E a portion of the ACEC would be managed to preserve the wilderness characteristics on 5,329 acres of the Desolation Canyon non-WSA lands with wilderness characteristics that lie within the ACEC. Protection of wilderness characteristics would limit surface disturbance in a portion of the ACEC by closing the area to OHV use and to oil and gas leasing and by managing the landscape under VRM Class I objectives. This prescription would limit surface disturbances, offering protection to the relevant and important scenery and riparian ecosystem.

4.16.1.2.6. WHITE RIVER ACEC

The Proposed RMP and Alternatives B and D (No Action) would not designate the White River as an ACEC. Accordingly, the Proposed RMP and these alternatives would not afford special management attention to the relevant and important geologic formations, scenery, and riparian ecosystems, and result in greater adverse impacts to these values from other resource uses along the river corridor. However, other resource decisions would limit surface disturbance and continue to protect some of the relevance and importance values. The central portion of the river canyon would be managed with emphasis on protection of its wilderness characteristics. Most of the public lands along the river canyon would be closed to oil and gas leasing or would be available for leasing with an NSO stipulations. The river downstream of the non-WSA lands with wilderness characteristics would be managed as a special recreation management area (SMRA) providing primitive recreation activities such a floating, primitive camping, fishing, hiking, and wildlife viewing. Much of the river corridor would be closed to disposal of sand, gravel, and building stone. Most of the river canyon would be managed VRM Class II for retention of the characteristic landscape. Surface disturbance would be prohibited within floodplains and 100 meters of riparian zones. OHV use would be limited to designated routes. Furthermore, compliance with endangered species and cultural resource protection laws would continue to afford protection of those elements of the ACEC relevant and important values.

Under Alternatives C and E, 47,130 acres along the White River would be managed as an ACEC to protect unique geologic formations with spectacular vistas and the high-value river riparian ecosystem. The ACEC would be managed as VRM Class I, II, III, and IV and would be closed and limited to designated routes for OHV use to meet the management objectives of the ACEC. Oil and gas leasing would be permitted with an NSO stipulation within line of sight from the centerline, up to one-half mile either side of the river. Areas beyond the 0.5-mile buffer would be open to oil and gas leasing subject to standard lease terms and timing and controlled surface use stipulations, or closed to leasing. This larger ACEC would result in an associated increase in the protections to geological formations, riparian and upland habitat, and the recreational experience.

A portion of the ACEC under Alternative E would include the White River non-WSA lands with wilderness characteristics (21,167 acres) and would be managed to preserve those characteristics. Protection of wilderness characteristics would limit surface disturbance by closing the area to OHV use and oil and gas leasing and by managing the landscape for little or no change according to VRM Class I objectives. Protection of wilderness characteristics in part of the ACEC would offer further protection to the relevant and important geology, scenery, and riparian values.

The White River provides critical habitat for the endangered Colorado pikeminnow, as well as habitat for other threatened, endangered, and sensitive species, including the razorback sucker, flannel mouth sucker, roundtail chub, Yellow-billed Cuckoo, Peregrine Falcon, and Bald Eagle.

Alternatives C and E would benefit these species through the preservation of riparian habitat and the associated improvements to water quality. These alternatives, in particular, close OHV use in the western portion of the ACEC. This management prescription would limit surface disturbance and provide have additional benefits for the species.

Alternative A would designate 17,810 acres of the river corridor as an ACEC to provide special management attention to the identified values of the area. The management prescription would be very similar to that described for Alternatives C and E, but applicable to a smaller area. The resultant impacts, thus, would be similar on a smaller portion of the river corridor.

4.16.1.2.7. NINE MILE CANYON ACEC

The Proposed RMP and Alternative A would designate an ACEC to provide special management attention to the relevant and important values, to 44,168 acres and 48,000 acres, respectively. The management prescription under the Proposed RMP and Alternative A would be very similar to that of Alternatives B, C, D, and E, and thus so would the resultant impacts to the relevant and important values of the ACEC. The designation of 44,168 acres from upper rim to upper rim of the canyon as an ACEC would protect identified relevant and important values. See the analysis of Alternatives of B, C, D and E below. This designation is consistent with the ACEC designation in the Price Field Office Proposed RMP. The relevant and important values of historic properties would be protected through cultural laws, rules and regulations.

Alternatives C and E would designate 81,168 acres in Nine Mile Canyon as an ACEC. Each alternative would require the development and implementation of a comprehensive integrated activity plan. Under these alternatives, the ACEC would be open to oil and gas leasing subject to standard lease terms, timing and controlled surface use, and NSO stipulations. Visual resources would be managed, in part, as Class II and III to meet different management objectives in different parts of the ACEC. OHV use would be limited to designated routes or closed. These actions would manage surface disturbance to ensure the protection of relevant and important values.

These alternatives would provide protection to existing cultural resources in Nine Mile Canyon, including nationally significant Fremont, Ute, and Archaic rock art and structures. Additionally, this ACEC would protect wildlife habitat, vegetation (including special status species), and visual resources. Protection of the cultural resources and wildlife values would enhance recreational opportunities in the ACEC.

Alternative E would have the same impacts as those described for Alternative C except that 20,963 acres of the Desolation Canyon non-WSA lands with wilderness characteristics located in the ACEC would be managed to preserve the area's wilderness values. In the non-WSA lands with wilderness characteristics, the area would be closed to oil and gas leasing and OHV use, and an avoidance area for ROWs. The landscape would be managed for little to no change according to VRM Class I objectives. This prescription for the non-WSA lands with wilderness characteristics is more restrictive than the prescription for the remainder of the ACEC and would allow little surface disturbance or intrusion by motorized vehicles. These limitations would protect cultural resources in place, preserve the natural landscapes (scenery), protect sensitive plants, and limit disturbance to wildlife utilizing the area, all relevant and important ACEC values.

Alternatives B, and D would designate 44,181 acres in Nine Mile Canyon as an ACEC, with effects on the relevant and important values similar to those described under Alternatives C and E, but affecting a smaller ACEC.

Based on the acres that would be designated and the management prescriptions, Alternatives C and E would provide the greatest protection to relevant and important ACEC values, followed by Alternatives A, B, and D (No Action), then the Proposed RMP.

4.16.1.2.8. MAIN CANYON ACEC

The Proposed RMP and Alternatives A, B, and D (No Action) would not designate the Main Canyon ACEC or prescribe special management attention to protect the relevant and important values of the area. However, other resource decisions would continue to protect some of the relevant and important values. Nearly half of the Main Canyon acreage is within the Winter Ridge WSA. This area would be protected under the IMP with VRM Class I objectives, closed to oil and gas leasing, and closed to OHV travel. Lands outside of the Winter Ridge WSA would be limited to OHV travel; open to oil and gas leasing with moderate constraints; avoidance of steep slopes; timing limitations for crucial deer and elk winter range; habitat improvement with vegetation treatment; and protection of historic properties through cultural laws, rules and regulations.

Alternative C would designate 100,915 acres in Main Canyon as an ACEC to protect relevant and important cultural and historic resources and natural systems. Special management attention would include permitting only surface-disturbing activities found to be complementary or compatible with the goals and objectives of the ACEC. The area would be closed and managed with timing and controlled surface use for oil and gas leasing. Visual resources would be managed as VRM Class I and Class II. OHV use would be closed and limited to designated routes. These management actions would limit surface disturbance and protect numerous cultural sites, including sites associated with the historical Northern Ute migration route along Main Canyon. Management of the visual resources according to Class I and II objectives would limit landscape modifications, preserve the visual aesthetics of the area, and enhance the recreational experience.

Alternative E would also designate a 100,915-acre ACEC with impacts similar to those described for Alternative C. However, under this alternative, the ACEC includes portions of the Wolf Point non-WSA lands with wilderness characteristics (11,802 acres within the ACEC), which would be managed to preserve its wilderness characteristics. To protect the wilderness characteristics of the non-WSA lands with wilderness characteristics, Wolf Point would be closed to OHV use and oil and gas leasing, and a ROW avoidance area. To preserve the natural characteristics of the area, the landscape would be managed according to VRM Class I objectives. This prescription would limit or prohibit surface disturbance, protecting the relevant and important cultural, historic, and natural system values of the ACEC.

4.16.1.2.9. BROWNS PARK ACEC

The Proposed RMP would designate an 18,490-acre ACEC for the same values, following a very similar management prescription to Alternative B. Under Alternative B, 18,475 acres would be designated as an ACEC to provide special management attention to the protection of scenery, wildlife habitat, and cultural resources. The area would be open to oil and gas leasing subject to standard lease terms, timing and controlled surface use, and NSO; and some parts of the ACEC would be closed to leasing. OHV use would be closed and limited to designated routes. The effect on the relevant and important scenery, wildlife habitat, and cultural resources would be the same as described for Alternative B. Under the Proposed RMP, Lower Flaming Gorge, Cold Spring Mountain and Mountain Home would also be managed to protect their wilderness characteristics, with a similar management prescription to Alternative E. The resultant impacts on ACEC values in Brown's Park would be similar to Alternative E.

The remaining 34,231 that would not be designated as an ACEC under the Proposed RMP would continue to protect the relevant and important values through VRM Class II objectives, OHVs limited to designated roads, and oil and gas leasing would be opened with moderate and major constraints such as timing limitations for crucial deer and elk winter range and NSO.

Alternatives A, C, and E would designate 52,721 acres in Browns Park as an ACEC. Under these alternatives, the BLM would develop a comprehensive integrated activity plan that would address protection of the relevant and important scenery, wildlife habitat, and cultural and historic resources.

The area would be closed to oil and gas leasing or leased primarily with NSO or timing and controlled surface use stipulations. Visual resources would be managed as according to VRM Class I or Class II objectives under Alternative E. OHV use would be closed or limited to designated routes. This prescription would limit surface disturbance and preserve wildlife habitat and cultural resources. It would also afford protection to visual resources and would consequently improve the recreational setting and experience in the area. Closing the area to OHV use and restricting OHV use to existing routes would decrease surface disturbance.

Because the ACEC would be larger and would have greater restrictions on minerals development and landscape modification under Alternatives A, C and E, there would be greater protection of wildlife habitat, cultural resources, and recreation opportunities, in comparison with the effects under Alternatives B.

Under Alternative E portions of Lower Flaming Gorge (11,274 acres), Dead Horse Pass (1,665 acres), Cold Spring Mountain (8,649 acres), and Mountain Home (2,089 acres) non-WSA lands with wilderness characteristics are located in the ACEC, and they would be managed to protect their wilderness characteristics. To protect their wilderness characteristics, these non-WSA lands with wilderness characteristics would be closed to OHV use, oil and gas leasing, mineral material sales, wood cutting, and road construction. The non-WSA lands with wilderness characteristics would also be managed for avoidance from location of ROWs. The landscape would be managed according to VRM Class I objectives to preserve its undeveloped character. This prescription would limit activities that disturb the landform and vegetation, protecting scenery, wildlife habitat, and cultural and historic resources values of the ACEC.

Under Alternative D (No Action), 52,721 acres of Browns Park would continue to be managed as an ACEC. The area would have similar restriction on oil and gas development. OHV use would be open, closed, and limited to designated routes in different parts of the ACEC. The effects on the relevant and important scenery, wildlife habitat, and cultural resources would be similar to Alternatives A, C, and E.

4.16.1.3. Unavoidable Adverse Impacts

Unavoidable adverse impacts to relevant and important ACEC values would occur from surface disturbance associated with mineral development and OHV activity, depending upon the ACEC values and Proposed RMP or alternative.

4.16.1.4. Short-term Uses versus Long-term Productivity

Any loss of ACEC values due to surface disturbances would remain throughout the life of the plan.

4.16.1.5. Irreversible and Irretrievable Impacts

In those potential ACECs, not proposed for management of their relevant and important values under any of the alternatives, any loss of identified ACEC values that would result from surface disturbance caused by mineral development, OHV use, or other development, would be irretrievable. It is not anticipated that any impacts would be irreversible.

4.16.2. Wild and Scenic Rivers

4.16.2.1. Impacts Common to the Proposed RMP and All Alternatives

Under the Proposed RMP and all of the alternatives, segments of the Upper Green and Lower Green River would continue to be recommended to Congress as suitable and managed to protect the outstandingly remarkable values, free-flowing water, and tentative classifications of these segments, subject to valid existing rights.

In the Proposed RMP and all alternatives where eligible rivers would be determined suitable, the BLM would protect the outstandingly remarkable values, tentative classification, and free-flowing water of these rivers to the extent of its authority, which is limited to those portions of the segment where BLM manages the shoreline or other lands within the corridor, and is subject to valid existing rights. The free-flowing character of eligible river segments would be protected to the extent that modifications such as stream impoundments, channelization, and/or rip-rapping would not be permitted along BLM shorelines. However, depending upon the alternative, values may be at risk from potential mineral development, OHV activity, or other surface-disturbing activities. Unless public land is somehow involved in a proposed land use, BLM has no control of potential modifications of the shoreline or other development (including development related to the perfection of water rights) on non-public lands. Because of this factor, there would be no affect on the Colorado River Compact from protective management of eligible/suitable segments.

Under the Alternative D (No Action), a suitability determination would not be made, and BLM would continue to manage some of the eligible river segments to protect their outstandingly remarkable values, free-flowing water, and tentative classification to the extent of its authority as identified above, consistent with existing land use plan decisions and subject to valid existing rights. In the case of those river segments that were reviewed and determined unsuitable in the Diamond Mountain RMP, that decision would remain in effect.

For those river segments that would not be recommended suitable for wild and scenic river designation under the Proposed RMP and all alternatives, many other prescriptions of the Proposed RMP and alternatives would still afford protection to the river corridor, free-flowing water, and river values. For example, surface disturbance restrictions in riparian zones and floodplains would protect river shoreline and water quality. Actions proposed to protect riparian obligate and aquatic wildlife species and their habitat would protect river values. Vegetation treatments implemented to restore riparian and upland vegetation communities would enhance watershed health, water quality and quantity, wildlife habitat, and recreation settings and experiences. However, varying degrees of construction, development, and use would be allowed in these river corridors, including recreation development, motorized travel, and placement of utility lines and facilities. These actions would result in some level of surface disturbance and development that could alter "wild" or "scenic" classifications.

Refer to Table 4.16.2 for a listing of river segments and total river miles that would be determined suitable by alternative.

Table 4.16.2. River Segments That Would Be Determined Suitable and Total River Miles by Alternative

River/River Segment	Proposed RMP (river miles)	Alternative A (river miles)	Alternative B (river miles)	Alternative C (river miles)	Alternative D (No Action) (river miles)[1]	Alternative E (river miles)
White River "scenic" between the state line and its confluence with Asphalt Wash (Segment 1)	0	24	0	24	0	2
White River "wild" between Asphalt Wash to where the river leaves Section 18 T10S R23E SLBM (Segment 2)	0	10	0	10	0	10

Table 4.16.2. River Segments That Would Be Determined Suitable and Total River Miles by Alternative

River/River Segment	Proposed RMP (river miles)	Alternative A (river miles)	Alternative B (river miles)	Alternative C (river miles)	Alternative D (No Action) (river miles)[1]	Alternative E (river miles)
White River "scenic" from where the river leaves Section 18 T10S R23E SLBM, and the Indian Trust land boundary (Segment 3)	0	0	0	10	0	10
Nine Mile Creek "scenic" within Duchesne County between the Green River and the Duchesne County Line (Segment A)	0	0	0	13	0	13
Nine Mile Creek "recreational" within Duchesne County, between the Carbon county line and its confluence with Gate Canyon (Segment B)	0	0	0	6	0	6
Upper Green River	22	22	22	22	22	22
Lower Green River	30	30	30	30	30	30
Middle Green River	0	0	0	36	0	36
Evacuation Creek	0	0	0	21	0	21
Bitter Creek	0	0	0	22	0	22
Argyle Creek	0	0	0	22	0	22
Total River Miles	**52**	**86**	**52**	**216**	**52**	**192**
Total BLM Shoreline Miles	**39**	**57**	**39**	**112**	**39**	**104**

Table 4.16.2. River Segments That Would Be Determined Suitable and Total River Miles by Alternative

River/River Segment	Proposed RMP (river miles)	Alternative A (river miles)	Alternative B (river miles)	Alternative C (river miles)	Alternative D (No Action) (river miles)[1]	Alternative E (river miles)

[1] In addition, 87 miles of river involving the White River (Segments 1, 2, and 3), Evacuation Creek, and Bitter Creek would remain eligible with this alternative.

[2] Alternative E would not recommend Segment A suitable, but would manage and protect the segment as eligible pending completion of a review of the permit for dam construction.

Note: Mileage is approximate.

4.16.2.2. ALTERNATIVE IMPACTS

4.16.2.2.1. PROPOSED RMP AND ALTERNATIVE B

Under the Proposed RMP and Alternative B, 52 river miles (39 miles of BLM shoreline) would be recommended suitable for designation into the National Wild an Scenic River System. The Green River (Upper and Lower Segments) would be determined suitable for designation into the National Wild and Scenic River System (see Table 4.16.2) with a tentative classification of "Scenic" for both river segments. Where BLM manages the shoreline or other lands within the river corridors, BLM would protect the outstandingly remarkable values (unique natural, scenic, recreational, fish and wildlife and cultural values), tentative classification, and free-flowing nature of these rivers. Because other resource allocations would be consistent with management of the rivers' suitability, the Proposed RMP and Alternative B would provide greater protection to outstanding remarkable values than would the Alternative D (No Action). Under the Proposed RMP and Alternative B, a mineral withdrawal would be pursued to prevent mineral entry and related surface disturbance, and therefore protect the outstandingly remarkable values and tentative classification of the Upper Green River and the Lower Green River.

The Upper and Lower Green River would largely be protected from disturbance related to mineral development by either being closed to mineral leasing or by no surface occupancy stipulations.

Both suitable river segments would be in a limited or closed OHV category, with most of the segments limited to designated routes. River corridors would largely be protected from disturbance related to OHV activity. No loss of outstandingly remarkable values from OHV use would be anticipated during the life of the plan.

4.16.2.2.2. ALTERNATIVE C

With Alternative C, 216 river miles (112 miles of BLM shoreline) including all 11 eligible river segments would be recommended suitable for designation into the National Wild and Scenic River System (see Table 4.16.2). Where BLM manages the shoreline or other lands within the river corridors, BLM would protect the outstandingly remarkable values (unique natural, scenic, recreational, fish and wildlife and cultural values), tentative classification, and free-flowing

nature of these rivers. Overall, this alternative would provide the greatest protection to the outstandingly remarkable values, free-flowing nature and tentative classification of these segments. However, where mineral development would be allowed (on valid existing leases) with standard stipulations or timing and controlled surface use, or where other mineral development would be allowed within the corridor of Evacuation Creek, White River (Segments 1 and 3), Middle Green River, and Nine Mile Creek, segment B (on valid existing leases), the outstandingly remarkable values of these rivers would be at risk. The White River and Evacuation Creek segments are most at risk as they are within an area of foreseeable mineral development.

The proposed locatable mineral withdrawals would also be protective of the outstandingly remarkable values of the Upper Green River, the White River (Segment 2), and the Lower Green River. With this alternative, public access (which may involve easement or exchange and improvement of existing routes) would be pursued for Segment 1 of the White River at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. This would enhance access to the river corridor and this segment's recreational values, and would not affect the other outstandingly remarkable values. It would not affect the free-flowing nature of the river, and would be in keeping with the tentative classification of scenic.

The suitability recommendation for Segment 1 of the White River would result in the discontinuance of the existing permit for the dam site. Accordingly, the free-flowing nature of Segment 1 would be maintained.

Not grazing the lands acquired along Nine Mile Creek would limit surface disturbance caused by livestock grazing and protect the outstandingly remarkable cultural and scenic values, and would enhance water quality of the segment.

Overall, this alternative would provide the greatest protection to the outstandingly remarkable values, free-flowing nature of the rivers, and tentative classification of all the suitable segments. The Upper and Lower Green River, the White River (Segments 1 and 2), Nine Mile Creek (Segment A), and Bitter Creek, would largely be protected from surface disturbance related to mineral development by either being closed to mineral leasing or by no surface occupancy stipulations. However, where mineral development would be allowed (on valid existing leases) with standard stipulations or timing and controlled surface use, or where other mineral development would be allowed within the corridor of Evacuation Creek, White River (Segments 1 and 3), and Nine Mile Creek, segment B (on valid existing leases), the outstandingly remarkable values of these rivers would be at risk. The White River and Evacuation Creek segments are most at risk as they are within an area of foreseeable mineral development.

All suitable river segments would be in a limited or closed OHV category, with most of the segments closed. This alternative would best protect these river corridors from surface disturbance and the presence and noise related to OHV activity. No loss of outstandingly remarkable values from OHV use would be anticipated during the life of the plan. The closed category for Segment 2 of the White River would be consistent with the tentative classification of wild.

4.16.2.2.3. ALTERNATIVE A

With Alternative A, 86 river miles (57 miles of BLM shoreline) involving four eligible river segments would be recommended suitable for inclusion into the National Wild and Scenic River System (see Table 4.16.2). Under this alternative, the Upper and Lower Green Rivers and segments 1 and 2 of the White River would be recommended suitable for designation as wild and scenic rivers. The alternative would result in the same management prescription and resultant impacts to the outstandingly remarkable values, free-flowing water, and tentative classification of these four river segments as described for these segments under Alternative C above.

4.16.2.2.4. ALTERNATIVE D (NO ACTION)

With Alternative D, the recommended suitable Upper and Lower Green River (see Table 4.16.2) segments, involving 52 river miles (39 miles of BLM shoreline), would remain suitable, and be managed so as to protect their outstandingly remarkable values, tentative classification, and free-flowing nature. Although suitability recommendations would not be made for the other eligible rivers under this alternative, non-suitable recommendations made for Nine Mile Creek, Argyle Creek, and Middle Green River in the Diamond Mountain RMP would continue with this alternative. However, in keeping with BLM Manual 8351, Sections .32C and .33C, the White River (Segments 1, 2, and 3) Evacuation Creek, and Bitter Creek would remain eligible with this alternative and, where BLM manages the shoreline or other lands within the river corridors, they would be managed in a manner that would protect their outstandingly remarkable values, tentative classification, and free-flowing water until such time as suitability findings are made. Approximately 87 river miles (34 miles of BLM shoreline) would be involved.

However, protective management would be restricted by other decisions made in the Diamond Mountain RMP. Where mineral development would be allowed on valid existing leases with standard stipulations or timing and controlled surface use, or where other mineral development would be allowed in the corridors of the Middle Green River, Bitter Creek, Nine Mile Creek, White River Segments 1 and 3, Argyle Creek, and Evacuation Creek (on valid existing leases), the outstandingly remarkable values of these rivers would be at risk. Segments 1 and 3 of the White River Corridor would be most at risk because they are in an area of foreseeable mineral development, and Segment 1 has been identified for a potential dam site. Also, river corridors which would remain in an open category for OHV use would also be at risk from increased surface disturbance.

A locatable mineral withdrawal or other protective measures would be pursued that would preclude mineral entry and agricultural entry within the corridors of the Upper Green River, and the lower Green River. This withdrawal would prevent surface disturbance that would degrade the outstandingly remarkable values, free-flowing nature of the rivers, and eligible classification of these river segments.

Under this alternative, the continued eligibility decision for Segment 1 of the White River would be incompatible with the existing permit for the dam site. Because this permit would continue under this alternative, the free-flowing nature of Segment 1 would not be maintained and this segment would no longer be eligible for designation as a Wild and Scenic River.

4.16.2.2.5. ALTERNATIVE E

Under Alternative E, 192 river miles (104 miles of BLM shoreline) including all 11 eligible river segments would be recommended suitable for designation as wild and scenic rivers. (see Table 4.16.2 above). The only difference between this alternative and Alternative C is the exclusion of White River segment 1. This segment of the White River would not be recommended suitable for designation, pending completion of a review of the permit for dam construction. In the interim, the segment would remain eligible and managed to protect its river values. Thus the management prescription and resultant impact to wild and scenic river values would be the same for all 11 rivers as described under Alternative C above.

In addition, under this alternative, non-WSA lands with wilderness characteristics in the river corridors would be managed to protect those characteristics, and, where suitable wild and scenic river segments include portions of non-WSA lands with wilderness characteristics, additional protections would result from the protective management prescriptions. Portions of the White River non-WSA lands with wilderness characteristics are located in the White River wild and scenic river corridor. Portions of Desolation Canyon non-WSA lands with wilderness characteristics are in the Nine Mile Creek corridor. Parts of the Bitter Creek, Rat Hole Ridge, Cripple Cowboy, and Hell's Hole Canyon non-WSA lands with wilderness characteristics are located in the Bitter Creek corridor. Parts of Lower Flaming Gorge non-WSA lands with wilderness characteristics are in the Upper Green River corridor, and portions of Desolation Canyon non-WSA lands with wilderness characteristics are located in the Lower Green River corridor.

To protect their wilderness characteristics, the non-WSA lands with wilderness characteristics would be closed to OHV use, oil and gas leasing, mineral material sales, wood cutting, and road construction. The non-WSA lands with wilderness characteristics would be ROW avoidance areas. VRM Class I objectives would protect the natural characteristics from change in each of the non-WSA lands with wilderness characteristics. For those portions of the non-WSA lands with wilderness characteristics located in suitable wild and scenic river corridors, this prescription would prevent surface disturbances that would have adverse impacts on the outstanding natural, scenic, recreational, fish and wildlife, and cultural values; tentative classification; and free-flowing nature of these rivers.

4.16.2.3. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts to outstandingly remarkable river values, the free-flowing condition of the rivers, and their tentative classification would occur from mineral development and OHV activity, depending upon the river segment and Proposed RMP or alternative.

4.16.2.4. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Any loss of river values due to surface disturbances or alteration of the free-flowing nature of the rivers would remain throughout the life of the plan.

4.16.2.5. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Any loss of outstandingly remarkable values of eligible or recommended suitable river segments that would result from mineral development would be irretrievable. No irreversible impacts are anticipated under the Proposed RMP or any alternative.

4.16.3. WILDERNESS STUDY AREAS (WSAS)

Wilderness study areas (WSAs) are managed under the Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP) (BLM 1995) which directs the BLM to manage the areas so as not to impair their suitability for preservation as wilderness. This management policy applies to all uses and activities in WSAs but acknowledges those uses specifically exempted from this standard by FLPMA (such as grandfathered uses) and valid existing rights. Because of this protective standard, there would be no impacts to the wilderness characteristics of the WSAs from implementation of the Proposed RMP or any alternative except in areas with existing valid rights. The only area where valid existing rights are expected to impact the wilderness values is in the Winter Ridge WSA.

The Winter Ridge WSA (42,462 acres) is located in an area high oil and gas development potential (Mineral Potential Report, BLM 2002), with a demonstrated exploration and production history. About 25% of the lands in the WSA are currently under lease. Although, WSAs are closed to leasing, the IMP does recognize valid existing rights. Under the Proposed RMP and all alternatives, it is anticipated that the leaseholder(s) would exercise their rights under these leases to explore and develop oil and gas resources. The resulting surface disturbance (i.e., roads, well pads, pipelines) would degrade the natural characteristics on as much as 33% of the WSA. The presence and noise of people, vehicles, and equipment would also diminish opportunities for solitude and conflict with primitive recreational activities. Through the exercise of valid existing rights, it is anticipated that approximately 13,832 acres of the WSA would lose its wilderness characteristics.

Under the Proposed RMP and Alternatives A, B, C, and E, each WSA would be managed under VRM Class I objectives. This objective provides for preservation of the characteristic landscape and would preserve the natural characteristics of the WSAs. Preservation of an undeveloped landscape (the natural values) would also provide the setting needed to support outstanding opportunities for solitude and primitive recreational activities.

Under the Proposed RMP and alternatives motorized use is either limited to designated "ways" or closed to all motorized use, depending on the WSA and alternative, and consistent with the IMP. In WSAs where motorized travel is permitted on designated routes, there would be no additional surface disturbance to the natural characteristics of the WSAs. However, the presence and noise of vehicles would temporarily disrupt opportunities for solitude and conflict with primitive forms of recreation. In WSAs where existing "ways" would be closed to motorized travel, there would be no added surface disturbance that would degrade the natural characteristics of the WSA and no conflicts with opportunities for solitude or primitive recreation activities.

4.16.3.1. UNAVOIDABLE ADVERSE IMPACTS

Because of the anticipated exercise of valid existing rights on existing oil and gas leases in the Winter Ridge WSA, 13,832 acres of the WSA would lose its wilderness characteristics resulting from surface disturbance created by exploration and development. While mitigation measures would be employed to reduce the effects on the wilderness values of the WSA, the leaseholder(s) have the right to develop the lease(s), and that development would degrade the wilderness values of the WSA. That impact cannot be avoided.

4.16.3.2. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

The loss of wilderness values of Winter Ridge WSA is expected to remain for 25–30 years, the average life of a producing well, plus time for reclamation.

4.16.3.3. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Any loss of wilderness characteristics that would result from mineral development would be irretrievable, but not irreversible. At the end of the production life of the well, the site would be reclaimed, and the natural characteristics of the land would return.

4.17. SPECIAL STATUS SPECIES

Federally listed and sensitive species are updated per Instruction Memorandum No. UT 2007-078 dated September 26, 2007 (Expires: 09/30/2008). The Updated Utah BLM State Director's Sensitive Plant and Animal Species Lists states the following:

> "**1. Sensitive Animal Species List.** By this Instruction Memorandum, Utah BLM adopts the existing Utah Division of Wildlife Resources (DWR) *Utah Sensitive Species List.* This means that BLM will now use the official DWR list that is in place at the time of a given action. DWR updates this list on a regular basis so it will be important to consult the DWR web site at http://www.wildlife.utah.gov to ensure that you are using the latest list. Only those species or their habitat that occur on BLM administered public lands should be considered.
>
> **2. Sensitive Plant Species List.** The existing state director's sensitive plant species list contained in IM No. UT 2003-027 is currently undergoing extensive peer review both inside and outside of BLM. That review has not yet been completed; therefore, the existing list (see IM No. UT 2003-027) will continue to be used until a new list has been developed. However, due to recent changes in the legal status of *Penstemon grahamii*, this species is now included on the existing plant list."

As of July 1, 2008, there are 13 federally listed, 2 candidate, and 32 sensitive species within the VPA, which includes mammals, birds, reptiles, fishes and plants. Each of these species has different habitats, different ranges of distribution, and different susceptibilities to management activities. In contrast to other resources, special status species have limited distributions and key habitat requirements that might not be located or unable to be relocated elsewhere within the VPA. For this reason, total acres of surface disturbance under individual alternatives are difficult to interpret in the context of a special status species, without being placed in a context of the factors most important in managing individual species for either recovery or to prevent listing as threatened or endangered.

The methods used to analyze the impacts to special status species were to first list the overall species threats, as defined in individual species' Federal Register listing packages (for federally listed species), or according to data provided by the BLM for sensitive species. How the management decisions in the RMP would contribute to a change in individual species' threats (either positively or negatively) was then identified. Finally, the risks of individual resource decisions contributing to species threats were evaluated, using both qualitative analysis and a selected subset of acreage data that would pertain to individual key special status species limiting factors. Table 4.17.1 below summarizes the overall threats and potential impacts of RMP alternatives' management actions on listed species. The remainder of this section describes how the specific management actions under the Proposed RMP and each alternative would affect key factors affecting species, as listed in Table 4.17.1. Because, there is less information on sensitive species than listed species, most sensitive species are discussed in conjunction with those federally listed species sharing similar habitat and limiting factors. Sensitive species for which

the RMP includes specific management prescriptions are individually discussed. These include the Ferruginous Hawk, Burrowing Owl, Sage-grouse, and Colorado River cutthroat trout.

Impacts to listed species would occur if any of the resource decisions were to result in direct impacts to a listed or candidate species through "take," defined by the Endangered Species Act as "harm, hunting, wounding, killing, or harassment." Harassment includes activities resulting in increased stress during critical life history stages such as nesting, migration or wintering, loss or degradation of designated critical habitat, loss or degradation of occupied or potential listed species' habitat, or activities precluding or reducing the effectiveness of recovery goals or measures. Although other special status species are not regulated under the Endangered Species Act, impacts to these species were identified if they fell within one of the above categories.

Some decisions regarding resources would not affect special status species because they would neither change the status of current species threats nor affect recovery potential. The impacts from decisions concerning Cultural Resources, Lands and Realty, Paleontological Resources, Visual Resource Management, Wild Horse Management, and Wildlife and Fisheries Management would be negligible on special status plant and animal species in the Vernal Planning Area (VPA) and therefore will not be discussed further in this analysis.

Impacts from other resource decisions would affect special status species. Individual resource decisions that would have a combined potential effect on special status species and could not be separated were addressed jointly. Impacts from other resource decisions that would affect Special Status species include: Fire Management/Woodland and Forest Management, Forage Allocation/Livestock Grazing, Mineral Resources, Recreation and Travel, Riparian Resources, Special Designations, Special Status Species, and Soils and Watershed. Decisions relating to these resources and resource uses would have a either a direct or indirect impact on special status plant and animal species in the VPA and be long term or short term in nature.

4.17.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

4.17.1.1. FIRE AND WOODLAND MANAGEMENT

Under the Proposed RMP and all of the alternatives, prescribed burning and public harvest of forest products would occur. These impacts would occur in woodland, forest and desert shrub habitats, but not grassland or riparian habitats. As a result, fire would not be used in black-footed ferret, Yellow-billed Cuckoo, endangered Colorado River fish, or Ute ladies'-tresses habitat. Fire would occur in vegetation types occupied by the listed plant species other than the Ute ladies'-tresses (hereafter referred to as the Book Cliffs soil endemics, referring to the general restriction of these plant species to specific soil types in the Book Cliffs area). In general, the Book Cliffs soil endemics occur in sparsely vegetated habitats within the larger mapped vegetation types. Controlled prescribed fire would not likely carry in these habitats unless they had been invaded by cheatgrass or other annual weedy species or if prescribed fires spread beyond their intended dense woodland target. As a result, carefully controlled prescribed fire would not have a major adverse impact on the Book Cliffs soil endemics, and would have long-term beneficial impacts by preventing larger fires in adjacent woodlands that could spread through sensitive species habitat. If prescribed fires were to spread beyond their intended dense woodland target these fires

would have adverse impacts on special status species by directly destroying individual plants of special status plant species or by indirectly contributing to the risk of cheatgrass invasion, which is higher following a fire. Associated activities, such as fire line construction and off-road travel by necessary fire maintenance vehicles could also result in direct adverse impacts to the Book Cliff soil endemics via uprooting and or trampling.

Both fire and woodland harvest would likely occur in habitat used by the Mexican Spotted Owl, Canada lynx and sensitive bird species. The short-term effects of prescribed fire on the Mexican Spotted Owl and Ferruginous Hawk would be direct and adverse by removing the conifers used by these species. As long as some mature patches of trees were left in the vicinity, the long-term impacts of fire decisions on these species would be beneficial, by reducing the chance of catastrophic wildland fire. Catastrophic wildland fire is a key threat to the Mexican Spotted Owl. Use of prescribed burning, thinning treatments and any other activities that would result in a mix of age classes is supported by the FWS as being beneficial for the Mexican Spotted Owl (USFWS 2001). Fire would have mixed effects on the Canada lynx, as this species requires an abundance of downed woody debris for denning, which would be removed by prescribed burning and would take decades to redevelop. Conversely, fire in decadent forest stands would restore habitat for the snowshoe hare, which is the main food for the lynx.

4.17.1.2. Forage Allocation/Livestock Grazing

Livestock grazing in both upland and riparian habitats would occur under the Proposed RMP and all alternatives. Livestock grazing may have a direct and/or indirect impact on special status plant and animal species. Historically, livestock grazing has had an impact on public lands by modifying vegetation, introduction of foreign plant species, and an increase in soil erosion.

Livestock may impact special status plant species through trampling and removal of above-ground portions, preventing flowering and seed set necessary for species survival. Livestock may also impact special status animal species through direct "take" and "harassment."

Proper management of livestock would reduce or eliminate the impacts to special status species from livestock grazing. Proper management would be attained through the implementation of the appropriate number of livestock, season of use, utilization, and monitoring to meet, exceed or make progress toward meeting the Rangeland Heath Standards.

4.17.1.3. Mineral and Energy Development

The Proposed RMP and all alternatives allow some level of mineral and energy development. Oil and gas development is identified as a key threat to the Book Cliffs soil endemics and was a major factor in their listing. Potential adverse direct effects of oil and gas developments include placement of facilities or roads within either occupied habitat or potential habitat necessary for the recovery of the species, resulting in an overall reduction in habitat and an increase in habitat fragmentation. This threat is particularly high for the shrubby reed-mustard as this species is restricted to geologic formations containing oil shale. Indirect adverse impacts of oil and gas development within the listed plant species habitat include damage to plants from travel outside of designated roads, increases in road densities, and fugitive dust production. The clay soils on

which these plants grow are highly susceptible to wind erosion, and surface disturbance increases the soil erosion potential. Deposition of wind-blown dust on the listed plant species currently is a problem, potentially affecting plant reproduction, in the existing oil and gas fields (Whittington, USFWS [personal communication] 2003). Pollination vectors are not known for many special status plant species in the VPA. Studies on Ute ladies'-tresses (Sipes and Tepedino 1995) have shown that ground-nesting bees are important for pollination of this species, whereas other species' pollination vectors are not known within the VPA. Seed dispersal vectors are also unknown for most special status species within the VPA, but could be affected by habitat fragmentation due to road development. Other indirect adverse impacts include the potential for introduction and spread of noxious and invasive weeds that would compete with the special status plants. The spatial layout of oil and gas facilities would disturb a large proportion of vegetation, when in the context of the landscape. Each area disturbed for the construction of a well pad or road increases the opportunity for weed invasions and disrupts the spatial continuity of vegetation communities. Also, activities such as road building would increase the access to sensitive areas on which special status species are dependent for survival.

Oil and gas development would have both direct and indirect adverse effects on the Pariette cactus, Uinta Basin hookless cactus, White River beardtongue, Ute ladies'-tresses, the Yellow-billed Cuckoo, the four Colorado River fishes and the Colorado River cutthroat trout. Although most of the riparian zone is listed as NSO, this stipulation could be allowed an exception (a one-time exemption from a stipulation) if necessary for transmission lines, roads and surface occupancy. Any development within riparian zones could adversely affect the Yellow-billed Cuckoo and Ute ladies'-tresses through removal of riparian vegetation. Development of oil and gas wells requires water for both well drilling and extraction. Approximately 0.75 acre-feet of water would be required for each well. The source of this water is unknown, and each contracting company would identify its own water source and disposal methods for waste products. One of the main factors in the listing of the Colorado River fishes was the cumulative effect of water depletion within the Colorado River system, which includes the Green, White, and Duchesne Rivers and their associated critical habitat. New depletions from these rivers or changes in the amount of water returned to the rivers would constitute an additional impact on the Colorado River fishes. Depending on where the depletions occur, riparian habitat supporting the Ute ladies'-tresses would also be adversely impacted by changes in hydrologic support. Loss of riparian habitat through streamflow changes is a key threat to the Ute ladies'-tresses. Wastewater disposal methods would be determined by each individual contracting company and are currently unknown. Any discharges of petroleum wastes into water bodies would negatively affect the special status fish. Boron and selenium are high in the local soils; the degree to which sediments containing these contaminants would enter water bodies is unknown. The potential for mineral development to increase sedimentation is discussed in Section 4.15 Soil and Water Resources. Increases in sediments containing boron or selenium would adversely affect all of the special status fishes.

Under the Proposed RMP and all alternatives, large areas associated with Ferruginous Hawk nesting sites, Mexican Spotted Owl habitat and Greater Sage-grouse habitat would be open for oil and gas and mineral development. General adverse impacts to these species (and others, including white-tailed prairie dog and black-footed ferret) would include reduction in habitat, habitat fragmentation, and increases in noise and other human disturbances.

4.17.1.4. RANGELAND IMPROVEMENT

Construction of new rangeland improvement projects could have short- and long-term direct adverse impacts on some special status species from trampling by livestock due to trailing and construction of range developments. Short- and long-term indirect adverse impacts could also occur on some special status species if the projects result in moving livestock and wildlife into areas that had previously received little use. Conversely, special status species would benefit from rangeland improvements by improved dispersion of livestock and wildlife if animals are prevented from concentrating in their habitat, although dispersal of weeds into previously undisturbed areas would adversely impact some special status species. Direct impacts would depend on exact project locations, but in general, adverse impacts are projected to be minimal, because site examinations would be conducted prior to project approval.

Vegetation treatments, including Utah juniper (*Juniperus osteosperma*) control, prescribed burning, and seedings, would impact special status species, depending on the species, the number of exotic species within the area, overall ecological condition, and the likelihood that exotics would colonize the sites following treatment. Site examinations, to the extent feasible, would be conducted prior to treatments; however, due to the generally large size of such treatments, species might be overlooked and adverse impacts would result if species are uprooted during the physical procedures. Where canopies are opened and exotics are displaced in or near special status species habitat, beneficial impacts could result, as sites would be improved for establishment or recolonization by certain species.

4.17.1.5. RECREATION AND TRAVEL

The Proposed RMP and all alternatives would encourage recreation in the Book Cliffs area and allow a degree of OHV use. Identification of special recreation management areas (SRMAs) would provide beneficial impacts to special status species by providing focused recreation management on these lands and reducing impacts associated with dispersed recreation with minimal management. Continued use of OHVs and development of trails would have adverse impacts on special status species by providing access to habitats where trampling, habitat fragmentation and illegal plant collecting could occur. Increased visitor use of recreational areas would adversely affect special status species through increased human disturbance.

4.17.1.6. SPECIAL STATUS SPECIES

Raptors would be managed under the auspices of Best Management Practices (BMPs), which would include implementation of spatial and seasonal buffers to disturbances in the vicinity of nesting raptors that would be tailored to the individual raptor species involved, and based on factors such as line of sight distance between nest and disturbance, type and duration of disturbance, nest structure security, sensitivity of the species to disturbance, observed responses to related disturbances, and the amount of other disturbances already occurring in the vicinity to reduce adverse impacts of minerals development on raptors. These buffers would implement "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A) with modifications allowed as long as protection of the raptors is ensured. The BLM would also pursue a partnership between industries, local governments, the USFWS, UDWR, USFS, and NRCS and others as appropriate to establish a raptor management fund to be

utilized for raptor population monitoring and habitat enhancement. The BLM would also cooperate with utility companies, UDWR, and the USFWS to prevent electrocution of raptors.

Additionally, under the Proposed RMP and all alternatives:

- Cottonwood bottoms for Bald Eagle winter habitat along the Green and White Rivers, at Pelican Lake, and at the Cliff Creek Bald Eagle roost site would be protected.
- In cooperation with UDWR the BLM would maintain nesting habitat and maintain/enhance prey-base habitat for burrowing and Short-eared Owls.
- To provide primary food sources for the Ferruginous Hawk, the BLM would cooperate with UDWR to maintain and enhance white-tailed prairie dog and prey base habitat.
- The BLM would establish Protected Activity Centers (PACs) at all known Mexican Spotted Owl nest sites; maintain habitat to support small mammal populations as a prey base for Mexican Spotted Owls in occupied and suitable owl habitats; and retain large down logs, large trees, and snags as prey habitats in occupied and suitable Mexican Spotted Owl habitats.
- For Peregrine Falcons the BLM would protect and enhance riparian habitat in Pariette Draw, as well as along the Green River, White River, Bitter Creek, and other drainages.
- The BLM would manage the black-footed ferret consistent with the 1999 Black-footed Ferret Reintroduction Plan Amendment.

Table 4.17.1. Comparison of Potential Resource Decision Impacts within the VPA to Overall Species Threat for Federally Listed and BLM Sensitive Species

Common Name	Overall Species Threats	Potential Impacts Associated with Resource Decisions in the VPA
Black-footed ferret	Loss of prairie dog colonies on which they depend due to habitat loss and fragmentation, poisoning, agricultural conversion, and disease.	Changes in the prairie dog prey base within the Coyote Basin experimental population through conversion of open, sparse grassland to a different habitat type.
Canada lynx	Inadequate regulatory mechanisms to protect the species coniferous forest habitat which is important for denning (needs large woody debris), its snowshoe hare prey base (needs dense understory), and corridors for dispersal.	Forest practices that would remove large woody debris, dense understories, or fragment the Diamond Mountain coniferous forest dispersal corridor through roads, trails, or other barriers; forest practices that would provide for long-term maintenance of different-aged forest stands.
Mexican Spotted Owl	Forested habitat loss due to even-aged stands, catastrophic wildland fires.	Forest practices that would develop even-aged stands of trees, catastrophic wildland fires, and loss of forested habitat within the steep canyons of the Book Cliffs area; forest practices that would provide for long-term maintenance of different-aged forest stands.
Yellow-billed Cuckoo	Loss of multilayered riparian habitat.	Any loss of multilayered riparian habitat; activities that could prevent future development of dense riparian habitat.
Bonytail Colorado pikeminnow Humpback chub Razorback sucker	Cumulative effects of streamflow regulation and depletion, changes in temperature regimes, loss of connected floodplain habitat, competition with and predation by nonnative fish, hybridization, increased concentration of salts and contaminants.	Any river depletion or change in Duchesne River, White River, or Green River stream flows that would add to the cumulative impacts of all existing depletions, particularly in the designated critical habitat reaches; changes in tributary flows that could affect mainstem flows; increased salt or contaminant concentrations associated with flow depletion and/or increased sediments entering the two rivers.
White River beardtongue Barneby ridge-cress[1]	Cumulative effects of restriction to unique formations, with oil and natural gas development, and sheep and cattle grazing. Energy/mineral developments, livestock grazing, and off-road vehicle use.	Direct placement of facility footprints or associated infrastructure on existing individuals or colonies, placement of facilities on potential habitat needed for the species' recoveries, grazing within the restricted habitat areas that tramples plants or prevents them from flowering, unrestricted off-road travel, wind erosion from high road densities and facilities in the highly erodible clay soils on which these species depend, potential loss of long-term reproduction capabilities due to habitat fragmentation. Indirect effects include invasion of habitat by noxious weeds and other undesirable plant species resulting from surface disturbance in and adjacent to occupied and/or potentially suitable Barneby ridge-cress habitat.
Clay reed-mustard Shrubby reed-mustard	Cumulative effects of restriction to unique formations, with oil and natural gas development.	Potential impacts for shrubby reed-mustard are the same as described above plus the additional risk that the oil shale underlying the mustard's habitat leaves a strong possibility for future oil and gas development within the population centers. Clay reed-mustard grows in silty loam without a trace of oil shale.
Uinta Basin hookless cactus Pariette cactus	Energy/mineral developments, livestock grazing, stone collecting, and off-road vehicle use.	Direct placement of facility footprints or associated infrastructure on existing individuals or colonies, placement of facilities on potential habitat needed for the species' recoveries, grazing within the restricted habitat areas that tramples plants, unrestricted off-road travel.
Ute ladies'-tresses	Loss of riparian habitat through streamflow alteration, streamflow depletion, and invasion by noxious weeds overgrazing; changes in stream dynamics allowing repeated new habitat creation.	Additional changes in streamflow through new consumptive use, increases or decreases in noxious weeds increases or decreases in totals grazing allowed within riparian zones, discretionary authority to allow infrastructure within NSO designated riparian zones.

1Found on tribal and private land. Not yet found on BLM land (personal communication with Clayton Newberry, BLM VFO, May 14, 2008).

4.17.2. Proposed RMP and Alternatives Impacts

4.17.2.1. Impacts of Fire Management Decisions on Special Status Species

4.17.2.1.1. Proposed RMP and Alternatives A, B, C, and E

The Proposed RMP and Alternatives A, B, C, and E would have direct beneficial and adverse effects on special status species as described under Impacts Common to All Alternatives, although the impacts would generally be positive for species status over the long term. The greatest beneficial impact of prescribed fire on 156,425 acres per decade would be to restore habitat for the Mexican Spotted Owl and over the long term reduce the potential for catastrophic wildland fires in other sensitive species habitats. Adverse impacts would include mortality, and short-term loss of habitat. The Proposed RMP and these four action alternatives would provide for prescribed burning on 104,525 more acres per decade than Alternative D (No Action). As a result, the Proposed RMP and the action alternatives would provide substantially more long-term beneficial impacts to special status wildlife species than Alternative D (No Action) due to a greater acreage of prescribed fire under the Proposed RMP and all action alternatives.

4.17.2.1.2. Alternative D (No Action)

Alternative D (No Action) allows for prescribed fire on 50,900 acres per decade (27,950 and 22,950 acres under the Book Cliffs and Diamond Mountain RMPs, respectively). The impacts of this alternative on special status species would be similar to those described above for the action alternatives, except that the impacts would be on a smaller scale.

4.17.2.2. Impacts of Forage Allocation and Livestock Grazing Decisions on Special Status Species

4.17.2.2.1. Proposed RMP

Under the Proposed RMP, up to 50% of upland forage would be utilized by livestock, wild horses, and big-game species. The total number of AUMs (including livestock, wild horses and big game) would be 245,607. Approximately 2,340 of these AUMs would only be temporarily allocated for wild horses because wild horses would be gathered and removed under the Proposed RMP. However, these AUMs would still be utilized through allocation in later planning processes. In riparian areas, stubble height would be initially identified as 4 inches, with 30% key herbaceous riparian species utilization unless bank stabilization goals were not met. In that case, minimum stubble height would be increased to six inches with a maximum of 20% key herbaceous riparian species utilization. The riparian grazing standards under the Proposed RMP differ from Alternative D (No Action) in that stubble heights are set at 3 inches (1 to 3 inches lower than the Proposed RMP) and that Alternative D (No Action) has no riparian key herbaceous riparian species utilization standards.

In general, grazing is a threat to all listed and most sensitive species, as described under Impacts Common to the Proposed RMP and All Alternatives (4.17.1). Under the Proposed RMP, the risk

of grazing impacts to the Book Cliffs soil endemics would be slightly less than those of Alternative D (No Action) as grazing utilization would be monitored; however substantial grazing impacts to these species would still occur as there little difference in AUMs (less than 1%) between the Proposed RMP and Alternative D (No Action). Also, under the Proposed RMP, even 50% upland forage utilization would provide a threat to special status plant species, although this is less than Alternative D (No Action) which would not explicitly limit forage utilization. The risk of adverse grazing impacts to the Ute ladies'-tresses would remain unchanged from Alternative D (No Action), as both the Proposed RMP and Alternative D (No Action) would allow grazing to the extent that flowering parts could be removed.

The largest difference in grazing management between the Proposed RMP and Alternative D (No Action) would be that the Proposed RMP would restrict woody riparian species utilization whereas Alternative D (No Action) would have no such restrictions. Over the long term, restrictions on woody species utilization would provide beneficial impacts to riparian-dependent wildlife such as the Yellow-billed Cuckoo over Alternative D (No Action), although it should be noted that grazing impacts would occur to these species as long as grazing was allowed in the riparian zone.

The increased grazing restrictions in the riparian zone to increase stream bank stability would have beneficial impacts on the Colorado River cutthroat trout and potentially the Colorado River endangered fishes by reducing sediment input into streams.

4.17.2.2.2. ALTERNATIVE A

Under Alternative A, up to 50% of upland forage would be utilized by livestock, wild horses, and big-game species. The total number of AUMs (including livestock, wild horses and big game) would be 245,649. In riparian areas, stubble height would be initially identified as 4 inches, with 30% key herbaceous riparian species utilization unless bank stabilization goals were not met. In that case, minimum stubble height would be increased to six inches with a maximum of 20% key herbaceous riparian species utilization. The riparian grazing standards under Alternative A differ from Alternative D (No Action) in that stubble heights are set at 3 inches (1 to 3 inches lower than Alternative A) and that Alternative D (No Action) has no riparian key herbaceous riparian species utilization standards.

In general, grazing is a threat to all listed and most sensitive species, as described under Impacts Common to the Proposed RMP and All Alternatives (4.17.1). Under Alternative A, the risk of grazing impacts to the Book Cliffs soil endemics would be slightly less than those of Alternative D (No Action) as grazing utilization would be monitored; however substantial grazing impacts to these species would still occur as there is little difference in AUMs between Alternative A and Alternative D (No Action). Also, under Alternative A, even 50% upland forage utilization would provide a threat to special status plant species, although this is less than Alternative D (No Action), which would not explicitly limit forage utilization. The risk of adverse grazing impacts to the Ute ladies'-tresses would remain unchanged from Alternative D (No Action), as both alternatives would allow grazing to the extent that flowering parts could be removed.

The largest difference in grazing management between Alternatives A and D (No Action) would be that Alternative A would restrict woody riparian species utilization whereas Alternative D (No Action) would have no such restrictions. Over the long term, restrictions on woody species utilization would provide beneficial impacts to riparian-dependent wildlife such as the Yellow-billed Cuckoo over Alternative D (No Action), although it should be noted that grazing impacts would occur to these species as long as grazing was allowed in the riparian zone.

The increased grazing restrictions in the riparian zone to increase stream bank stability would have beneficial impacts on the Colorado River cutthroat trout and potentially the Colorado River endangered fishes by reducing sediment input into streams.

4.17.2.2.3. ALTERNATIVE B

Under Alternative B, up to 60% of upland forage would be utilized by livestock, wild horses, and big-game species. The total number of AUMs (including livestock and big game; wild horses would not be allocated AUMs under this alternative) would be 244,034 or 2,094 AUMs (approximately 0.8%) less than under Alternative D (No Action). The riparian zone would be managed in a similar manner to the Proposed RMP and Alternative A except that key herbaceous riparian vegetation in riparian areas, other than the stream banks, would not be grazed more than 50% during the growing season, or 60% during the dormant season. The impacts of grazing, forage allocation and riparian grazing management decisions under Alternative B would be similar to those described for the Proposed RMP and Alternative A.

4.17.2.2.4. ALTERNATIVES C AND E

Under Alternatives C and E, up to 50% of upland forage would be utilized by livestock, wild horses, and big-game species. The total number of AUMs (including livestock, wild horses and big game) would be 187,450 or 58,678 AUMs (approximately 24%) less than under Alternative D (No Action). The riparian zone would be managed the same as described for the Proposed RMP and Alternative A.

Although grazing is a threat to all listed and most sensitive species, the 24% reduction in AUMs would provide a substantial benefit to all species compared to Alternative D (No Action), and particularly reduce the risk of grazing impacts to the Book Cliffs soil endemics as compared to Alternative D (No Action). Other impacts would be the same as described for the Proposed RMP and Alternative A.

4.17.2.2.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), upland forage utilization levels are unspecified. The total number of AUMs (including livestock, wild horses, and big game) would be 246,128. In riparian areas, stubble height would be initially identified as 3 inches, with an unspecified amount of woody species utilization. Alternative D (No Action) would continue the existing grazing risk for all special status species and not provide benefits for any of them.

4.17.2.3. Impacts of Mineral Development Decisions on Special Status Species

Table 4.17.2 presents a summary of the changes in acres open for mineral and energy development. The table displays differences in total acres as well as a percentage change in acres available for mineral and energy development (Standard Stipulations and Timing and Controlled Surface Use) as compared to Alternative D (No Action). As depicted in Table 4.17.2 there are large differences in total acreages available for mineral/energy development among the alternatives as compared to Alternative D (No Action) (ranging from an 11% decrease under Alternative E to an 18% increase under Alternative B), and that the largest changes occur in the areas available for oil, gas, and mineral leasing. However, acres of development alone can be misleading unless placed in geographic context. Most of the increased oil and gas mineral development within BLM administered lands in the VPA would occur primarily in the Monument Butte – Red Wash Area, and secondarily in the East Tavaputs Plateau area. It is also important to note that the Hill Creek Extension (188,500 acres) was not leased in the Book Cliffs RMP and therefore it is not included in the acreage totals for Alternative D (No Action). These areas are population centers for the Book Cliffs soil endemics and the Mexican Spotted Owl. Concentration of increased mineral and energy development within habitats of sensitive species whose major threat is oil and gas development would result in substantial adverse effects through direct take, potential harassment and by preventing recovery by development in unoccupied but suitable habitat.

Table 4.17.2. Differences in Acreages Available for Mineral and Energy Development under Each the Proposed RMP and Action Alternative as Compared to Alternative D (No Action)

Activity	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative E
Oil and Gas	+104,351acres (+7%)	244,830 acres (+16%)	+283,367 acres (+18%)	+91,055 acres (+6%)	-36,569 (-2%)
Open Minerals	+2,088 acres (+1%)	27,695 acres (7%)	+45,253 acres (+12%)	999 acres (0.3%)	-43,018 (-11%)

4.17.2.3.1. Proposed RMP

4.17.2.3.1.1. Special Status Plant Species

Under the Proposed RMP, areas open for mineral and energy development would increase by 7% in areas open for oil and gas leasing, and 1% in areas open for mineral development as compared to Alternative D (No Action). The number of acres open to oil and gas leasing on BLM administered lands within the VPA would be 1,640,381, and mineral materials 389,788 acres. As described in Impacts Common to the Proposed RMP and All Alternatives, the increased minerals development would have multiple short-term and long-term direct and indirect adverse impacts on special status plant populations within the VPA. These impacts include categorizing a large majority of special status plant habitat as open to mineral development. These designations would likely lead to an increase in road densities, a reduction in habitat through the installation

of mineral development infrastructure, and an increase in habitat fragmentation. Increased road densities would also make access to remote areas easier for OHVs and could increase illegal collection of rare plants. Long-term adverse impacts would primarily be in the form of loss of habitat and direct destruction of individuals and populations, with the extent of impacts generally determined by the amount of activity. Other impacts that could occur would be genetic isolation of special populations and biodiversity loss. Impacts to seed dispersal and pollinators could occur, but studies of these impacts within the VPA are limited and few conclusions can be drawn.

Locatable mining activities, including mineral exploration, development, and collection of building stone would continue to have a long-term adverse impact on certain special status plant species, particularly Uinta Basin hookless cactus, Pariette cactus, and shrubby reed-mustard (*Schoenocrambe suffrutescens*). Impacts from mineral mining are projected to be most severe within the areas in and near Wrinkles Road, Little Pack Mountain, and Big Pack Mountain that are currently mined and in areas where high potential has been identified for mineral occurrence. Impacts of increased oil and gas leasing are projected to be most severe within the areas in and near the Book Cliffs, on alluvial river terraces near the confluence of the Green, White, and Duchesne Rivers, and in Pariette Draw. The potential impacts to Uinta Basin hookless cactus, Pariette cactus, clay reed mustard, shrubby reed mustard, Barneby ridge-cress, and White River beardtongue are expected to be high with oil, gas, and CBNG development.

Adverse impacts would be highest for special status plants where future development would occur in pinyon-juniper, sagebrush, and desert shrub communities. For comparative purposes, the alternatives are analyzed with an assumption of 20-acre to 40-acre well spacing. Under the Proposed RMP, 470,731 acres of desert shrub, 489,679 acres of sagebrush, and 483,249 acres of pinyon-juniper would be subject to surface disturbance from oil, gas, and CBNG development. The Proposed RMP proposes 12% more disturbance to desert shrub, 14% more to sagebrush, and 17% more to pinyon-juniper than does Alternative D (No Action).

4.17.2.3.1.2. Special Status Animal Species

Ferruginous Hawk

The minerals development land categorization proposed under the Proposed RMP would have multiple short-term and long-term direct and indirect adverse impacts on Ferruginous Hawk populations in the VPA. These impacts would include categorizing a majority of areas associated with Ferruginous Hawk nesting sites as open for mineral development. These designations would likely lead to an increase in road densities, a reduction in habitat from the installation of mineral development infrastructure, and an increase in habitat fragmentation.

The Proposed RMP would increase the proportion of areas surrounding Ferruginous Hawk nesting sites open to oil and gas development by approximately 4% when compared to Alternative D (No Action). The Proposed RMP and Alternative D (No Action) would also decrease the proportion of areas surrounding Ferruginous Hawk nesting sites subject to special stipulations (other than those prescribed specifically for Ferruginous Hawk) by 9% and 10%, respectively.

Mexican Spotted Owl

The minerals development land categorization proposed in the Proposed RMP would likely have multiple short-term and long-term direct and indirect adverse impacts on Mexican Spotted Owl populations in the VPA. These impacts include categorizing a majority of important Mexican Spotted Owl canyon and forest habitat as open for minerals development. These designations would likely have impacts similar to those described for Ferruginous Hawks.

The Proposed RMP would decrease the proportion of Mexican Spotted Owl canyon and forest habitat open to oil and gas development by approximately 22% and 15%, respectively, when compared to Alternative D (No Action). The Proposed RMP would decrease the proportion of Mexican Spotted Owl canyon and forest habitat subject to special stipulations by approximately 19% and 18%, respectively when compared to Alternative D (No Action). Most of the increased oil and gas development, as well as the reduction in special stipulation designations, would occur in the canyon habitat immediately adjacent to designated critical habitat and in an area in which substantial suitable habitat for the Mexican Spotted Owl occurs.

Greater Sage-grouse

The minerals development land categorization proposed in the Proposed RMP would have multiple short-term and long-term direct and indirect adverse impacts on Greater Sage-grouse populations in the VPA. These impacts include categorizing a large majority of important Greater Sage-grouse winter and brooding habitat as open to minerals development.

The Proposed RMP would increase the proportion of Greater Sage-grouse brooding habitat open to oil and gas development by approximately 5% while decreasing the proportion of Greater Sage-grouse winter habitat open to oil and gas development by approximately 12% when compared to Alternative D (No Action). This alternative would also increase the proportion of Greater Sage-grouse winter and brooding habitat subject to special stipulations by approximately 23% and 29%, respectively when compared to Alternative D (No Action) (see Sage-grouse Tables 14 and 15 in Appendix H, Wildlife).

Outright losses, degradation and fragmentation of sagebrush habitats are suspected as the primary causes of Sage-grouse population declines throughout Utah (UDWR 2005). Although there are several factors that contribute to habitat loss (such as drought), development of oil and gas resources includes direct loss of habitat for well pads, roads, and pipelines. Vehicle traffic and noise disturbance on roads and at well sites during the drilling phase can have a negative effect (Connelly et al. 2004). Disturbances within 200 meters of lek sites resulted in loss of attendance at Sage-grouse leks (Braun et al. 2002). Sage-grouse continued to use highly fragmented habitats in some oil fields and reclaimed areas, but population levels were below numbers prior to disturbance (Braun et al. 2002).

Stipulations regulate timing and distance from lek sites of construction activities and are largely directed to avoid disturbance to Sage-grouse near leks during breeding or nesting periods. However, effects on habitats from roads, power lines, compressor stations, and pipelines remain following construction. Female Sage-grouse moved greater distances from leks and had lower

rates of nest initiation in areas disturbed by vehicle traffic (1-12 vehicles/day) (Lyon and Anderson 2003). Surface disturbance created by roads also facilitates spread of exotic plant species (Forman and Alexander 1998; Trombulak and Frissell 2000; Gelbard and Belnap 2003). The soil surface of disturbed areas is prepared and reseeded. The primary objectives of the reclamation are to control soil erosion, establish desirable vegetation and prepare for natural processes to restore the site. Although Sage-grouse may repopulate reclaimed areas, their numbers may not return to levels prior to disturbance (Braun et al. 2002).

White-tailed Prairie Dog and Black-footed Ferret

The minerals development proposed in the Proposed RMP would have multiple short-term and long-term direct and indirect adverse impacts on white-tailed prairie dog and black-footed ferret populations in the VPA. For this analysis it was assumed that black-footed ferrets are completely dependent upon white-tailed prairie dog towns for survival in those areas where they have been reintroduced into the VPA. Therefore, the impacts of minerals development on white-tailed prairie dog populations would be similar to the impacts on black-footed ferret populations. Minerals development would likely lead to an increase in road densities, a reduction in habitat from the installation of mineral development infrastructure, and an increase in habitat fragmentation.

The Proposed RMP would increase the proportion of white-tailed prairie dog habitat open to oil and gas development by approximately 5% when compared to Alternative D (No Action). This alternative would decrease the proportion of white-tailed prairie dog habitat subject to special stipulations by approximately 61% when compared to Alternative D (No Action) (see Table 16 in Appendix H, Wildlife).

Yellow-billed Cuckoo

Yellow-billed Cuckoo are generally associated with lowland riparian and cottonwood forest areas. A stipulation common to the Proposed RMP and all alternatives is that surface-disturbing activities would not be allowed within 100 meters of riparian areas. This stipulation would protect these lowland riparian and cottonwood forest habitats from activities such as mineral development. However, an exception would be authorized if 1) there are no practical alternatives, or 2) all long-term impacts would be fully mitigated or 3) the activity would benefit and enhance the riparian area. Any exception that would allow development or construction in the riparian zone would have adverse effects on listed or sensitive riparian species.

Bonytail, Colorado Pikeminnow, Humpback Chub, Razorback Sucker, Roundtail Chub, Flannelmouth sucker, Bluehead sucker and Colorado River Cutthroat Trout

The minerals development proposed in the Proposed RMP would have long-term and short-term, direct and indirect adverse impacts on bonytail, Colorado pikeminnow, humpback chub, razorback sucker, roundtail chub, flannelmouth sucker, bluehead sucker and Colorado River cutthroat trout. The Soils and Water Quality Section (Section 4.17.2) concludes that although stipulations would mitigate the negative impacts of minerals development on water quality, the mineral development outlined for the Proposed RMP and each alternative would result in indirect, long-term adverse impacts to water quality through soil erosion, sedimentation, and the

potential for petroleum discharges into surface water and would therefore adversely impact these fisheries. It is also currently unknown how minerals development would increase surface disturbances in selenium and boron-rich soils, which could indirectly increase these contaminants in waters supporting these fisheries.

The greatest impact to the Colorado River fishes would be that most of the new energy and mineral development would occur in the southern part of the VPA, in the proximity of the Green and White Rivers or their tributaries. Oil and gas development would change clean water discharge patterns into the rivers. Any new depletion from the Green River, particularly in a critical habitat reach would constitute a substantial impact.

4.17.2.3.2. ALTERNATIVE A

4.17.2.3.2.1. Special Status Plant Species

Under Alternative A, areas open for mineral and energy development would increase by 16% in areas open for oil and gas leasing, and 7% in areas open for mineral development as compared to Alternative D (No Action). The number of acres open to oil and gas leasing on BLM administered lands within the VPA would be 1,780,860, and mineral materials 415,395 acres. As described in the Impacts Common to All Alternatives, the increased minerals development would have multiple short-term and long-term direct and indirect adverse impacts on special status plant populations within the VPA. These impacts include categorizing a large majority of special status plant habitat as open to mineral development. These designations would likely lead to an increase in road densities, a reduction in habitat through the installation of mineral development infrastructure, and an increase in habitat fragmentation. Increased road densities would also make access to remote areas easier for OHVs and could increase illegal collection of rare plants. Long-term adverse impacts would primarily be in the form of loss of habitat and direct destruction of individuals and populations, with the extent of impacts generally determined by the amount of activity. Other impacts that could occur would be genetic isolation of special populations and biodiversity loss. Impacts to seed dispersal and pollinators could occur, but studies of these impacts within the VPA are limited and few conclusions can be drawn.

Locatable mining activities, including mineral exploration, development, and collection of building stone would continue to have a long-term adverse impact on certain special status plant species, particularly Uinta Basin hookless cactus, Pariette cactus and shrubby reed-mustard that occur in areas used for collecting building stone. Impacts from mineral mining are projected to be most severe within the areas in and near Wrinkles Road, Little Pack Mountain, and Big Pack Mountain that are currently mined and in areas where high potential has been identified for mineral occurrence. Impacts of increased oil and gas leasing are projected to be most severe within the areas in and near the Book Cliffs, on alluvial river terraces near the confluence of the Green, White, and Duchesne Rivers, and in Pariette Draw. The potential impacts to Uinta Basin hookless cactus, Pariette cactus, clay reed mustard, shrubby reed mustard, Barneby ridge-cress and White River beardtongue are expected to be high with oil, gas, and CBNG development.

Adverse impacts would be highest for special status plants where future development would occur in pinyon-juniper, sagebrush, and desert shrub communities. For comparative purposes,

the alternatives are analyzed with an assumption of a 40-acre well spacing. Under Alternative A, 438,230 acres of desert shrub, 442,502 acres of sagebrush, and 429,882 acres of pinyon-juniper would be subject to surface disturbance from oil, gas, and CBNG development. Alternative A proposes 4% more disturbance to desert shrub, 4% more to sagebrush, and 3% more to pinyon-juniper than does Alternative D (No Action).

4.17.2.3.2.2. Special Status Animal Species

Ferruginous Hawk

The minerals development land categorization proposed under Alternative A would have multiple short-term and long-term direct and indirect adverse impacts on Ferruginous Hawk populations in the VPA. These impacts would include categorizing a majority of areas associated with Ferruginous Hawk nesting sites as open for mineral development. These designations would likely lead to an increase in road densities, a reduction in habitat from the installation of mineral development infrastructure, and an increase in habitat fragmentation.

Alternative A would increase the proportion of areas surrounding Ferruginous Hawk nesting sites open to oil and gas development by approximately 2% when compared to Alternative D (No Action). This alternative would also decrease the proportion of areas surrounding Ferruginous Hawk nesting sites subject to special stipulations other than those prescribed for Ferruginous Hawk by 9% and 10%, respectively.

Mexican Spotted Owl

The minerals development land categorization proposed in Alternative A would likely have multiple short-term and long-term direct and indirect adverse impacts on Mexican Spotted Owl populations in the VPA. These impacts include categorizing a majority of important Mexican Spotted Owl canyon and forest habitat as open for minerals development. These designations would likely have impacts similar to those described for Ferruginous Hawks.

Alternative A would increase the proportion of Mexican Spotted Owl canyon and forest habitat open to oil and gas development by approximately 9% and 10%, respectively, when compared to Alternative D (No Action). Alternative A would decrease the proportion of Mexican Spotted Owl canyon habitat subject to special stipulations by approximately 12% but would increase Mexican Spotted Owl forest habitat subject to special stipulations by approximately 10%, when compared to Alternative D (No Action). Most of the increased oil and gas development, as well as the reduction in special stipulation designations, would occur in the canyon habitat immediately adjacent to designated critical habitat and in an area in which substantial suitable habitat for the Mexican Spotted Owl occurs.

Greater Sage-grouse

The minerals development land categorization proposed in Alternative A would have multiple short-term and long-term direct and indirect adverse impacts on Greater Sage-grouse populations in the VPA. These impacts include categorizing a large majority of important Greater Sage-grouse winter and brooding habitat as open to minerals development.

Alternative A would increase the proportion of Greater Sage-grouse winter and brooding habitat open to oil and gas development by approximately 3% when compared to Alternative D (No Action). This alternative would also decrease the proportion of Greater Sage-grouse winter and brooding habitat subject to special stipulations by approximately 2% when compared to Alternative D (No Action) (see Sage-grouse Tables 14 and 15 in Appendix H, Wildlife).

Outright losses, degradation and fragmentation of sagebrush habitats are suspected as the primary causes of Sage-grouse population declines throughout Utah (UDWR 2005). Although there are several factors that contribute to habitat loss (such as drought), development of oil and gas resources includes direct loss of habitat for well pads, roads, and pipelines. Vehicle traffic and noise disturbance on roads and at well sites during the drilling phase can have a negative effect (Connelly et al. 2004). Disturbances within 200 meters of lek sites resulted in loss of attendance at Sage-grouse leks (Braun et al. 2002). Sage-grouse continued to use highly fragmented habitats in some oil fields and reclaimed areas, but population levels were below numbers prior to disturbance (Braun et al. 2002).

Stipulations regulate timing and distance from lek sites of construction activities and are largely directed to avoid disturbance to Sage-grouse near leks during breeding or nesting periods. However, effects on habitats from roads, power lines, compressor stations, and pipelines remain following construction. Female Sage-grouse moved greater distances from leks and had lower rates of nest initiation in areas disturbed by vehicle traffic (1 to 12 vehicles per day) (Lyon and Anderson 2003). Surface disturbance created by roads also facilitates spread of exotic plant species (Forman and Alexander 1998; Trombulak and Frissell 2000; Gelbard and Belnap 2003). The soil surface of disturbed areas is prepared and reseeded. The primary objectives of the reclamation are to control soil erosion, establish desirable vegetation and prepare for natural processes to restore the site. Although Sage-grouse may repopulate reclaimed areas, their numbers may not return to levels prior to disturbance (Braun et al. 2002).

White-tailed Prairie Dog and Black-footed Ferret

The minerals development proposed in Alternative A would have multiple short-term and long-term direct and indirect adverse impacts on white-tailed prairie dog and black-footed ferret populations in the VPA. For this analysis it was assumed that black-footed ferrets are completely dependent upon white-tailed prairie dog towns for survival in those areas where they have been reintroduced into the VPA. Therefore, the impacts of minerals development on white-tailed prairie dog populations would be similar to the impacts on black-footed ferret populations.

Alternative A would increase the proportion of white-tailed prairie dog habitat open to oil and gas development by approximately 3% when compared to Alternative D (No Action). This alternative would decrease the proportion of white-tailed prairie dog habitat subject to special stipulations by approximately 30% when compared to Alternative D (No Action) (see Table 16 in Appendix H, Wildlife).

Yellow-billed Cuckoo

Yellow-billed Cuckoo are generally associated with lowland riparian and cottonwood forest areas. A stipulation common to the Proposed RMP and all alternatives is that surface-disturbing activities would not be allowed within 100 meters of riparian areas. This stipulation would protect these lowland riparian and cottonwood forest habitats from activities such as mineral development. However, an exception would be authorized if 1) there are no practical alternatives, or 2) all long-term impacts would be fully mitigated or 3) the activity would benefit and enhance the riparian area. Any exception that would allow development or construction in the riparian zone would have adverse effects on listed or sensitive riparian species.

Bonytail, Colorado Pikeminnow, Humpback Chub, Razorback Sucker, Roundtail Chub, Flannelmouth Sucker, Bluehead Sucker and Colorado River Cutthroat Trout

The minerals development proposed in Alternative A would have long-term and short-term, direct and indirect adverse impacts on bonytail, Colorado pikeminnow, humpback chub, razorback sucker, roundtail chub, flannelmouth sucker, bluehead sucker and Colorado River cutthroat trout. The Soils and Water Quality Section (Section 4.17.2) concludes that although stipulations would mitigate the negative impacts of minerals development on water quality, the mineral development outlined for the Proposed RMP and each alternative would result in indirect, long-term adverse impacts to water quality through soil erosion, sedimentation, and the potential for petroleum discharges into surface water and would therefore adversely impact these fisheries. It is also currently unknown how minerals development would increase surface disturbances in selenium and boron-rich soils, which could indirectly increase these contaminants in waters supporting these fisheries.

The greatest impact to the Colorado River fishes would be that most of the new energy and mineral development would occur in the southern part of the VPA, in the proximity of the Green and White Rivers or their tributaries. Oil and gas development would change clean water discharge patterns into the rivers. Any new depletion from the Green River, particularly in a critical habitat reach would constitute a substantial impact.

4.17.2.3.3. ALTERNATIVE B

4.17.2.3.3.1. Special Status Plant Species

Under Alternative B, areas open for mineral and energy development would increase 18% in areas open for oil and gas leasing and 12% in areas open for mineral development. The number of acres open to oil and gas leasing on BLM administered lands within the VPA would be 1,819,397 and mineral materials 432,953 acres. Additionally, 463,510 acres of desert shrub, 464,549 acres of sagebrush, and 443,217 acres of pinyon-juniper would be subject to surface disturbance from oil, gas, and CBNG development. Alternative B proposes 10% more disturbance to desert shrub, 8% more to sagebrush, and 7% more to pinyon-juniper than does Alternative D (No Action). Impacts of mineral and energy development under Alternative B are generally similar to those described for the Proposed RMP and Alternative A, except that the increase in mineral and energy development is concentrated in the southern part of the VPA,

which would place the Book Cliffs soil endemics at substantial risk and potentially result in jeopardy to listed species and/or the listing of previously candidate or sensitive species as threatened or endangered. The risks would be especially high for the listed and candidate penstemons and reed mustards.

4.17.2.3.3.2. Special Status Animal Species

Impacts to the Ferruginous Hawk, Greater Sage-grouse, white tailed prairie dog, black-footed ferret, and Yellow-billed Cuckoo under Alternative B would be similar to those described for the Proposed RMP and Alternative A.

Most of the increased oil and gas development, as well as the reduction in special stipulation designations, would occur in the canyon habitat immediately adjacent to designated critical habitat and in an area in which substantial suitable habitat for the Mexican Spotted Owl occurs. Alternative B would increase the proportion of Mexican Spotted Owl canyon and forest habitat open to oil and gas development by approximately 9% and 1%, respectively, when compared to Alternative D (No Action). Alternative B would decrease the proportion of Mexican Spotted Owl canyon and forest habitat subject to special stipulations by approximately 22% and 12%, respectively, versus Alternative D (No Action). The combination of both increased oil and gas development and a reduction in protective measures within canyons providing substantial suitable habitat potentially necessary for the species recovery would provide a substantial impact when compared to Alternative D (No Action).

Impacts to the Colorado River fishes would be similar to those described for the Proposed RMP.

4.17.2.3.4. ALTERNATIVE C

4.17.2.3.4.1. Special Status Plant Species

Under Alternative C, areas open for mineral and energy development would increase by 6% in areas open for oil and gas leasing, and 0.3% in areas open for mineral development when compared to Alternative D (No Action). The number of acres open to oil and gas leasing on BLM administered lands within the VPA would be 1,627,085, and mineral materials 388,699 acres. Under Alternative C, 445,945 acres of desert shrub, 424,043 acres of sagebrush, and 404,772 acres of pinyon-juniper would be subject to surface disturbance from oil, gas, and CBNG development. Alternative C proposes 6% more disturbance to desert shrub, 1% less to sagebrush, and 2% less to pinyon-juniper than does Alternative D (No Action). Impacts of mineral and energy development under Alternative C are generally similar to those described for Alternative D (No Action); although, there are slight increases in acreage available for mineral and energy development. The overall effect of Alternative C would be to maintain the current condition that is one of continued risk for endemics.

4.17.2.3.4.2. Special Status Animal Species

Alternative C would decrease the proportion of Greater Sage-grouse winter and brooding habitat open to oil and gas development by approximately 2% when compared to Alternative D (No Action). This alternative would also increase the proportion of Greater Sage-grouse winter and brooding habitat subject to special stipulations by approximately 11% when compared to Alternative D (No Action). This would have a beneficial impact when compared to Alternative D (No Action).

Alternative C would increase the proportion of white-tailed prairie dog habitat open to oil and gas development by approximately 3% when compared to Alternative D (No Action). This alternative would also decrease the proportion of white-tailed prairie dog habitat subject to special stipulations by approximately 17% when compared to Alternative D (No Action). This would result in impacts similar to the other action alternatives.

Alternative C would decrease the proportion of Mexican Spotted Owl canyon and forest habitat open to oil and gas development by approximately 1% and 3%, respectively, when compared to Alternative D (No Action). This alternative would also decrease the proportion of Mexican Spotted Owl canyon and forest habitat subject to special stipulations by approximately 23% when compared to Alternative D (No Action) (see Tables 17 and 18 in Appendix H, Wildlife). The combination of a slight decrease in oil and gas development within the Mexican Spotted Owl canyon habitat (1%) with a 23% reduction in protective measures within canyons providing substantial suitable habitat potentially necessary for the species recovery would provide a substantial impact when compared to Alternative D (No Action).

Impacts to the Colorado River fishes would be similar to those described for the Proposed RMP.

4.17.2.3.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), substantial mineral and energy development would still occur. There would be 1,536,030 acres of land open for oil and gas leasing, 387,700 acres open for mineral materials, totaling 1,923,730 acres. Impacts under Alternative D (No Action) would be the same as described under Impacts Common to the Proposed RMP and All Alternatives.

4.17.2.3.6. ALTERNATIVE E

4.17.2.3.6.1. Special Status Plant Species

Under Alternative E, there would be a 2% decrease in the area open for oil and gas leasing, and an 11% decrease in the area open for mineral development when compared to Alternative D (No Action). The number of acres open to oil and gas leasing on BLM administered lands within the VPA would be 1,499,461, and mineral materials 344,682 acres. Under Alternative E, 418,869 acres of desert shrub, 371,960 acres of sagebrush, and 327,451 acres of pinyon-juniper would be subject to surface disturbance from oil, gas, and CBNG development. Alternative E proposes 0.4% less disturbance to desert shrub, 11% less to sagebrush, and 17% less to pinyon-juniper than does Alternative D (No Action). Impacts of mineral and energy development under

Alternative E are generally similar to those described for Alternative D (No Action); although, there are slight decreases in acreage available for mineral and energy development. The overall effect of Alternative E would be to slightly reduce the risk to endemics.

4.17.2.3.6.2. Special Status Animal Species

Alternative E would decrease the proportion of Greater Sage-grouse winter habitat open to oil and gas development by approximately 17% while increasing the proportion of Greater Sage-grouse brooding habitat open to oil and gas development by approximately 1% when compared to Alternative D (No Action). This alternative would also increase the proportion of Greater Sage-grouse winter and brooding habitat subject to special stipulations by approximately 12% and 21%, respectively when compared to Alternative D (No Action). This would have a beneficial impact when compared to Alternative D (No Action).

Alternative E would increase the proportion of white-tailed prairie dog habitat open to oil and gas development by approximately 1% when compared to Alternative D (No Action). This alternative would also decrease the proportion of white-tailed prairie dog habitat subject to special stipulations by approximately 52% when compared to Alternative D (No Action). This would result in impacts similar to the other action alternatives.

Alternative E would decrease the proportion of Mexican Spotted Owl canyon and forest habitat open to oil and gas development by approximately 17% and 2%, respectively when compared to Alternative D (No Action). This alternative would also increase the proportion of Mexican Spotted Owl canyon habitat subject to special stipulations by approximately 106% while decreasing the proportion of Mexican Spotted Owl forest habitat subject to special stipulations by approximately 10% when compared to Alternative D (No Action) (see Tables 17 and 18 in Appendix H, Wildlife). The combination of a decrease in oil and gas development within the Mexican Spotted Owl canyon habitat and an increase in protective measures within canyons would provide a substantial beneficial impact when compared to Alternative D (No Action).

Impacts to the Colorado River fishes would be similar to those described for the Proposed RMP.

4.17.2.4. Impacts of Non-WSA Lands with Wilderness Characteristics Decisions on Special Status Species

4.17.2.4.1. Proposed RMP and Alternatives A, B, C, D (No Action), and E

Protecting wilderness characteristics outside designated WSAs would provide direct and indirect beneficial impacts to special status species by precluding surface disturbance in these areas. Reducing surface disturbance limits erosion and decreases habitat fragmentation, noise, and traffic that can have adverse impacts on special status species. The Proposed RMP and Alternative E would manage approximately 106,178 acres and 277,596 acres, respectively, to maintain their wilderness characteristics. The Proposed RMP and Alternative E propose to manage these lands for their wilderness characteristics. Alternative E would be more beneficial to wildlife than the Proposed RMP primarily because Alternative E would include more acreage

and because Alternative E would manage these areas as VRM Class I (compared to VRM Class II under the Proposed RMP) and closed to oil and gas leasing.

4.17.2.5. Impacts of Rangeland Improvement Decisions on Special Status Species

General impacts associated with all of the alternatives would be the same as described in the Impacts Common to the Proposed RMP and All Alternatives section. Such impacts would be either beneficial or adverse, depending on whether the improvements made for livestock grazing resulted in moving livestock out of special status species habitat or concentrating them in new habitats. The exact locations of the rangeland treatments are presently unknown. Therefore, the discussion below focuses only on how rangeland improvement decisions would affect special status plants as compared to Alternative D (No Action). Table 4.17.3 below describes the range improvement management actions for each alternative.

Table 4.17.3. Rangeland Improvements for the Proposed RMP and all Alternatives

Activity	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Vegetation treatment (acres)	34,640	34,640	50,900	45,860	40,390	45,860
Fencing (miles)	68.5	68.5	368.5	129.0	65.0	129.0
Guzzlers/ reservoirs	812	812	1,165	811	775	811
Wells/springs	51	51	78	87	74	87
Water pipeline (miles)	37.5	37.5	51.0	29.5	35.0	29.5

4.17.2.5.1. Proposed RMP and Alternative A

This alternative would decrease the amount of vegetation treatment and wells/springs, but increase the length of fencing and the number of wells/springs that would be developed in the VPA. The slightly less surface disturbance caused by vegetation treatments, when compared to Alternative D (No Action), would produce slightly less adverse impacts on special status plant habitat.

4.17.2.5.2. Alternative B

Alternative B would propose more vegetation treatments, fencing, and guzzlers/reservoirs than Alternative D (No Action). The greater amount of disturbance under this alternative from vegetation treatments, when compared to Alternative D (No Action), would result in potentially greater adverse impacts to special status plant species.

4.17.2.5.3. ALTERNATIVES C AND E

Alternatives C and E propose slightly more vegetation treatments and rangeland improvements than Alternative D (No Action). Impacts to special status plants would be similar to those described under alternative B.

4.17.2.5.4. ALTERNATIVE D (NO ACTION)

Vegetation disturbance for rangeland improvements would occur under this alternative and result in both beneficial and adverse impacts as described under Impacts Common to All Alternatives.

4.17.2.6. IMPACTS OF RECREATION AND TRAVEL DECISIONS ON SPECIAL STATUS SPECIES

4.17.2.6.1. PROPOSED RMP AND ALTERNATIVES A, B, C, D (NO ACTION), AND E

Assignment and designation of Back Country Byways and SRMAs would have both beneficial and adverse impacts on special status species. Beneficial impacts would result from focused management of recreation in these areas. However adverse impacts would also result because of the increased visitor use—and associated disturbance from human presence, trampling of vegetation, etc.—that would likely occur following designation. The nature of long-term beneficial and adverse impacts on special status species in these areas would be the same among the alternatives as described in Impacts Common to the Proposed RMP and all Alternatives. However, the magnitude of these impacts would differ among the alternatives.

The Proposed RMP and Alternatives A and B would designate Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads as BLM Back Country Byways. Alternatives C and E would not designate these roads as BLM Back Country Byways. This action is not specified under Alternative D (No Action). The Proposed RMP and all alternatives would manage Pelican Lake (1,014 acres) and Red Mountain – Dry Fork (24,259 acres) as SRMAs. Lands in Browns Park and Nine Mile Canyon would also be managed as SRMAs under all alternatives but the acreage would differ between some alternatives (Browns Park: 18,490 acres under the Proposed RMP; 17,000 acres under Alternatives B and D; 52,720 acres under Alternatives A, C and E; Nine Mile Canyon: 44,168 acres under the Proposed RMP; 44,181 acres under Alternatives B, and D; 81,168 acres under Alternatives A, C and E). Lands in Blue Mountain, the Book Cliffs, Fantasy Canyon, and the White River would be managed as SRMAs under some alternatives and not under others. Acreages would differ as well. Lands in Blue Mountain (42,758 acres), Fantasy Canyon (69 acres), and the White River (2,831 acres under the Proposed RMP and 47,130 acres under Alternatives C and E) would be managed as SRMAs under the Proposed RMP and Alternatives C and E. Alternative A would managed all of these lands as SRMAs except Fantasy Canyon and the White River would consist of 24,183 acres. Under Alternatives B and D these lands would not be managed as SRMAs. Lands in the Book Cliffs (273,486 acres) would be managed as SRMA under Alternatives A, C and E but not under the Proposed RMP and Alternatives B and D. The Proposed RMP and Alternatives A, C, and E would improve, develop, and/or sign up to 400 miles of non-motorized trails. Up to 800 miles of motorized routes would be improved, developed, and/or signed under the Proposed RMP and Alternatives A, B, and D.

With respect to travel management, the main difference between the Proposed RMP and the action alternatives and Alternative D (No Action) is in the amount of land available for Open and Limited OHV use. Total acreages available for OHV Open use under the Proposed RMP and Alternatives A, B, C, and E are similar, ranging from 6,202 acres under the Proposed RMP and Alternative A to 5,434 acres under Alternatives B, C, and E. In comparison, Alternative D (No Action) would allow 787,859 acres to be Open to unrestricted OHV use. Under the Proposed RMP and Alternatives A, B, C, and E, the number of acres designated as the more restrictive Limited category of OHV use are roughly similar, ranging from 1,326,024 under Alternative E to 1,659,901 under Alternative E. The Proposed RMP and Alternative A would designate 1,643,475 acres as Limited to designated routes while Alternative C would designate 1,353,529 acres as Limited to designated routes. In comparison, Alternative D (No Action) would designate 887,275 acres as Limited OHV use. Generally adverse OHV effects, such as trampling of either occupied or potential special status species habitat, noise, habitat fragmentation, increased wind erosion in sensitive habitats would still occur but the risks of these impacts on special status species would be substantially reduced under the Proposed RMP and Alternatives A, B, C, and E, when compared to Alternative D (No Action). The minimal management of OHV use would lead to declines of special status species and habitats as areas in the VPA become more popular for OHV recreation.

Although recreational hunting is carefully managed by the UDWR, impacts to species such as the Greater Sage-grouse and the White-tailed prairie dog could be exacerbated by recreational and travel activity.

4.17.2.7. Impacts of Special Status Species Decisions on Special Status Species

The RMP provides special status species designations for Sage-grouse and the Colorado River cutthroat trout. Therefore, only special status species decisions for these two species are addressed in this section.

4.17.2.7.1. Proposed RMP and Alternatives C and E

4.17.2.7.1.1. Greater Sage-grouse

Under the Proposed RMP and Alternatives C and E no surface-disturbing activities would be allowed year round within 0.25 miles of active Sage-grouse leks. From March 1 through June 15 (the brooding period) no surface-disturbing activities would be allowed within two miles of active Sage-grouse leks and no permanent facilities or structures would be allowed when possible. Finally, within 0.5 miles of known active Sage-grouse leks, the best available technology would be used to reduce noise. These measures would provide more benefits to Sage-grouse than Alternative D (No Action) which would only require buffers of 300 feet (Book Cliffs area) and 1,000 feet (Diamond Mountain area) and would not require noise reduction devices for operations occurring within 0.5 miles of known active leks.

4.17.2.7.1.2. Colorado River Cutthroat Trout

The Proposed RMP and Alternatives C and E would provide, maintain, and/or enhance habitat for the reintroduction of Colorado River cutthroat trout to Bitter Creek, Upper Willow Creek, Beaver Creek, Sears Creek, Crouse Creek, Tolivers Creek, Davenport Creek, Jackson Creek, and Sweetwater Creek and their tributaries. In comparison, Alternative D (No Action) would provide and maintain suitable habitat for the reintroduction of Colorado River cutthroat trout to the same creeks mentioned above with the exception of Sweetwater, Bitter, and Upper Willow Creeks. Under Alternative D (No Action), Argyle Creek would also be included in this list. There would be no essential difference between the Proposed RMP and Alternatives C and E and Alternative D (No Action), except in the number and location of creeks available for the reintroduction of Colorado River Cutthroat Trout. The Proposed RMP and Alternatives C and E would be more beneficial to Colorado River cutthroat trout than Alternative D (No Action) because there would be more creeks available for reintroduction under the Proposed RMP and Alternatives C and E.

4.17.2.7.2. ALTERNATIVE A

4.17.2.7.2.1. Greater Sage-grouse

Alternative A would implement the *Strategic Management Plan for Sage-Grouse* (UDWR 2002) as follows: Human disturbances within 0.6 mile (3,168 feet) of a Sage-grouse lek would be avoided during the Sage-grouse breeding season (March 1 through May 31) from 1 hour before sunrise to 3 hours after sunrise. Roads, fences, poles, and utility lines would not be constructed within 1,300 feet of a lek. Noise reduction according to best available technology would be used within 0.5 miles of a lek. The main differences between Alternative A and Alternative D (No Action) would be that (1) Alternative A would provide a greater human protective buffer (3,168 feet) as compared to only 300 feet in the Book Cliffs and 1,000 feet in the Diamond Mountain area and (2) noise reduction devices would be used on machinery under Alternative A, whereas there would be none under Alternative D (No Action).

4.17.2.7.2.2. Colorado River Cutthroat Trout

Impacts to the Colorado River cutthroat trout would be as described for the Proposed RMP and Alternatives C and E because the decisions are the same.

4.17.2.7.3. ALTERNATIVE B

4.17.2.7.3.1. Greater Sage-grouse

Sage-grouse management would be as described for Alternative A, with the exception that restrictions would apply only to "significant human disturbance," developments may occur within 1,300 feet of a lek and there would be no measures undertaken to reduce noise. In general, Alternative B would provide much greater protection for Sage-grouse than Alternative D (No Action), although the lack of definition of "significant human disturbance" and the option for development within 1,300 feet of a lek leaves the possibility open that there would be no difference in Sage-grouse management between Alternative B and Alternative D (No Action).

4.17.2.7.3.2. Colorado River Cutthroat Trout

Impacts to the Colorado River cutthroat trout would be as described for the Proposed RMP and Alternatives C and E because the decisions are the same.

4.17.2.7.4. ALTERNATIVE D (NO ACTION)

4.17.2.7.4.1. Greater Sage-grouse

Alternative D (No Action) would limit surface disturbance, exploration, drilling, and other minerals development activities from March 15 to June 15 and no drilling or storage facilities would be allowed within 300 feet of a lek in the Book Cliffs area. No surface-disturbing activities would be allowed in Sage-grouse nesting areas (a 2-mile radius of sagebrush vegetation type surrounding a lek) from March 1 through June 30 or within 1,000 feet of a lek in the Diamond Mountain area.

4.17.2.7.4.2. Colorado River Cutthroat Trout

Under Alternative D (No Action) suitable habitat would be provided and maintained to reintroduce Colorado River cutthroat trout in Upper Willow (Brown's Park), Beaver, Sears, Crouse, Tolivers, Davenport, Jackson, and Argyle Creeks as found applicable.

4.17.2.8. IMPACTS OF SOILS AND WATERSHEDS DECISIONS ON SPECIAL STATUS SPECIES

4.17.2.8.1. PROPOSED RMP AND ALTERNATIVES A, B, C, D (NO ACTION), AND E

Alternatives that incorporate decisions to protect water quality and reduce soil erosion would benefit special status plants and animals. The Proposed RMP and Alternative A would provide beneficial protection for soils and watersheds by limiting surface disturbance on slopes greater than 40% and requiring an approved erosion control strategy and design for activities on slopes of 21%–40%.

Alternative B would have beneficial impacts on special status species by limiting surface-disturbing activities on slopes greater than 20% by requiring an approved erosion control strategy and design.

Alternatives C and E would provide beneficial protection by preventing disturbance to slopes above 40%, and requiring an approved erosion control strategy and design for activities on slopes of 21%–40%.

Alternative D (No Action) restricts surface disturbance for mineral activities only on slopes greater than 40%.

Protection of water quality, reduction of sedimentation in streams, and limits on surface disturbance would be beneficial to special status species; therefore the Proposed RMP and all of the action alternatives would provide more protection that Alternative D (No Action).

Alternatives C and E would provide the most protection for water quality and surface disturbance and therefore provide the greatest amount of indirect protection for special status species.

4.17.2.9. Impacts of Special Designation Decisions on Special Status Species

ACECs, Wild and Scenic Rivers, and Wilderness would provide direct and indirect beneficial impacts to special status species. ACECs provide direct beneficial impacts through management prescriptions when they are focused on protecting wildlife, riparian resources, and special status species. They also provide indirect beneficial impacts if they preclude surface disturbance within portions of the ACEC by limiting erosion and decreasing habitat fragmentation, noise, and traffic. Wild and Scenic River recommended designations protect river corridors from mineral development and most other surface-disturbing activities within 0.5 mile line of sight from centerline of the river thereby providing direct protection to special status species within the river corridor. Wilderness Study Areas are closed to leasing unless they have prior valid existing rights and thereby provide direct beneficial impacts to special status species. The acreage and prescriptions for WSAs are the same for the Proposed RMP and all alternatives so these are not discussed below. The acreage and prescriptions for these areas would only change if these areas were released by congress.

4.17.2.9.1. ACECs

4.17.2.9.1.1. Proposed RMP

Under the Proposed RMP, Brown's Park (18,490 acres), the Lower Green River Corridor (8,470 acres), Nine Mile Canyon (44,168 acres), the Red Mountain – Dry Fork Complex (24,285 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (131,700 total acres). The benefits of ACEC designation, as described above, to special status species would be reduced under the Proposed RMP compared to Alternative D (No Action). The Proposed RMP would designate 20% less area as ACECs than Alternative D (No Action) (165,944 acres).

4.17.2.9.1.2. Alternative A

Under Alternative A, Bitter Creek (68,834 acres), Brown's Park (52,721 acres), Coyote Basin (87,743 acres), the Lower Green River Corridor and Lower Green River Expansion (10,170 acres), Nine Mile Canyon (48,000 acres), the Red Mountain – Dry Fork Complex (24,285 acres), White River (17,810 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (345,850 total acres). The benefits of ACEC designation, as described above, to special status species would be increased under Alternative A compared to Alternative D (No Action). Alternative A would designate 108% more area as ACECs than Alternative D (No Action) (165,944 acres).

4.17.2.9.1.3. Alternative B

Under Alternative B, Browns Park (18,474 acres), Coyote Basin (47,659 acres), the Lower Green River Corridor (8,470 acres), Nine Mile Canyon (44,181 acres), the Red Mountain – Dry Fork Complex (24,285 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (179,356 total acres). The total acreage of ACECs under Alternative B would be about 8% greater than under Alternative D (No Action) resulting in more beneficial impacts to special status species than Alternative D (No Action).

4.17.2.9.1.4. Alternative C

Under Alternative C, Bitter Creek (147,425 acres), Browns Park (52,721 acres), Coyote Basin (124,161 acres), Four Mile Wash (50,280 acres), the Lower Green River Corridor and Lower Green River Expansion (10,170 acres), Main Canyon (100,915 acres), Middle Green River (6,768 acres), Nine Mile Canyon (81,168 acres), the Red Mountain – Dry Fork Complex (24,285 acres), the White River (47,130 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (681,310 total acres). The total acreage of ACECs under Alternative B would be nearly four times greater than under Alternative D (No Action) resulting in more beneficial impacts to special status species than Alternative D (No Action).

4.17.2.9.1.5. Alternative D (No Action)

Under Alternative D (No Action), Browns Park (52,721 acres), the Lower Green River Corridor (8,407 acres), Nine Mile Canyon (44,181 acres), the Red Mountain – Dry Fork Complex (24,285 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (165,944 total acres).

4.17.2.9.1.6. Alternative E

The impacts of special designation decisions on special status species would be the same as discussed above for Alternative C because the management actions are the same, except that Bitter Creek would not be designated as an ACEC under Alternative E and that the non-WSA areas with wilderness characteristics would be managed for the protection of their wilderness values. Under this alternative, approximately 197,171 acres within the proposed ACECs would be managed under VRM I objectives, closed to mineral leasing and mineral materials disposal, excluded from ROW consideration, closed to commercial and private woodcutting, and closed to cross-country OHV travel. These management decisions would have long-term, beneficial impacts on special status species by either reducing or prohibiting surface disturbances within the non-WSA wilderness characteristics areas. This alternative would have more beneficial impacts on special status species than all other alternatives because it would manage potential special status species habitat with more protective prescriptions. However, it would manage fewer acres overall (681,310 total acres) for their wilderness characteristics than Alternative C.

4.17.2.9.2. Wild and Scenic Rivers

4.17.2.9.2.1. Proposed RMP and Alternative B

Under the Proposed RMP and Alternative B, two river segments on the Upper Green River (22 miles) and Lower Green River (30 miles) with a tentative classification of scenic for both river segments would be considered for Wild and Scenic River designation. Though Alternative D (No Action) would also not identify any segments of the aforementioned rivers as suitable for Wild and Scenic River designation it would manage portions of Bitter Creek, Evacuation Creek, and the White River to protect the free flowing nature, outstandingly remarkable values, and tentative classification of the river. As a result, Alternative D (No Action) would have more beneficial impacts for special status species than the Proposed RMP and Alternative B.

4.17.2.9.2.2. Alternative A

Under Alternative A, the portion of the White River between the Colorado state line and the trust land boundary (44 miles) would be tentatively classified as "Scenic" (Segment A) and "Wild" (Segment B). Though Alternative D (No Action) would not identify any river segments as suitable for Wild and Scenic River designation it would manage portions of Bitter Creek, Evacuation Creek, and the White River to protect the free flowing nature, outstandingly remarkable values, and tentative classification of the river. As a result, Alternative D (No Action) would have more beneficial impacts for special status species than Alternative A.

4.17.2.9.2.3. Alternatives C and E

Under Alternatives C and E all segments of the aforementioned rivers would be considered suitable for Wild and Scenic River designation. This would result in reduced surface disturbance and adverse impacts to special status species along approximately 158 miles of river in the VPA. Long-term beneficial impacts to riparian dependent special status species would be greater under Alternatives C and E compared to Alternative D (No Action) due to the greater river mileage considered suitable for Wild and Scenic River designation. These alternatives would identify segments along the White River, Nine Mile Creek, the Middle Green River, Evacuation Creek, Bitter Creek, and Argyle Creek as suitable for designation into the Wild and Scenic River System. These management actions would have greater beneficial impacts on special status species than any of the other alternatives.

4.17.2.9.2.4. Alternatives D (No Action)

This alternative would not identify any river segments within the VPA as suitable for Wild and Scenic River designation. However, segments of Bitter Creek, Evacuation Creek, and the White River would be managed to protect the free flowing nature, outstandingly remarkable values, and tentative classification of the rivers.

4.17.2.10. Impacts of Woodlands and Forest Management Decisions on Special Status Species

4.17.2.10.1. Proposed RMP and Alternatives A, B, C and E

The Proposed RMP and Alternatives A, B, C, and E would allow public utilization of forest and woodland products as one tool for conducting vegetative treatments to achieve desired future conditions in these forest and woodland habitats. The Proposed RMP would treat/harvest up to 546,152 acres of forest and woodland habitat. Alternatives A and C would treat/harvest up to 552,152 acres of forest and woodland habitat. Alternative B would treat/harvest 554,108 acres of forest and woodland habitat.

The Proposed RMP and Alternatives A, C, and E would manage forests and woodlands to maintain and restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, disease, and other disturbances do not exceed levels normally expected in healthy forests and woodlands. The Proposed RMP and these alternatives would maintain relict stands of vegetation for biological and genetic diversity. Forests and woodlands would be managed under the principles of multiple use and sustained yield without permanent impairment of the productivity of the land and the quality of the environment; allow use of forest, woodland products, biomass, and certain vegetation products in areas specified for this use to meet RMP goals. The Proposed RMP and each of these alternatives would implement the National Healthy Forest Initiative and the National Fire Plan by conducting treatments to reduce fuel loadings, fire severity, and restoring historical disturbance regimes.

The Proposed RMP and Alternatives A and B would initiate a proactive program of woodland management that would be implemented for the salvage of forest and woodland products that are dead and/or dying due to, fire, disease, insect-kill or other disturbance with the management intent of promoting healthy forest and woodlands. Alternative C would allow for the salvage of forest and woodland products within proposed ACECs (242,760 acres) only when there is a threat to forest and woodlands or other resources in the ACEC. Alternative C would also allow for salvage of forests and woodlands for other resources on up to 343,110 acres outside of proposed ACECs. Alternative E would allow for the salvage of forest and woodland products outside proposed ACECs (242,602 acres) but would not allow these activities within proposed ACECs. Alternative E would also prohibit forest and woodland salvage on non-WSA lands with wilderness characteristics. Alternative B would allow harvesting forest and woodland stands that have reached culmination of mean annual increment (growth begins to decrease). Stands would thereafter be grown and thinned to approximately 80% to 90% of "normal (maximum) basal area" until the culmination of mean annual increment, at which time the stand(s) would be cut again.

4.17.2.10.2. Alternative D (No Action)

Alternative D (No Action) would allow up to 88,200 acres of forest and 200,100 acres of woodlands to have treatments or be harvested.

These woodland and fire management treatments would have a varying degree of beneficial to adverse impacts on special status plant and animal species. Treatments would be conducted to manage structure, composition, and function of vegetation, and consideration of how these attributes relate to the landscape. Fire suppression activities such as line construction would avoid plant sites as much as possible, resulting in slight to moderately adverse impacts depending on location and successful avoidance of sites. Maintaining forest and woodland habitats in a mosaic of seral stages would have beneficial impacts on most special status species by providing a diversity of habitats to meet the life history needs of those species that use these areas.

4.17.3. MITIGATION MEASURES

The following mitigation measures would be implemented under the Proposed RMP and all alternatives:

Mineral and energy development in areas directly associated with Ferruginous Hawk nesting areas would be subject to special stipulations including buffers outlined in "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A) with modifications allowed as long as protection of the raptors is ensured.

Notices for oil and gas development and BLM-committed conservation measures would be applied to Utah's T&E species (see Appendix L).

The Proposed RMP and all alternatives would have stipulations and mitigation measures meant to protect and/or enhance existing Greater Sage-grouse habitat. The Proposed RMP and Alternatives C and E would not allow surface-disturbing activities year round within 0.25 miles of active Sage-grouse leks. From March 1 through June 15 (the brooding period) no surface-disturbing activities would be allowed within two miles of active Sage-grouse leks and no permanent facilities or structures would be allowed when possible. Finally, within 0.5 miles of known active Sage-grouse leks, the best available technology would be used to reduce noise. Alternative A would implement the *Strategic Management Plan for Sage-Grouse* (State of Utah, June 11, 2002) as the baseline threshold. Alternatives A and B would result in the avoidance of all human disturbances within 0.6 miles of a Sage-grouse lek during the Sage-grouse breeding season (March 1 to May 31) from 1 hour before sunrise to 3 hours after sunrise. Under Alternative A, roads, fences, poles, and utility lines would not be developed within 1,300 feet of a lek. Alternative B would allow development within 1,300 feet of a lek but would be designed to minimize, to the extent possible, bird collision and to minimize raptor perching within 2 miles of a lek. Alternative D (No Action) would limit surface disturbance, exploration, drilling, and other minerals development activities from March 15 to June 15 and no drilling or storage facilities would be allowed within 300 feet of a lek in the Book Cliffs area. No surface-disturbing activities would be allowed in Sage-grouse nesting areas (a 2-mile radius of sagebrush vegetation type surrounding a lek) from March 1 through June 30 or within 1,000 feet of a lek in the Diamond Mountain area.

Construction and development around any Bald Eagle nests would be managed under the authority of the Eagle Protection Act, and under the auspices of Best Management Practices as

outlined in "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A) with modifications allowed as long as protection of nests is insured.

No surface occupancy would be allowed in the riparian zone under the Proposed RMP or any of the action alternatives unless 1) there are no practical alternatives; 2) all long term impacts would be fully mitigated; or 3) the activity would benefit or enhance the riparian areas.

Roads, buried pipelines, facilities and well pads should be designed and constructed down slope of populations, or suitable habitat, of special status species to eliminate effects of changes to water flows that can create erosion and/or sedimentation. In addition, roads, buried pipelines, facilities and well pads should be located outside of the 100-year floodplain, wherever feasible.

Where construction of roads and pads due to landscape constraints, or other resource impacts such as archeological sites, need to be upslope of habitat; site specific designs of buffers utilizing the landscape, berms, and engineered roads and pads construction measures will be initiated to eliminate concentrated water flows and sediment into habitats.

When buffers are utilized to protect habitat, the buffers need to be of sufficient width to allow road or facility maintenance and weed controls without jeopardizing the habitat.

Where habitat for special status species occurs adjacent to planned construction areas, temporary fencing will used to prevent equipment from disturbing habitat.

Surface pipelines should be placed a minimum of ten feet from special status plants and habitat. Where resource impacts conflict and pipelines need to go through habitat, the pipelines will be placed ten feet from occurring plants and staked to prevent snaking in the habitat areas.

Small area closures using permanent fencing, signing, barriers, or other protective measures should be utilized to protect special status species habitat from off road travel or OHV use. Monitoring of off road travel and OHV use will determine the level of protection needed.

BLM would initiate the avoidance of key habitats with allotment permittees to protect special status species habitat during livestock herding and trailing activities or use of habitat areas for bedding or camp sites. (Key habitats are those that are deemed necessary for the conservation of the species, including, but not necessarily limited to Designated Critical Habitat, and other occupied or unoccupied habitat considered important for the species).

Supplements for livestock and range improvement projects, such as water developments and fences, would be planned to avoid concentrating livestock use on special status species habitat.

Where season of use by livestock is proven detrimental to special status species populations, BLM would initiate grazing plans using herding, deferment or rest rotation or other management activities, to lessen or deter impacts.

4.17.4. UNAVOIDABLE ADVERSE IMPACTS

The specified mitigation measures would reduce impacts to special status species but would also still result in adverse impacts to the Book Cliffs soil endemics, Ferruginous Hawk, Mexican Spotted Owl and the threatened and endangered Colorado River fishes. Depending on the degree of restriction applied to riparian zone exemptions, unavoidable adverse impacts could also occur to the Yellow-billed Cuckoo and the Ute ladies'-tresses.

4.17.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Construction of roads and well pads associated with mineral development would potentially provide a short-term use that would eventually result in long-term loss and fragmentation of special status species habitat. These activities would also increase the occurrence of noxious weed infestations competing for water and space with special status plants. Off highway vehicle use in the short-term would cause long-term loss of special status species through habitat disturbance, illegal collection of plants, and the indirect spread of noxious weeds.

4.17.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Irreversible impacts (species loss) to special status species (plants and animals) within the VPA would not occur due to planning level decisions described in this document. Irretrievable impacts to special status species would occur due to minerals development and other surface-disturbing activities that would remove and fragment habitat. In particular, there could be irretrievable impacts to the Ferruginous Hawk population because Ferruginous Hawks appear to be more susceptible to disturbance because of their preference for solitude when nesting and their high dependence on primary prey species such as rabbits and/or ground squirrels (Bechard et al. 1990; White and Thurow 1985; Holmes et al. 1993; Olendorff 1993). Similar irretrievable impacts could also occur to other special status species that are sensitive to noise and disturbance, such as Sage-grouse, and/or of limited distribution such as narrow soil endemic plant species (e.g., Book Cliffs soil endemics).

4.18. VEGETATION

Vegetation resources across the VPA would be affected by the management decisions of several resources. Direct adverse effects would primarily occur in the form of surface disturbance associated with development activities, vegetation manipulation treatments, and forage utilization. Oil and gas exploration and development requires the construction of roads, pipelines, wells, well pads, and compressors. Construction of recreation facilities, such as campgrounds and trails, and off-road vehicle travel would also disturb vegetated areas. Forage use by livestock, wildlife, and wild horses affect plant productivity and plant community structure and composition, having both beneficial and adverse impacts. Vegetation manipulation treatments and range improvement projects result in both beneficial effects in the long-term and adverse effects in the short-term due to surface disturbance. These activities alter plant communities and could eventually change the community's successional trajectory. Indirect impacts to vegetation associated with surface disturbance activities would also occur through processes such as soil loss and compaction, and noxious weed invasions. Indirect effects would also be beneficial through special designations such as ACECs.

This section describes the programmatic-level analysis of the potential effects to vegetation resources of the VPA as a result of land management decisions. Short-term direct and indirect impacts include acreage of surface disturbance, when possible, while long-term direct and indirect effects depend on the potential for a site to be revegetated or improved following surface disturbance.

4.18.1. IMPACTS COMMON TO ALL

The Utah BLM Standards for Rangeland Health would apply under the Proposed RMP and all of the alternatives. Summarized in Chapter 2, these management objective guidelines would ensure good site productivity, properly functioning riparian and wetland areas, vegetation communities composed of desired species, including native, and special status species when applicable, and compliance with state and federal water quality standards. Site-specific monitoring and evaluation strategies would be implemented to measure the success of following the Standards for Rangeland Health. Approved activities that would result in short-term adverse impacts contrary to these objectives would require rehabilitation and reclamation.

In addition to the Utah BLM Standards for Rangeland Health, vegetation would benefit from specific management guidelines, constraints or stipulations on use (see Chapter 2). Considerations would include monitoring to ensure compliance with permit conditions of approval and successful site reclamation. Proper livestock grazing timing and intensity would maintain or improve rangeland health. Special considerations during periods of drought would be made regarding livestock, wildlife, wild horses, recreation, and OHV use.

All management prescriptions would consider climatic conditions relative to an activity's effect on long-term rangeland productivity. The effect of management activities combined with wildland fire, drought, and natural disasters would also be considered. Resource degradation

would be minimized through adaptive-management actions such as temporary livestock reductions or recreation limitations, as necessary.

Several resources incorporate management goals and objectives and resource-specific actions common to the Proposed RMP and all alternatives that would beneficially affect the vegetation resource by either reducing surface disturbance, rehabilitating or restoring areas following surface disturbance, or protecting areas from consumptive use, thereby minimizing impacts to vegetation. These resources consist of cultural, fire management, forage, lands and realty, livestock and grazing, riparian, soil and watershed, wilderness, ACEC and Wild and Scenic Rivers special designations, special status species, visuals, wildlife, and woodlands and forests. Actions common to all are summarized by resource in Chapter 2.

The Proposed RMP and all of the alternatives allow for utilization increases in the event that rangeland health was being sustained or significant progress was being made towards rangeland health improvements. This increase in grazing would potentially cause adverse impacts to vegetation if not carefully managed and monitored. Impacts related to forage utilization are further analyzed in Section 4.8, Livestock and Grazing.

Land withdrawals would benefit vegetation in both the short- and long-term by reducing the potential for surface disturbance by mineral extraction activities. The Proposed RMP and Alternatives A and B would pursue locatable mineral withdrawal in the Book Cliffs Natural Area (401 acres), Green River Scenic Corridor in Browns Park (8,208 acres), relict vegetation areas in Lears Canyon (1,375 acres), the White River (9,218 acres), and developed and potential recreation sites (5,000 acres), for a total of 24,202 acres. Alternatives C and E would pursue locatable mineral withdrawal in all of the aforementioned locations (except developed and potential recreation sites) in addition to the Lower Green River ACEC for a total of 36,265 acres. Alternative D (No Action) would pursue mineral withdrawals in the above areas, but with different acreages designated for withdrawal in some cases: in Browns Park (19,400 acres), Lears Canyon (3,600 acres), the Lower Green River ACEC (7,900 acres), and developed and potential recreation sites (5,000 acres). A total of approximately 35,900 acres of mineral withdrawals would be pursued under Alternative D (No Action).

Special Designations that are currently managed would be maintained under the Proposed RMP and all alternatives. These include ACEC designation in Browns Park, Lears Canyon, Nine Mile Canyon, Red Mountain - Dry Fork, Pariette Wetlands, and Red Creek. These areas are also discussed under alternative impacts along with other impacts of special designations (Wild and Scenic Rivers, WSAs) on vegetation.

The Proposed RMP and all of the alternatives would allow harvesting of forest and woodland products. Impacts common to the Proposed RMP and all of the alternatives would include the long-term beneficial impacts that would result from the reduction of excessive fuel loads within the treated areas, which would reduce the potential for catastrophic, stand-destroying wildland fire; allow public use of woodland products; make improvements to woodland habitat; and make improvements in woodland productivity by restoring woodland and forest health. Prescribed fire or other treatments that would reduce the number of diseased and/or insect-infested trees in the resource area would also have long-term beneficial impacts to woodland health.

The Proposed RMP and all of the alternatives would restore or rehabilitate up to 200,000 acres of sagebrush-steppe habitat over the life of the plan. These vegetation treatments would consider the Western Association of Fish and Wildlife Agencies (WAFWA) Guidelines for Management of Sage Grouse Populations and Habitats and State and Local Conservation Plans. These Sage-grouse habitat protection measures would directly benefit vegetation by curtailing surface disturbance and increasing the acreage of stable sagebrush-steppe habitat.

Any decisions involving spatial and seasonal buffers for raptor protection would generally benefit any surrounding vegetation. Long-term benefits to vegetation would occur, as nesting sites would be protected from surface disturbance associated with oil and gas leasing activities. Impacts due to paleontological and cultural decisions would not be different under the alternatives and the Proposed RMP and are discussed under management common to all in Chapter 2.

4.18.2. Proposed RMP and Alternative Impacts

Management decisions that would affect vegetation are discussed below for the Proposed RMP and each alternative.

4.18.2.1. Impacts of Fire Management Decisions on Vegetation Resources

4.18.2.1.1. Proposed RMP and Alternatives A, B, C and E

All prescribed fire activities are preceded by a burn plan. The Proposed RMP and Alternatives A, B, C and E would allow for 156,425 acres of prescribed fire per decade in the VPA. Target vegetation communities include pinyon-juniper, oak, aspen, and conifer. Prescription fires would reduce plant material initially, resulting in an adverse, short-term impact on vegetation. There would be an increased risk of noxious weed and invasive species establishment on fire-exposed and disturbed ground surfaces. However, as vegetation recovers and plant communities return to a natural fire regime, long-term, beneficial effects on the vegetation resource would occur, except where invasive annuals such as cheatgrass have invaded and become established. Plant communities could return to a more native mix of species. In some situations, seeding may be required in conjunction with prescribed fire to help prevent the establishment of non-native, invasive, and noxious species. The reduction in hazardous fuels from the use of prescribed fire would also benefit vegetation in the long-term by reducing the risks of wildland fire. These beneficial impacts would be greater than those that would occur under Alternative D (No Action) because these action alternatives and the Proposed RMP would propose more acreage for prescribed fire treatments than Alternative D (No Action).

4.18.2.1.2. Alternative D (No Action)

Alternative D (No Action) would allow up to 27,950 acres of prescribed burn treatments in the Book Cliffs RMP area and 22,950 acres of treatments, including prescribed burns, in the Diamond Mountain RMP area. As under the other alternatives and the Proposed RMP, direct impacts on vegetation would be adverse immediately following treatment, but long-term impacts

would be beneficial. However, the smaller amount of prescribed fire allowed under this alternative would produce less short-term adverse effects and less beneficial long-term effects than would the other alternatives or the Proposed RMP.

Impacts to vegetation would also occur with fire suppression activities (e.g., surface disturbance caused by heavy equipment, the digging of fire lines, etc.). Invasive species could spread to these disturbed areas, resulting in adverse impacts to vegetation community composition.

4.18.2.2. Impacts of Forage Decisions on Vegetation Resources

Forage utilization decisions would directly impact vegetation in both the short- and the long-term. Short-term direct adverse impacts include loss of vegetative cover and biomass, and trampling, while long-term adverse impacts would include reductions in plant productivity and regenerative ability, and increases in noxious weeds. The severity of adverse impacts also depends on grazing management (i.e., season of use) and climatic conditions (see Section 4.8 Livestock and Grazing). As explained in Chapter 2, the BLM Standards for Rangeland Health and Guidelines for Grazing Management would apply to forage utilization decisions.

4.18.2.2.1. Proposed RMP and Alternatives A, B, C and E

Though forage utilization would generally lead to short- and long-term adverse impacts to vegetation as described above, under the Proposed RMP and Alternatives A, B, C and E season of use changes, reduced livestock use, and improved livestock management strategies would all lead to improved vegetation conditions compared to Alternative D (No Action). Areas already meeting standards for rangeland health would be maintained; no other impacts would be present or no other improvements would be needed.

The Proposed RMP and each action alternative would allow for reductions in AUMs in the event that rangeland conditions are not being sustained or improved. This adaptive management strategy would generally benefit vegetation in the long-term compared to Alternative D (No Action) by allowing it to recover from grazing pressure. The Proposed RMP and Alternatives A, B, C and E would reduce utilization only after all other viable management options were considered, such as timing of use.

The Proposed RMP and Alternatives A, B, C and E would limit percent forage utilization on uplands—under the Proposed RMP and Alternatives A, C and E forage utilization would be limited to 50%, while under Alternative B forage utilization would be limited to 60%—and would, therefore, result in less adverse impacts to vegetation as compared to Alternative D (No Action), which would not limit percent forage utilization (Table 4.18.1).

Table 4.18.1. Forage Utilization and AUM Allocations for the Proposed RMP and each Alternative

Alternative / Proposed RMP	Forage Utilization Limit (%)	AUM Allocations		
		Livestock	Wildlife	Wild Horses
Proposed RMP	50	138,402	104,865	2,340
A	50	137,838	104,871	2,940
B	60	139,163	104,871	0
C	50	77,294	106,196	3,960
D	NA	146,161	96,607	3,360
E	50	77,294	106,196	3,960

[1]AUM Allocations for wild horses under the Proposed RMP would be temporary, until wild horses have been gathered and removed.

4.18.2.2.2. Alternative D (No Action)

In addition to the AUM allocations shown in Table 4.18.1, Alternative D (No Action) also includes the following allocations. The Book Cliffs RMP allocates 1,123 AUMs for antelope in the Bonanza-Rainbow area. These AUMs are split among the Bonanza Wild Horse Herd area, which includes 239 AUMs inside the area and 502 outside the area. Some allotments have shown an upward trend in forage availability and changes made to other allotments would result in an upward trend under Alternative D (No Action).

As mentioned above, each action alternative and the Proposed RMP would allow for reductions in AUMs in the event that rangeland conditions are not being sustained or improved. This adaptive management strategy would generally benefit vegetation in the long-term by allowing it to recover from grazing pressure. Alternative D (No Action) does not specify a utilization reduction, which would potentially result in greater impacts to vegetation than the action alternatives and the Proposed RMP. Rangeland health complications such as noxious weed infestations could result from the inability to limit forage use. This would have indirect, adverse impacts on vegetation as noxious weeds would outcompete native vegetation for space and resources.

4.18.2.3. Impacts of Lands and Realty Decisions on Vegetation Resources

4.18.2.3.1. Proposed RMP and Alternatives A, B, and C

Decisions regarding land acquisitions to improve access would potentially increase impacts to vegetation in some areas, while reducing potential impacts in other areas. The Proposed RMP and Alternatives A and C could result in impacts to vegetation along the White River near the mouth of Cowboy Canyon if access was acquired, resulting in more adverse impacts than under Alternative D (No Action). Adverse impacts from damage to vegetation and from the establishment of noxious weeds could occur through the subsequent increase in traffic through

this area. This activity would not occur under Alternative B and it is not specified under Alternative D (No Action).

Acquisition of lands in Bitter Creek and near the confluence of South and Sweetwater Canyons would occur under the Proposed RMP and Alternatives A and C, with potentially adverse impacts to vegetation in these areas. Under Alternative B administrative access only would be pursued in these areas. These activities are not specified under Alternative D (No Action), so the potential for adverse impacts from these management actions would be less than those under the Proposed RMP and Alternatives A, B, and C.

Decisions regarding locatable mineral withdrawal or other protective measures that would preclude mineral entry would have beneficial impacts on vegetation by reducing the acreage of surface disturbance that would result from mineral withdrawal activities. A total of 24,202 acres would be withdrawn from mineral entry or subject to other protective measures under the Proposed RMP and Alternatives A and B. This is approximately two-thirds (67%) as much as would be withdrawn or subject to other protective measures under Alternative D (No Action) (35,900 acres upon which mineral and agricultural entry would be precluded). The Proposed RMP and Alternatives A and B, therefore, would be less beneficial to vegetation because these alternatives and the Proposed RMP would protect less acreage from mineral withdrawal activities than Alternative D (No Action). Under Alternative C a total of 36,265 acres would be withdrawn from mineral entry or subject to other protective measures. This is about 365 more acres subject to these measures than under Alternative D (No Action). Alternative C, therefore, would be more beneficial to vegetation because this alternative would protect more acreage from mineral withdrawal activities than Alternative D (No Action).

4.18.2.3.2. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action) management decisions related to land access are unspecified. However, locatable mineral withdrawal or other protective measures that would preclude mineral and agricultural entry would occur on a total of approximately 35,900 acres. The preclusion of mineral and agricultural entry on this acreage would decrease the potential for adverse impacts to vegetation in these acres, as compared to the Proposed RMP and the action alternatives.

4.18.2.3.3. ALTERNATIVE E

The impacts of lands and realty decisions on vegetation would be similar to those discussed above for Alternative C because the decisions are similar, except that approximately 277,597 acres of non-WSA lands with wilderness characteristics within the VPA would be managed as ROW exclusion areas. The management decisions for these areas, in order to protect their wilderness values, would have long-term, beneficial impacts on vegetation resources because surface disturbance impacts would be restricted. Compared to Alternative D (No Action), this alternative would have more beneficial impacts on vegetation resources because more protection would be afforded vegetation, reducing the potential for invasive species establishment and maintaining vegetation communities.

4.18.2.4. Impacts of Livestock and Grazing Decisions on Vegetation Resources

Impacts to vegetation from livestock grazing depend partly on the seasonality and locality of the grazing activity. Seasons-of-use decisions incorporate these factors and differ across the Proposed RMP and each alternative under the broad grazing management strategies of: Phenology (Proposed RMP and Alternative A), Billed Use (Alternative B), Adjudicated (Alternatives C and E), and Permitted (Alternative D, No Action). In general, impacts to vegetation are reduced when grazing occurs in the fall and winter, because plants are dormant and are not using energy for growth or reproduction. In contrast, grazing during the spring would have adverse indirect impacts on native plants by inhibiting productivity and reproduction, and increasing the likelihood of noxious weed expansion or establishment. Other direct, adverse impacts from livestock grazing include trampling, soil compaction, and soil erosion.

4.18.2.4.1. Proposed RMP and Alternative A

The Proposed RMP and Alternative A would employ a phenology-based grazing system in all areas except Area 1 which would allow vegetation to recover by coupling forage use with dormancy and avoiding the growth periods of plants. Grazing would occur in Area 1 (Special Resources) only at the discretion of the VFO. Under the Proposed RMP grazing would be allowed in the Nine Mile Acquired Area provided that grazing is controlled, of short duration, does not detract from recreation and/or riparian values along the river, and is in accordance with the Green River Allotment Management Plan administered by the Price Field Office. With respect to the Nine Mile Acquired Area, to enhance riparian and watershed values Alternative A would not allow grazing. In the Nine Mile Acquired Area, therefore, Alternative A would have more beneficial impacts to vegetation than the Proposed RMP. In general, the Proposed RMP and Alternative A would result in fewer adverse impacts to vegetation due to livestock grazing than Alternative D (No Action) because the Proposed RMP and Alternative A would only allow grazing during the dormancy period of the forage plants, whereas Alternative D (No Action) would allow grazing during the growth period of forage plants.

4.18.2.4.2. Alternative B

Alternative B would have the highest potential for adverse impacts to vegetation of all alternatives and the Proposed RMP. This alternative would be based on dates taken from permittee billing receipts and would reflect the actual allotment use times, not necessarily the permitted use periods or the best time, biologically, with respect to vegetation growth periods. Combined with a 60% forage allocation (see Section 4.18.2.2, Forage Decisions), this alternative would result in the greatest impacts to vegetation compared to all other alternatives and the Proposed RMP. Grazing use under Alternative B would often exceed the permitted timeframes, or overlap grazing start or end dates, increasing the risk of adverse impacts to vegetation.

Livestock grazing use in Area 1 and in the Nine Mile Acquired Area would be the same under Alternative B as under Alternative A.

4.18.2.4.3. ALTERNATIVES C AND E

Alternatives C and E would incorporate the negotiation between permitted use periods and vegetation phenology, narrowing the time period of actual use as it occurs under permitting, to the most sound vegetation phenological period. In general, forage use would be limited to the fall and winter, except in Areas 2 and 3, reducing the potentially adverse impacts that could occur during crucial growth periods. These alternatives would result in fewer adverse impacts to vegetation when compared to Alternative D (No Action) (Permitted Use) because Alternative D would allow more use during the growth period of forage plants than Alternatives C or E.

Under Alternatives C and E livestock grazing in Area 1 would be allowed at the discretion of the VFO (same as Alternatives A, B, and D), though these alternatives would not allow lands in the Nine Mile Acquired Area to be grazed. Alternative E would include additional protections for vegetation because conversions would not be allowed in non-WSA lands with wilderness characteristics if fencing or other structural improvements would be required or if conversions would result in significant resource conflicts. In general, Alternative E would be the most protective of vegetation resources with respect to livestock grazing decisions.

4.18.2.4.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) reflects current livestock grazing activities, as assigned on grazing permits. Potential impacts of this alternative would be similar to those under Alternative B, but would differ (for most areas) by the length of time grazing may occur in each area. Management prescriptions for the Nine Mile Acquired Area are unspecified under Alternative D (No Action).

4.18.2.5. IMPACTS OF MINERALS DECISIONS ON VEGETATION RESOURCES

The potential direct impacts from oil, gas, and CBNG production; Gilsonite and phosphate (non-energy leasable minerals) mining; and mineral materials mining would occur as various forms of surface disturbance. Initial loss of vegetation would be followed by a greater potential for invasive and noxious weed establishment.

Of the six oil and gas development areas within the VPA (see Figure 24, RFD Areas), vegetation in the three most southern RFD areas is expected to be the most impacted by minerals decisions. It is anticipated that these three areas (East and West Tavaputs Plateau, and Monument Butte-Red Wash) would have the highest levels of oil and gas well development.

Surface disturbance associated with well construction would produce both short- and long-term adverse impacts to vegetation, potentially beyond the average well-life of 25 years. In the short term, surface disturbance would remove vegetation and increase the potential for noxious weed invasions. Other surface-disturbing activities associated with well development, such as road and pipeline construction, would produce additional impacts to vegetation. Following the initial short-term impacts, surface disturbance associated with oil and gas development would produce long-term impacts to vegetation. Successful reclamation is estimated to take at least 10 years, allowing time for site degradation and noxious weed infestations to continue. Revegetation is especially difficult within the desert shrub type, as soils are shallow and highly saline, and

moisture availability is relatively low. Noxious weed invasions, notably cheatgrass, are likely in the sagebrush/perennial grass types, as these areas are often grazed by domestic livestock. Pinyon-juniper areas that have been chained and/or burned in the past are also highly susceptible to noxious weed invasions, and further disturbance would only increase the possibility of weed infestation. Russian knapweed is already a problem in the Diamond Mountain and Blue Mountain areas. Surface disturbance near noxious weed populations in these areas would likely allow for the weeds to spread. Other areas of concern include the Uinta Basin, Clay Basin, and Browns Park, where large populations of Russian thistle, halogeton, and cheatgrass are known to occur.

Acres of each vegetation type by leasing category are shown for the Proposed RMP and each alternative in Table 4.18.2. Note that acreage figures may differ slightly due to discrepancies between vegetation data and leasing data used in the minerals potential report. Also, GAP vegetation type categories listed below do not include values for Urban and Agricultural areas. Acreage figures under the categories Standard Stipulations and Timing and Controlled Surface Use reflect the total BLM administered areas within the VPA open to surface-disturbing activities. These are not estimates of the total area disturbed within the VPA, but a comparison by alternative and the Proposed RMP of the amount of area open to potential development within BLM administered areas within the VPA.

Table 4.18.2. Acreage of Each Vegetation Cover Type by Minerals Leasing Category under the Proposed RMP and Each Alternative

Alternative / Proposed RMP	Vegetation Type	Standard Stipulations	Timing and Controlled Surface Use	No Surface Occupancy	No Leasing
Proposed RMP	Aspen	125	0	0	14
	Badland/rock outcrop	43,222	14,569	5,700	987
	Conifer	25,742	65,228	500	13,604
	Desert Shrub	354,250	92,090	18,617	5,774
	Mountain Shrub	11,805	52,882	752	8,166
	Pinyon Juniper	150,159	225,997	12,922	94,171
	Riparian	1,147	466	2,867	34
	Sagebrush	263,149	166,824	30,738	28,968
	Sand Bars	28	1	59	0
	TOTAL[1]	**849,627**	**618,057**	**72,155**	**151,718**
A	Aspen	138	0	0	0
	Badland/rock outcrop	47,190	10,442	4,258	2,451
	Conifer	28,197	67,945	886	7,534
	Desert Shrub	385,809	52,421	15,931	1,199
	Mountain Shrub	19,936	51,475	920	937
	Pinyon Juniper	165,502	264,380	12,129	39,281
	Riparian	849	435	2,252	506
	Sagebrush	320,109	122,393	26,723	18,428

Table 4.18.2. Acreage of Each Vegetation Cover Type by Minerals Leasing Category under the Proposed RMP and Each Alternative

Alternative / Proposed RMP	Vegetation Type	Standard Stipulations	Timing and Controlled Surface Use	No Surface Occupancy	No Leasing
	Sand Bars	28	1	59	0
	TOTAL[1]	**967,758**	**569,492**	**63,158**	**70,336**
B	Aspen	138	0	0	0
	Badland/rock outcrop	51,462	9,737	2,935	527
	Conifer	54,676	41,828	871	7,187
	Desert Shrub	395,431	49,773	11,099	908
	Mountain Shrub	45,022	26,486	920	841
	Pinyon-Juniper	199,586	244,997	8,063	28,656
	Riparian	2,254	485	1,309	0
	Sagebrush	340,275	117,138	16,174	14,378
	Sand Bars	82	2	4	0
	TOTAL[1]	**1,088,926**	**490,446**	**41,375**	**52,497**
C	Aspen	138	0	0	0
	Badland/rock outcrop	38,337	11,739	2,826	11,760
	Conifer	31,680	27,877	408	44,602
	Desert Shrub	335,461	90,494	15,454	15,809
	Mountain Shrub	19,117	35,434	1,110	17,607
	Pinyon-Juniper	151,407	235,799	15,105	78,994
	Riparian	877	67	1,398	1,706
	Sagebrush	246,769	167,826	20,550	52,820
	Sand Bars	26	0	44	18
	TOTAL[1]	**823,812**	**569,236**	**56,895**	**223,316**
D	Aspen	105	0	17	0
	Badland/rock outcrop	38,123	14,470	10,955	531
	Conifer	55,853	34,739	5,692	7,461
	Desert Shrub	279,485	142,510	33,445	964
	Mountain Shrub	24,025	46,010	3,164	826
	Pinyon-Juniper	231,749	180,799	39,012	29,033
	Riparian	693	196	3,578	0
	Sagebrush	265,607	164,587	38,976	14,503
	Sand Bars	26	0	62	0
	TOTAL[1]	**895,666**	**583,311**	**134,901**	**53,318**
E	Aspen	124	0	0	14
	Badland/rock outcrop	36,930	11,256	2,138	14,339
	Conifer	31,088	22,458	408	50,614

Table 4.18.2. Acreage of Each Vegetation Cover Type by Minerals Leasing Category under the Proposed RMP and Each Alternative

Alternative / Proposed RMP	Vegetation Type	Standard Stipulations	Timing and Controlled Surface Use	No Surface Occupancy	No Leasing
	Desert Shrub	333,716	85,154	14,816	23,542
	Mountain Shrub	17,907	29,724	743	24,897
	Pinyon-Juniper	141,392	186,059	10,945	142,919
	Riparian	877	66	1,356	1,749
	Sagebrush	225,022	146,938	15,523	100,492
	Sand Bars	26	0	40	22
	TOTAL ACRES[1]	**787,082**	**481,655**	**45,969**	**358,588**

[1]The differences in total BLM vegetation acreages for each leasing category and total BLM acreages for oil and gas leasing are accounted for by those areas lacking vegetation (e.g., rocky areas, urban/developed areas).

4.18.2.5.1. PROPOSED RMP

As shown in Table 4.18.2, the potential for impacts to vegetation associated with the total area open to potential development would be greater under the Proposed RMP compared to Alternative D (No Action). Under the Proposed RMP, combined acreages totaling approximately 1,467,684 acres would be categorized as Standard Stipulations or Timing and Controlled Surface Use in the vegetation types listed in Table 4.18.2, a 1% decrease over Alternative D (No Action). Estimated surface disturbance by individual well development would total 18,860 acres; 5,045 acres of which would be reclaimed within one year of completion of operations (as per stipulations in the Minerals Potential Report). This represents a 4% increase in potential acres disturbed by oil and gas development compared to Alternative D (No Action).

Under the Proposed RMP approximately 223,873 acres of No Surface Occupancy and No Leasing BLM lands would not be impacted by oil and gas development, representing a 19% increase in the total acres that would not be impacted by oil and gas development compared to Alternative D (No Action).

Under the Proposed RMP impacts associated with prospecting, leasing, and development of phosphate would potentially occur on 76,208 acres open to leasing within the phosphate occurrence areas. Approximately 4% fewer acres are available for this activity under the Proposed RMP compared to Alternative D (No Action), which would potentially result in fewer adverse impacts to vegetation from this activity under the Proposed RMP. Gilsonite prospecting, leasing, and development would potentially occur on 172 miles (36,846 acres) of Gilsonite veins and on all BLM lands classified as open that contain additional veins. This area is 2% more than the area available under Alternative D (No Action), which would result in more adverse impacts to vegetation under the Proposed RMP.

Mineral material disposal could occur on 389,788 acres, less than a 1% increase compared to Alternative D (No Action). Therefore, adverse impacts to vegetation under Alternative A would be greater when compared to Alternative D (No Action), but only slightly.

4.18.2.5.2. ALTERNATIVE A

As shown in Table 4.18.2, the potential for impacts to vegetation associated with the total area open to potential development would be greater under Alternative A compared to Alternative D (No Action). Under Alternative A, combined acreages totaling approximately 1,537,250 acres would be categorized as Standard Stipulations or Timing and Controlled Surface Use in the vegetation types listed above, a 14% increase over Alternative D (No Action). Estimated surface disturbance by individual well development would total 18,971 acres; 5,071 acres of which would be reclaimed within one year of completion of operations (as per stipulations in the Minerals Potential Report). This represents a 4% increase in potential acres disturbed by oil and gas development compared to Alternative D (No Action).

Approximately 133,141 acres of No Surface Occupancy and No Leasing BLM lands would not be impacted by oil and gas development, representing a 30% decrease in the total acres that would not be impacted by oil and gas development compared to Alternative D (No Action).

Alternative A impacts associated with prospecting, leasing, and development of phosphate would potentially occur on 87,724 acres open to leasing within the phosphate occurrence areas. Approximately 4% fewer acres are available for this activity under Alternative A compared to Alternative D (No Action), which would potentially result in fewer adverse impacts to vegetation from this activity under Alternative A. Gilsonite prospecting, leasing, and development would potentially occur on 172 miles (36,846 acres) of Gilsonite veins and on all BLM lands classified as open that contain additional veins. This area is 2% more than the area available under Alternative D (No Action), which would result in more adverse impacts to vegetation under Alternative A.

Mineral material disposal could occur on 415,395 acres, a 7% increase compared to Alternative D (No Action). Therefore, adverse impacts to vegetation under Alternative A would be greater when compared to Alternative D (No Action).

4.18.2.5.3. ALTERNATIVE B

As shown in Table 4.18.2, Alternative B would designate approximately 1,579,372 acres as Standard Stipulations or Timing and Controlled Surface Use within the vegetation types listed above; a 7% increase over Alternative D (No Action). Surface disturbance associated with oil and gas activity on BLM administered land within the VPA would equal 19,033 acres, with 5,088 acres to be reclaimed within one year of completion of operations (as per stipulations in Minerals Potential Report). This represents a 5% increase in surface disturbance over Alternative D (No Action). Potential oil and gas related impacts to vegetation under Alternative B would be greater than what would occur under Alternative D (No Action).

Approximately 94,603 acres of No Surface Occupancy and No Leasing BLM lands would not be impacted by oil and gas development, representing a 50% decrease in total acres not available compared to Alternative D (No Action). Thus, the area available for development is greater under Alternative B compared to Alternative D (No Action), allowing for a greater potential for adverse impacts to vegetation.

Under Alternative B, 87,724 acres would be open for prospecting, leasing, and development of phosphate within the phosphate occurrence areas, representing a 4% increase over Alternative D (No Action). Gilsonite prospecting, leasing, and development would potentially occur on 172 miles (36,846 acres) of Gilsonite veins and on all BLM lands classified as open that contain additional veins, representing a 2% increase as compared to Alternative D (No Action). Impacts associated with phosphate and Gilsonite prospecting activities would be greater under Alternative B, as compared to Alternative D (No Action).

Mineral material disposal could occur on 432,953 acres under Alternative B, a 12% increase as compared to Alternative D (No Action). Potentially adverse impacts to vegetation associated with mineral material disposal would be greater under Alternative B when compared to Alternative D (No Action).

4.18.2.5.4. ALTERNATIVE C

As shown in Table 4.18.2, Alternative C would designate approximately 1,393,048 acres as Standard Stipulations or Timing and Controlled Surface Use, representing a 6% decrease as compared to Alternative D (No Action). Oil and gas development would impact 18,757 acres, 5,020 of which would be reclaimed within one year of completion of operations (as per stipulations in Minerals Potential Report). This represents a 3% increase under Alternative C in potential disturbances related to oil and gas production compared to Alternative D (No Action).

Approximately 286,916 acres of No Surface Occupancy and No Leasing BLM lands would not be impacted by oil and gas development, representing a 51% increase in total acres that would not be impacted by oil and gas development compared to Alternative D (No Action). Thus, the potential for impacts would be less under Alternative C when compared to Alternative D (No Action).

Under this alternative, 63,571 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas. This represents a 25% decrease over Alternative D (No Action), resulting in a lower potential for adverse impacts to vegetation under Alternative C. Gilsonite prospecting, leasing, and development would potentially occur on 172 miles (36,846 acres) of Gilsonite veins and on all BLM lands classified as open that contain additional veins. This equates to a 2% increase in area available for Gilsonite activities across the BLM administered areas within the VPA as compared to Alternative D (No Action). Thus, greater adverse impacts to vegetation would be expected.

Mineral material disposal could occur on 388,699 acres, an increase of 0.3% in potentially adverse impacts to vegetation when compared to Alternative D (No Action).

4.18.2.5.5. ALTERNATIVE D (NO ACTION)

As shown in Table 4.18.2, Alternative D (No Action) would classify approximately 1,478,977 acres in the vegetation types listed above as Standard Stipulations and Timing and Controlled Surface Use. Oil and gas development would potentially impact 18,212 acres, 4,886 of which would be reclaimed within one year. Approximately 189,470 acres of No Surface Occupancy

and No Leasing BLM lands would not be impacted by oil and gas development under Alternative D (No Action).

Under Alternative D (No Action), 84,600 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas. Gilsonite prospecting, leasing, and development would potentially occur on 168 miles (36,009 acres) of Gilsonite veins, and on all BLM lands classified as open that contain additional veins. Additional mitigation actions would be required in critical deer and elk winter range to reduce short and long-term impacts to habitat. Mineral material disposal could occur on 387,700 acres.

4.18.2.5.6. ALTERNATIVE E

As shown in Table 4.18.2, Alternative E would designate approximately 1,268,737 acres as Standard Stipulations or Timing and Controlled Surface Use within the vegetation types listed above, representing a 14% decrease as compared to Alternative D (No Action). Oil and gas development would impact 17,469 acres, 4,703 of which would be reclaimed within one year of completion of operations (as per stipulations in Minerals Potential Report). This represents a 4% decrease under Alternative E in potential disturbances related to oil and gas production compared to Alternative D (No Action).

Approximately 414,666 acres of No Surface Occupancy and No Leasing BLM lands would not be impacted by oil and gas development, representing a 119% increase in total acres that would not be impacted by oil and gas development compared to Alternative D (No Action). Thus, the potential for impacts would be less under Alternative E when compared to Alternative D (No Action).

Under this alternative, 52,063 acres would be open for prospecting, leasing, and development of phosphate with standard and special stipulations within the phosphate occurrence areas. This represents a 38% decrease compared to Alternative D (No Action), resulting in a lower potential for adverse impacts to vegetation under Alternative E. Gilsonite prospecting, leasing, and development would potentially occur on 163 miles (34,967 acres) of Gilsonite veins and on all BLM lands classified as open that contain additional veins. This equates to a 3% decrease in area available for Gilsonite activities within the VPA as compared to Alternative D (No Action). Thus, fewer adverse impacts to vegetation would be expected.

Mineral material disposal could occur on 344,682 acres, a decrease of 11% in potentially adverse impacts to vegetation when compared to Alternative D (No Action).

4.18.2.6. IMPACTS OF MINERALS DECISIONS BY RFD AREA

Surface disturbances (acres) by RFD area within the BLM administered areas of the VPA are shown in Table 4.18.4 below.

Table 4.18.4. Short- and Long-term Minerals Impacts under the Proposed RMP and Each Alternative by RFD Area within BLM-administered Land (acres)

RFD Area	Proposed RMP		Alternative A		Alternative B		Alternative C		Alternative D (No Action)		Alternative E	
	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long
East Tavaputs Plateau	599	1,627	612	1,670	613	1,672	599	1,627	613	1,672	474	1,245
West Tavaputs Plateau	266	696	266	696	278	733	266	696	278	733	253	657
Monument Butte-Red Wash	4,003	11,067	4,013	11,099	4,016	11,107	4,003	11,067	4,016	11,107	3,797	10,437
Altamont-Bluebell	121	262	121	262	121	262	121	262	121	262	121	262
Tabiona-Ashley Valley	38	113	39	116	40	116	38	113	40	116	38	112
Manila-Clay Basin	20	50	21	56	21	56	20	50	21	56	20	51
Subtotal	*5,045*	*13,815*	*5,072*	*13,899*	*5,089*	*13,946*	*5,045*	*13,815*	*5,089*	*13,946*	*4,703*	*12,765*
TOTAL		**18,860**		**18,971**		**19,035**		**18,758**		**18,212**		**17,469**

Source: Vernal Draft EIS Calculations 10 August 2004.

4.18.2.6.1. Proposed RMP

Total short-term and long-term impacts from oil and gas surface disturbances to vegetation would be greater under the Proposed RMP than under Alternative D (No Action). Under the Proposed RMP surface disturbance from oil and gas development would be 4% greater than under Alternative D (No Action).

4.18.2.6.2. Alternatives A, B, and C

Total short-term and long-term impacts from oil and gas surface disturbances to vegetation would be greater under Alternatives A, B, and C when compared to Alternative D (No Action) because surface disturbance would be greater (ranging from 3% to 5%) under these alternatives than under Alternative D (No Action).

4.18.2.6.3. Alternative D (No Action)

Total short-term and long-term impacts from oil and gas surface disturbances to vegetation would be about 18,212 acres under Alternative D (No Action).

4.18.2.6.4. ALTERNATIVE E

Under Alternative E the potentially adverse impacts to vegetation caused by oil and gas surface disturbances would be the least of all the alternatives (4% less than Alternative D, No Action) because the acres of impact would be the least.

4.18.2.7. IMPACTS OF NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS DECISIONS ON VEGETATION RESOURCES

Where non-WSA lands with wilderness characteristics would be managed to maintain these characteristics vegetation resources would generally benefit by the elimination or curtailment of surface-disturbing activities such as energy and minerals development, woodland harvest, and OHV use. Where these lands would not be managed to maintain their wilderness values these prescriptions would not apply and vegetation resources would potentially be subject to increased adverse impacts in the form of surface disturbance from these activities.

4.18.2.7.1. PROPOSED RMP

Under the Proposed RMP approximately 106,178 acres of non-WSA lands with wilderness characteristics would be managed to maintain their wilderness values. Management prescriptions would include VRM II; closed to oil and gas leasing; closed to woodland product harvest; right-of-way avoidance; and OHV use limited to designated routes. Vegetation resources located on these lands would benefit from the protection provided under the listed prescriptions. Because of these protective prescriptions the Proposed RMP would be more beneficial to vegetation resources than Alternative D (No Action), because Alternative D (No Action) would not include the aforementioned protective measures.

4.18.2.7.2. ALTERNATIVES A, B, C, AND D (NO ACTION)

Under Alternatives A, B, C, and D (No Action), no non-WSA lands with wilderness characteristics would be managed to maintain their wilderness characteristics. The management prescriptions described for non-WSA lands with wilderness characteristics under the Proposed RMP and Alternative E would not apply and, as a result, vegetation resources in these areas would potentially be subject to adverse impacts from surface-disturbing activities such as energy and mineral development, OHV use, and woodland harvest.

4.18.2.7.3. ALTERNATIVE E

Alternative E would provide the most benefit to vegetation resources by restricting surface disturbance within approximately 277,596 acres of non-WSA lands with wilderness characteristics. The impacts on vegetation resources would be similar to the discussion under Alternative E, Woodlands above.

4.18.2.8. Impacts of Rangeland Improvements Decisions on Vegetation Resources

Habitat enhancement projects include vegetation treatments, fencing, and water developments. Treatments may include mechanical, chemical, biological, and prescribed fire. While these activities produce short-term adverse impacts to vegetation associated with initial treatment or construction surface disturbance, long-term benefits to vegetation would also occur. Restoring natural vegetation communities, eliminating weeds, and fencing areas to control animal movement would enhance the vegetation resource and help achieve the desired mix of seral stages (see Chapter 2). However, additional guzzlers and pipelines would not enhance vegetation in the long-term. Table 4.18.5 provides information on rangeland improvements for the Proposed RMP and each of the alternatives.

Table 4.18.5. Comparison of Rangeland Improvements for the Proposed RMP and Ea Alternative

Alternative / Proposed RMP	Treatment acres (+/- impacted compared to Alternative D, No Action)	Fencing miles (acres disturbed)	Guzzlers/reservoirs (acres disturbed)	Pipeline miles
Proposed RMP	34,640 (- 5,750)	68.5 (34)	812	37.5
A	34,640 (- 5,750)	68.5 (34)	812	37.5
B	50,900 (+10,510)	368.5 (184)	1,165	51
C	45,860 (+5,470)	129.0 (65)	811	29.5
D	40,390	65.0 (33)	775	35
E	45,860 (+5,470)	129.0 (65)	811	29.5

4.18.2.8.1. Proposed RMP and Alternative A

The Proposed RMP and Alternative A would result in fewer short-term impacts associated with vegetation treatments compared to Alternative D (No Action), but the long-term benefits would also be less. Potentially adverse impacts associated with fencing and pipeline projects would be similar to Alternative D (No Action), but new guzzlers and reservoirs would result in greater long-term adverse impacts to vegetation compared to Alternative D (No Action).

4.18.2.8.2. Alternative B

All rangeland improvements under Alternative B would result in greater short-term impacts to vegetation, but vegetation treatments and fencing would have beneficial impacts on vegetation in the long-term when compared to Alternative D (No Action).

4.18.2.8.3. Alternatives C and E

Management decisions for vegetation treatments, fencing, and guzzlers/reservoirs would be the same for Alternatives C and E, and would result in greater short-term impacts to vegetation compared to Alternative D (No Action). On the other hand, short-term impacts associated with

new pipelines would be slightly less under Alternatives C and E than under Alternative D (No Action).

4.18.2.8.4. ALTERNATIVE D (NO ACTION)

Rangeland improvements that include vegetation treatments and fencing would have short-term adverse impacts on vegetation caused by construction, but would have long-term beneficial impacts on vegetation by improving the distribution of grazing animals, restoring natural vegetation communities, and eliminating weeds. Guzzlers and reservoir development would tend to have long-term adverse impacts on vegetation by concentrating livestock and attracting wildlife and wild horses in those areas, with subsequent disturbance and degradation of vegetation communities.

4.18.2.9. IMPACTS OF RECREATION DECISIONS ON VEGETATION RESOURCES

The alternative recreation management decisions focus primarily on whether to designate areas as SRMAs. In providing for focused management of recreation activities, in general SRMAs would benefit the vegetation resource by reducing or limiting surface-disturbance related to recreation. However, long-term adverse impacts would still occur with increases in access and visitors. As more people recreate in an area, trampling of the vegetation would occur and the chance for invasive, noxious weed introduction would increase.

4.18.2.9.1. PROPOSED RMP

Under the Proposed RMP, Pelican Lake (1,014 acres), Red Mountain – Dry Fork (24,259 acres), Blue Mountain (42,729 acres), Browns Park (18,490 acres), Fantasy Canyon (69 acres), Nine Mile Canyon (44,168 acres), and a portion of the White River (2,831 acres) would be managed as SRMAs (133,560 total acres). Management actions within each SRMA would vary but in general recreational activities would be allowed and managed in designated areas. By focusing management activities on specified areas and/or uses managed recreational use as in SRMAs would reduce impacts to vegetation compared to dispersed recreational use with limited management. Under the Proposed RMP the total acreage of land (133,592 acres) managed as SRMAs would be about 113% greater than that under Alternative D (No Action) (62,655 total acres managed as SRMAs). This would reduce the potential for impacts to vegetation when compared to Alternative D (No Action).

The Proposed RMP would develop up to 400 miles of non-motorized trails, disturbing/removing approximately 150 acres of vegetation (assuming an average 3-foot trail width along 400 miles). Short-term impacts would consist of vegetation loss and noxious weed invasion of disturbed areas. This activity would disturb approximately 130 more acres than Alternative D (No Action), adversely impacting a greater amount of vegetation. This alternative would also develop, improve, and/or sign up to 800 miles of motorized trails. Assuming an average motorized trail width of 6 feet, approximately 580 acres would potentially be disturbed or removed by this action, with impacts to vegetation similar to those described for non-motorized trails. No similar action would occur under Alternative D (No Action) thus impacts from the improvement,

development, and/or signage of motorized routes would be greater under the Proposed RMP than under Alternative D (No Action).

The Proposed RMP would eliminate OHV use off designated routes for big game retrieval. This activity is unspecified in Alternative D (No Action); therefore, the Proposed RMP would result in less OHV-related adverse impacts to vegetation.

The Proposed RMP would assess the placement of additional cabins for permitted/administrative use at or near the existing Chipeta, Trujillo, Moonshine, Rat Hole, and Wolf Den cabins and at Westwater Point, Dick Canyon, and other locations. Short-term impacts to vegetation would occur as new cabins were constructed. Long-term impacts would include increased potential for noxious weed invasions in disturbed areas and the loss of vegetation equal to the size of the cabin footprint. Adverse impacts to vegetation would be greater than what would occur under Alternative D (No Action) because no similar management action is proposed under Alternative D (No Action).

4.18.2.9.2. ALTERNATIVE A

Under Alternative A, Pelican Lake (1,020 acres), Red Mountain – Dry Fork (24,285 acres), Blue Mountain (42,758 acres), Browns Park (52,720 acres), Nine Mile Canyon (81,168 acres), and a portion of the White River (24,183 acres) would be managed as SRMAs (499,588 total acres). Management actions within each SRMA would vary but in general recreational activities would be allowed and managed in designated areas. By focusing management activities on specified areas and/or uses managed recreational use as in SRMAs would reduce impacts to vegetation compared to dispersed recreational use with limited management. Under Alternative A the total acreage of land (499,588 acres) managed as SRMAs would be about seven times greater than that under Alternative D (No Action). This would reduce the potential for impacts to vegetation when compared to Alternative D (No Action).

Alternative A would develop up to 400 miles of non-motorized trails, disturbing/removing approximately 150 acres of vegetation (assuming an average 3-foot trail width along 400 miles). Short-term impacts would consist of vegetation loss and noxious weed invasion of disturbed areas. This activity would disturb approximately 130 more acres than Alternative D (No Action), adversely impacting a greater amount of vegetation. This alternative would also develop, improve, and/or sign up to 800 miles of motorized trails. Assuming an average motorized trail width of 6 feet, approximately 580 acres would potentially be disturbed or removed by this action, with impacts to vegetation similar to those described for non-motorized trails. No similar action would occur under Alternative D (No Action) thus impacts from the improvement, development, and/or signage of motorized routes would be greater under Alternative A than under Alternative D (No Action).

Alternative A would eliminate OHV use off designated routes for big game retrieval. This activity is unspecified in Alternative D (No Action); therefore, Alternative A would result in less OHV-related adverse impacts to vegetation.

Alternative A would assess the placement of additional cabins for permitted/administrative use at or near the existing Chipeta, Trujillo, Moonshine, Rat Hole, and Wolf Den cabins and at Westwater Point, Dick Canyon, and other locations. Short-term impacts to vegetation would occur as new cabins were constructed. Long-term impacts would include increased potential for noxious weed invasions in disturbed areas and the loss of vegetation equal to the size of the cabin footprint. Adverse impacts to vegetation would be greater than what would occur under Alternative D (No Action) because no similar management action is proposed under Alternative D (No Action).

4.18.2.9.3. ALTERNATIVE B

Under Alternative B, Pelican Lake (1,020 acres), Red Mountain – Dry Fork (24,285 acres), Browns Park (17,000 acres), and Nine Mile Canyon (44,181 acres) would be managed as SRMAs (86,454 total acres). The specific locations and acreage of lands managed as SRMAs under Alternative B would be the same as under Alternative D (No Action).

Alternative B would improve, develop, and/or sign up to 800 miles of motorized trails, potentially impacting approximately 580 acres. These management actions are the same as the Proposed RMP and Alternative A and would result in the same impacts as described under those alternatives.

Alternative B would allow OHV use for big game retrieval for a 24-hour period following the punching of a tag. Impacts would likely be short-term related to big game retrievals occurring during the established hunting season. However, long-term impacts could occur if the paths become frequently used, resulting in new recreational travel corridors. This activity is unspecified in Alternative D (No Action); therefore, Alternative B would result in less OHV-related adverse impacts to vegetation.

With respect to the placement of additional cabins for permitted/administrative use on certain lands Alternative B would be the same as the Proposed RMP and Alternative A. The impacts of Alternative B, therefore, would be the same as the Proposed RMP and Alternative A compared to Alternative D (No Action).

4.18.2.9.4. ALTERNATIVE C

Under Alternative C, Pelican Lake (1,020 acres), Red Mountain – Dry Fork (24,285 acres), Blue Mountain (42,758 acres), the Book Cliffs (273,486 acres), Browns Park (52,720 acres), Fantasy Canyon (69 acres), Nine Mile Canyon (81,168 acres), and a portion of the White River (47,130 acres) would be managed as SRMAs (522,604 total acres). Because Alternative C would manage almost six times more land as SRMAs compared to Alternative D (No Action), it would reduce the potential for adverse impacts to vegetation compared to Alternative D (No Action).

Miles of hiking, horseback riding, and mechanized (non-motorized) trails and limitations for OHV use off of designated routes for big game retrieval would be the same under Alternative C as under Alternative A resulting in the same impacts compared to Alternative D (No Action). On

the other hand, up to 800 miles of motorized routes would not be improved and/or developed under this alternative.

Alternative C would not allow new cabin construction in the Book Cliffs. Alternative D (No Action) does not specify this activity; therefore, the impacts to vegetation would be the same as under Alternative D (No Action).

4.18.2.9.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), Pelican Lake (1,020 acres), Red Mountain – Dry Fork (24,285 acres), Browns Park (17,000 acres), and Nine Mile Canyon (44,181 acres) would be managed as SRMAs (86,454 total acres). Impacts would be the same as described in Alternative B.

This alternative would develop 55 miles of non-motorized hiking and/or horseback riding trails, resulting in adverse impacts to approximately 20 acres of vegetation from removal/surface disturbances (assuming an average 3-foot trail width). Further, approximately 2 miles of mountain bicycle trails would be established using existing rural roads and trails along with developing a non-motorized trail along Sears Canyon.

Alternative D (No Action) would not specify new cabin construction in the Book Cliffs or elsewhere; therefore, the impacts are not analyzed.

4.18.2.9.6. ALTERNATIVE E

Alternative E would be similar to Alternative C, except that protecting non-WSA lands with wilderness characteristics within the proposed SRMAs under this alternative would require managing some areas (approximately 157,018 acres) under VRM I class objectives, closing these areas to cross-country OHV use, and managing for primitive, non-mechanized recreational opportunities in order to protect their wilderness values. This would have long-term, beneficial impacts on vegetation by reducing the likelihood of recreation-related surface disturbances in the non-WSA wilderness characteristics areas. Compared to Alternative D (No Action), this alternative would have more beneficial impacts on vegetation because more protection would be afforded the resource.

Prescriptions related to trail maintenance and development under Alternative E would also be similar to Alternative C, except that trail uses would be limited to primitive, non-mechanized forms of recreation to protect wilderness values and up to 800 miles of motorized routes would be signed, improved, and/or developed (as under the Proposed RMP and Alternatives A and B). Impacts related to trail signage, maintenance, and/or development would be similar between Alternatives E and A compared to Alternative D (No Action), though Alternative E would result in more beneficial impacts to vegetation because mechanized forms of recreation would not be allowed in non-WSAs with wilderness characteristics under this alternative. Under Alternative E, impacts related to the signage, maintenance, and/or development of 800 miles of motorized routes would be the same as the Proposed RMP and Alternatives A and B as compared to Alternative D (No Action).

4.18.2.10. Impacts of Soils and Watersheds Decisions on Vegetation Resources

4.18.2.10.1. Proposed RMP and Alternatives A, B, C, D (No Action), and E

Decisions to reduce soil erosion would benefit vegetation by ensuring that adequate soil substrate exists for continued plant growth. The Proposed RMP and Alternatives A and B would require erosion control strategies and design for slopes greater than 20 percent. Alternatives C and E would not allow any surface-disturbing activities on slopes greater than 40 percent. Thus, the adverse impacts to vegetation under these alternatives would be less than Alternative D (No Action), which only precludes mineral development on slopes greater than 4%.

4.18.2.11. Impacts of Special Designations on Vegetation Resources

Areas of Critical Environmental Concern (ACEC) are intended to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; other natural systems or processes; or to protect life and safety from natural hazards. While management prescriptions may vary between ACECs an ACEC designation for a particular area generally results in enhanced protection from surface disturbance for that area. ACECs, therefore, have beneficial impacts for vegetation resources by eliminating or reducing surface disturbance in the area proposed for ACEC designation. In general, the greater the acreage designated as ACEC the greater the beneficial impacts for vegetation. Other special designations are Wild and Scenic Rivers and WSAs. The impacts of Wild and Scenic Rivers decisions are discussed in the following section. WSAs generally have beneficial impacts to vegetation resources by reducing surface disturbance within their boundaries. The impacts of WSAs are not discussed for the Proposed RMP and alternatives because their acreage would not vary.

4.18.2.11.1. Proposed RMP

Under the Proposed RMP, Browns Park (18,490 acres), Lower Green River Corridor (8,470 acres), Nine Mile Canyon (44,168 acres), the Red Mountain – Dry Fork Complex (24,285 acres), Pariette Wetlands (10,437 acres), Red Creek Watershed (24,475 acres), and Lears Canyon (1,375 acres) would be designated as ACECs (131,700 total acres). The benefits of ACEC designation, as described above, to vegetation resources would be decreased under the Proposed RMP compared to Alternative D (No Action). The Proposed RMP would designate 20% less area as ACECs than Alternative D (No Action) (165,944 acres).

4.18.2.11.2. Alternatives A

Under Alternative A, Bitter Creek (68,834 acres), Browns Park (52,721 acres), Coyote Basin (87,743 acres), Lower Green River Corridor and Lower Green River Expansion (10,170 acres), Nine Mile Canyon (48,000 acres), the Red Mountain – Dry Fork Complex (24,285 acres), the White River (17,810 acres), Pariette Wetlands (10,437 acres), Red Creek Watershed (24,475 acres), and Lears Canyon (1,375 acres) would be designated as ACECs (345,850 total acres). The benefits of ACEC designation, as described above, to vegetation resources would be increased under Alternative A compared to Alternative D (No Action). Alternative A would designate 108% more area as ACECs than Alternative D (No Action) (165,944 acres).

4.18.2.11.3. ALTERNATIVE B

Under Alternative B, Browns Park (18,474 acres), Coyote Basin (47,659 acres), the Lower Green River (8,470 acres), Nine Mile Canyon (44,181 acres), the Red Mountain – Dry Fork Complex (24,285 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (179,356 total acres). The total acreage of ACECs under Alternative B would be about 8% greater than under Alternative D (No Action) resulting in more beneficial impacts to vegetation than Alternative D (No Action).

4.18.2.11.4. ALTERNATIVE C

Under Alternative C, Bitter Creek (147,425 acres), Browns Park (18,474 acres), Coyote Basin (124,161 acres), Four Mile Wash (50,280 acres), Lower Green River (10,170 acres), Main Canyon (100,915 acres), Middle Green River (6,768 acres), Nine Mile Canyon (81,168 acres), the Red Mountain – Dry Fork Complex (24,285 acres), the White River (47,130 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (647,063 total acres). The total acreage of ACECs under Alternative C would be about four times greater than under Alternative D (No Action) resulting in more beneficial impacts to vegetation than Alternative D (No Action).

4.18.2.11.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), Browns Park (52,721 acres), Lower Green River (8,407 acres), Nine Mile Canyon (44,181 acres), the Red Mountain – Dry Fork Complex (24,285 acres), Lears Canyon (1,375 acres), Red Creek Watershed (24,475 acres), and the Pariette Wetlands (10,437 acres) would be designated as ACECs (165,944 total acres).

4.18.2.11.6. ALTERNATIVE E

The impacts of special designation decisions on vegetation would be the same as discussed above for Alternative C because the management actions are the same, except that Alternative E would manage the non-WSA areas with wilderness characteristics for the protection of their wilderness values. Under this alternative, approximately 197,171 acres within the proposed ACECs would be managed under VRM I objectives, closed to mineral leasing and mineral materials disposal, excluded from ROW consideration, closed to commercial and private woodcutting, and closed to cross-country OHV travel. These management decisions would have long-term, beneficial impacts on vegetation by either reducing or prohibiting surface disturbances within the non-WSA wilderness characteristics areas; indirectly reducing the likelihood for noxious or invasive species establishment; reducing potential soil disturbances that could affect plant communities; and maintaining the vegetation productivity within the protected areas. This alternative would have more beneficial impacts on vegetation resources than all other alternatives because it would manage the resource with more protective prescriptions.

4.18.2.12. Impacts of Wild and Scenic Rivers Decisions on Vegetation Resources

When areas are identified as suitable for Wild and Scenic River designation they are generally afforded greater protection from surface disturbance to preserve their wild, scenic, and/or recreational values. Greater protection from surface disturbance results in long-term beneficial impacts to vegetation resources be reducing or eliminating activities that would result in direct vegetation loss, trampling, and other impacts that would be adverse to vegetation. During the planning process portions of Argyle Creek, Bitter Creek, Evacuation Creek, the Upper, Lower and Middle Green River, Nine Mile Creek, and the White River were considered for Wild and Scenic River designation under the Proposed RMP and different alternatives.

4.18.2.12.1. Proposed RMP and Alternatives A and B

Under the Proposed RMP and Alternatives A and B the Upper Green River segment and Lower Green River segment would continue to be recommended as suitable for Wild and Scenic River designation. However, under the Proposed RMP and Alternatives A and B, none of the Argyle Creek, Bitter Creek, Evacuation Creek, Middle Green River, and Nine Mile Creek river segments considered for Wild and Scenic River designation were identified as suitable under any category (Wild, Scenic, or Recreational). The segments of the White River considered for recommendation to the Wild and Scenic River system would not be identified as suitable for designation under the Proposed RMP and Alternative B but would be considered suitable under Alternative A. Though Alternative D (No Action) would also not identify any segments of the aforementioned rivers as suitable for Wild and Scenic River designation it would manage portions of Bitter Creek, Evacuation Creek, and the White River to protect the free flowing nature, outstandingly remarkable values, and tentative classification of the river. As a result, Alternative D (No Action) would have more beneficial impacts for vegetation than the Proposed RMP and Alternatives A and B.

4.18.2.12.2. Alternatives C and E

Under Alternatives C and E all segments of the aforementioned rivers would be considered suitable for Wild and Scenic River designation. This would result in reduced surface disturbance and adverse impacts to vegetation along approximately 164 miles of river in the VPA. Long-term beneficial impacts to riparian vegetation would be greater under Alternatives C and E compared to Alternative D (No Action) due to the greater river mileage considered suitable for Wild and Scenic River designation. These alternatives would continue to recommend the Upper and Lower Green River segments along with the White River, Nine Mile Creek, the Middle Green River, Evacuation Creek, Bitter Creek, and Argyle Creek as suitable for designation into the Wild and Scenic River System. These management actions would have greater beneficial impacts on riparian vegetation than any of the other alternatives.

4.18.2.12.3. Alternatives D (No Action)

This alternative would continue to recommend the Upper Green River segment and Lower Green River segment as suitable for Wild and Scenic River designation, but would not identify any other river segments within the VPA as suitable. However, segments of Bitter Creek, Evacuation

Creek, and the White River would be considered eligible for Wild and Scenic River designation and would be managed to protect the free flowing nature, outstandingly remarkable values, and tentative classification of the rivers.

4.18.2.13. Impacts of Travel Decisions on Vegetation Resources

Road closures would tend to benefit vegetation by restricting access, reducing the chance of impacts to vegetation, such as trampling and noxious weed invasions. Prohibiting motorized access into an area would also prevent the development of undesignated access/spur roads and trails.

4.18.2.13.1. Proposed RMP and Alternatives A, B, C

The Proposed RMP and Alternatives A and C would remove existing trails and roads and return habitat to its original condition when they no longer serve their permitted purpose or public interest, allowing for vegetation growth and reducing the potential for indirect adverse effects associated with allowed access. Long-term benefits to vegetation would include increases in diverse vegetation communities and a reduction in disturbed areas suitable for noxious weed growth. Alternatives A and C would have more beneficial impacts as compared to Alternative D (No Action), as road and trail maintenance (except for OHV trails) or removal are unspecified under Alternative D (No Action).

Alternative B would not obliterate roads. Potential impacts associated with open roads under Alternative B would be the same as Alternative D (No Action), which does not specify for road obliteration.

The Proposed RMP and Alternatives A, B, and C would repair, maintain, or upgrade existing trails and roads in poor condition. This would increase the chance of noxious weed invasion in areas where repair, maintenance and/or upgrading occurs. On the other hand, Alternative D (No Action) does not specify road and trail improvements.

The Proposed RMP and Alternatives A, B, and C would also include less area open to OHV travel as compared to Alternative D (No Action), thus; impacts to vegetation overall would be less (Proposed RMP and A: 6,202 acres; B: 5,434; C: 5,434 acres open, compared to 787,859 acres under Alternative D, No Action). Impacts associated with OHV travel include damage to and loss of vegetation, and the spread of noxious weed seeds.

The number of acres that would be closed to OHV travel varies under each action alternative and the Proposed RMP, but would be more than what would occur under Alternative D (No Action), which would close 50,388 acres. Thus, adverse impacts to vegetation would be less under the action alternatives than under Alternative D (No Action). Alternative C would close the second greatest number of acres (366,559 acres), with the Proposed RMP and Alternative A closing 75,845 acres, and Alternative B closing 60,187 acres.

4.18.2.13.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would allow 787,859 acres to remain open for unlimited OHV use. Approximately 887,275 acres would be designated as Limited for OHV travel, while 50,388 acres would be closed to OHV use.

The management of newly permitted roads and trails, once their purposes have been served, are unspecified under this alternative. Also, the management of roads and trails that would cause resource damage remains unspecified under this alternative.

4.18.2.13.3. ALTERNATIVE E

The impacts of travel decisions on vegetation would be the similar to the discussion under Alternative C above because the decisions are the same for acres of Open, Limited, and Closed OHV use. Under this alternative, approximately 57 miles of travel routes would be closed to travel in order to protect wilderness values within non-WSA areas with wilderness characteristics. The impacts of these travel route closures would be negligible, as there would be no reduction of or additional surface disturbances to vegetation resources along these previously disturbed routes.

4.18.2.14. IMPACTS OF VISUALS DECISIONS ON VEGETATION RESOURCES

Visual resource management (VRM) decisions would have impacts on vegetation resources under all of the alternatives and the Proposed RMP. Visual Resource Management Classes I and II would provide the highest level of visual resource protection, with direct, short-term and long-term, protection and preservation-related impacts on vegetation resources; VRM III and VRM IV would be less protective, allowing more surface-disturbing impacts, and therefore more impacts to vegetation resources, than VRM I and II.

4.18.2.14.1. PROPOSED RMP

Under the Proposed RMP, 289,687 acres of land within the VPA would be managed as VRM Class I and II. Under this alternative 1,430,253 acres would be managed as VRM Class III and IV. The Proposed RMP would manage approximately 74% more land as VRM Class I and II than Alternative D (No Action). Lands managed as VRM Class III and IV would be reduced by 8% compared to Alternative D (No Action). Due to the greater acreage of land managed as VRM Class I and II under the Proposed RMP it would have more beneficial impacts to vegetation resources than Alternative D (No Action).

4.18.2.14.2. ALTERNATIVES A

Under Alternative A, 513,644 acres of land within the VPA would be managed as VRM Class I and II. Under this alternative 1,960,356 acres would be managed as VRM Class III and IV. Alternative A would manage approximately 208% more land as VRM Class I and II than Alternative D (No Action). Lands managed as VRM Class III and IV would be increased by 26% compared to Alternative D (No Action). Due to the greater acreage of land managed as VRM

Class I and II under Alternative A it would have more beneficial impacts to vegetation resources than Alternative D (No Action).

4.18.2.14.3. ALTERNATIVE B

Under Alternative B, 166,794 acres of land within the VPA would be managed as VRM Class I and II. Under this alternative 1,553,146 acres would be managed as VRM Class III and IV. Due to the fact that the acreage managed under the different VRM classifications varies by less than 1% between Alternatives B and D the impacts would be nearly the same between these alternatives.

4.18.2.14.4. ALTERNATIVE C

Under Alternative C, 508,441 acres of land within the VPA would be managed as VRM Class I and II. Under this alternative 1,211,499 acres would be managed as VRM Class III and IV. Alternative C would manage over 200% more land as VRM Class I and II than Alternative D (No Action). Lands managed as VRM Class III and IV would be reduced by 22% compared to Alternative D (No Action). Due to the greater acreage of land managed as VRM Class I and II under Alternative C it would have more beneficial impacts to vegetation resources than Alternative D (No Action).

4.18.2.14.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), 166,772 acres of land within the VPA would be managed as VRM Class I and II. The total acreage of land managed as VRM Class III and IV under this alternative would be approximately 1,553,168 acres. Impacts to vegetation resources would be the same as those discussed at the beginning of this section.

4.18.2.14.6. ALTERNATIVE E

Under Alternative E, 595, 980 acres of land within the VPA would be managed as VRM Class I and II. Under this alternative 1,126,563 acres would be managed as VRM Class III and IV. Alternative E would manage over 250% more land as VRM Class I and II than Alternative D (No Action). Lands managed as VRM Class III and IV would be reduced by approximately 27% compared to Alternative D (No Action). Due to the greater acreage of land managed as VRM Class I and II under Alternative C it would have more beneficial impacts to vegetation resources than any other alternative.

4.18.2.15. IMPACTS OF WILD HORSES DECISIONS ON VEGETATION RESOURCES

Decisions for wild horse management would involve eliminating, maintaining, or re-establishing herds. Amounts of forage allocated for horses would be altered depending on the wild horse management decisions. Where wild horse herds are maintained or re-established direct, adverse impacts to vegetation from trampling, fencing, and grazing would result. Where wild horses are eliminated vegetation would benefit from a reduction in these impacts.

4.18.2.15.1. PROPOSED RMP AND ALTERNATIVE B

Under the Proposed RMP and Alternative B, wild horses would be gathered and removed from the planning area. Forage would be allocated for wild horses until they are removed. The Proposed RMP and Alternative B would be more beneficial to vegetation resources than Alternative D (No Action) because wild horses would be removed and impacts related to trampling, fencing, and grazing would be eliminated.

4.18.2.15.2. ALTERNATIVES A, C, D (NO ACTION), AND E

Decisions for wild horse management under Alternatives A, C, D (No Action), and E would involve re-establishing herds and altering amounts of forage allocated for horses. Impacts would be the same as those described above. Adverse impacts to vegetation would be greater under these three alternatives than under Alternatives A and B because wild horses would remain.

4.18.2.16. IMPACTS OF WILDLIFE DECISIONS ON VEGETATION RESOURCES

4.18.2.16.1. PROPOSED RMP AND ALTERNATIVES A, B, C, D (NO ACTION), AND E

Seasonal restrictions and limitations on surface-disturbing activities for the protection of wildlife would indirectly benefit vegetation. The Proposed RMP and Alternatives A, B, and C would provide slightly more protection than Alternative D (No Action), as Alternative D (No Action) would only restrict minerals activities. The Proposed RMP and Alternatives A, B, C and E would stipulate limits on the amount of surface disturbance (10% of crucial deer habitat for the Proposed RMP, up to 560 acres of new surface disturbance per township under Alternatives A and B; and up to 560 acres of total surface disturbance per township for Alternatives C and E), further reducing the direct adverse impacts to vegetation when compared to Alternative D (No Action), under which new surface disturbances remain unspecified.

Sagebrush habitat reclamation or enhancement (at a ratio of 3:1) within crucial deer winter range under Alternatives C and E would benefit this vegetation type, when compared to Alternative D (No Action, under which sagebrush habitat reclamation remains unspecified). Vegetation treatments in sagebrush communities would beneficially impact the development of the desired seral stages. The Proposed RMP would approach compensatory mitigation on an as appropriate basis where it can be performed on-site, and on a voluntary basis where it is performed offsite, or, in accordance with current management. Alternatives A and B would also reclaim disturbed sagebrush habitat areas, but at a lower ratio (1.5:1 and 1:1, respectively) than Alternatives C and E and would therefore produce fewer beneficial impacts to the vegetation than Alternatives C and E, but more than Alternative D (No Action).

4.18.2.17. IMPACTS OF WOODLAND DECISIONS ON VEGETATION RESOURCES

4.18.2.17.1. PROPOSED RMP

Under the Proposed RMP, up to 546,152 acres of forest and woodlands would be harvested or have vegetation treatments applied to reduce the risks of wildland fire. All other components of

woodland decisions under the Proposed RMP are the same as Alternative A below except that there would be special management actions for the old growth pinyon areas found in Bitter Creek to reduce impacts to this vegetation community. Special management actions for old growth pinyon areas in Bitter Creek are not specified under Alternative D (No Action).

4.18.2.17.2. ALTERNATIVE A

Under Alternative A, up to 552,152 acres of forest and woodlands would be harvested or have vegetation treatments applied to reduce the risks of wildland fire. Forest and woodlands would be managed to maintain and restore biodiversity and reduce the occurrences of insect infestations, fire, and disease to levels normally expected in healthy forest and woodlands. Relict stands would be maintained for biological and genetic diversity. These management actions would have long-term direct and indirect protection-related beneficial impacts on vegetation resources by reducing the risks of wildland fire, and reducing the damage caused by insects and disease. Other beneficial impacts are described under Section 4.18.1 Impacts Common to the Proposed RMP and All Alternatives. When compared to Alternative D (No Action), Alternative A would have more beneficial impacts on vegetation.

Woodland harvesting and associated access road and trail construction disturbances, and subsequent soil erosion would have direct and indirect, long-term adverse impacts on vegetation by increasing soil erosion rates and increasing the potential for noxious weed establishment. Applying best management practices to reclaim obsolete access roads and trails created for woodland harvesting, and reducing soil erosion caused by woodland harvesting would reduce adverse impacts to vegetation resources (and to vegetation productivity) to the short-term.

4.18.2.17.3. ALTERNATIVE B

Management actions under Alternative B would allow the harvesting of forest and woodlands before and after vegetation treatments to achieve desired future conditions. Up to 554,108 acres would be open to harvesting or vegetation treatments, and public harvesting would be allowed to achieve the greatest output of woodland and forest products. Similar to Alternative A, management actions would allow salvaging of dead, dying, diseased trees with the intent of promoting healthy forest and woodlands. These management actions would have long-term beneficial impacts on vegetation resources, when compared to Alternative D (No Action, which does not specify management actions for forest and woodlands), by reducing fuel loading and reducing the risks of wildland fire. The adverse impacts would be similar to those described under Alternative A.

4.18.2.17.4. ALTERNATIVE C

This alternative would allow harvesting or treatments on 552,152 acres (the same as Alternative A), with impacts similar to those described under Alternative A. Compared to Alternative D (No Action), Alternative C would have more beneficial impacts on vegetation resources. The indirect impacts of soil erosion and sedimentation would be less under Alternative C because of the greater restrictions on woodlands and forest species salvage, and thus less surface disturbance would be caused by this activity under Alternative C than under Alternative D (No Action).

4.18.2.17.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would allow up to 88,200 acres of forest and 200,100 acres of woodlands to be harvested or have vegetation treatments, which would have beneficial impacts on vegetation resources by reducing fuel loads and by reducing the risks of wildland fire. Adverse impacts would be similar to those described under Alternative A.

4.18.2.17.6. ALTERNATIVE E

This alternative would have woodland harvesting and treatments impacts similar to those described under Alternative A, except that approximately 131,809 acres of woodlands within the 277,596 acres of non-WSA lands with wilderness characteristics would be managed to prohibit woodland harvesting and salvage in order to protect non-WSA lands with wilderness characteristics values. Under this alternative, these non-WSA areas would be managed as closed to private and commercial harvesting and seed collection, closed to cross-country OHV access, closed to road construction, and managed under VRM I objectives. The impacts of these decisions on woodland vegetation would be beneficial in the long term from preservation and maintenance of woodland vegetation communities, reduced direct and indirect impacts to soils, and a reduced potential for noxious or invasive species establishment from surface disturbances; however, there would be long term, adverse impacts to vegetation from prohibitions on treatments to reduce fuel loading, which would maintain the risks of wildland fire and the subsequent exposure of burned areas to noxious and invasive species establishment. Compared to Alternative D (No Action), this alternative would have more beneficial impacts on vegetation because of the more protective decisions to preserve wilderness values that include vegetation.

4.18.2.18. SUMMARY

In general, the impacts from surface disturbance are directly related to vegetation impacts, therefore the alternatives with greater surface disturbances would have the highest impacts to vegetation resources. The greatest surface disturbance from oil and gas leasing (which includes CBNG) would be due to Alternative B, followed by Alternative A, the Proposed RMP, and Alternatives C, D and E, respectively.

Off highway vehicle use would be generally unrestricted under Alternative D (No Action), therefore direct adverse impacts would be greatest under this alternative, followed by the Proposed RMP and Alternative A, and Alternatives B, C, and E, respectively.

4.18.3. MITIGATION MEASURES

Mitigation measures for vegetation resources would include:

1) seeding with native seed where surface disturbance occurs to limit the spread of noxious weeds. Treatments of weed infestations with chemical and mechanical means would be done as well;

2) reclamation of obsolete roads and trails to reduce soil erosion and subsequent loss of vegetation productivity.

4.18.4. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts would occur to vegetation resources from road building, minerals development, and the construction of recreational facilities and trails.

4.18.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Construction of roads and well pads with mineral development would provide short-term mineral use that could result in long-term degradation of vegetation resources. Areas converted to developed sites would lose the original vegetation and soil while being used for other resource purposes. Roads provide a pathway for invasive plant species to infest more remote areas, and improper rehabilitation and re-vegetation of well pads would also provide a route for invasive species area to spread.

4.18.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

There could be irreversible and irretrievable impacts to vegetation resources in areas where invasive species are allowed to proliferate. Irreversible impacts would include loss of vegetative cover, reduced productivity, and weed infestation as a result of surface-disturbing activities such as mineral development. Provided continued management and mitigation measures these impacts would not likely be permanent. However, invasive species, particularly cheatgrass, once established are difficult to remove (populations can be controlled but complete eradication is unlikely), thereby causing an irretrievable impact in terms of loss of productive vegetation resources free of weeds (a permanently altered vegetation community). Other irretrievable impacts to vegetation resources would occur where land is cleared and permanent structures are built.

4.19. VISUAL RESOURCES

All of the alternatives would impact visual resources to varying degrees. Generally, the greater the degree of surface disturbance, the greater the impact would be to scenic quality. Abandoned mine lands, fire, minerals development, trail maintenance and construction (both non-motorized and motorized), special designation areas, recreation, grazing, visual resources, and woodland-forest management would introduce new visual elements into the landscape, altering the line, form, color, and texture that characterize the existing landscape. These visible, surface-disturbing impacts, measured as line, form, color, or texture contrasts with the natural environment, would impact scenic quality.

In assessing the degree of surface-disturbing impacts on scenic quality, viewer perception (measured as viewing distance), viewer sensitivity to impacts, and Visual Resource Management (VRM) Class objectives are also considered. Areas with lower scenic value (managed as VRM Class III and VRM Class IV) are allowed a wider range of impacts on visual resources than areas with higher scenic value (VRM Class I and VRM Class II).

All surface-disturbing activities, regardless of alternative or management action, would be subject to the VRM Class objectives of the area within which the activity takes place. The visual resource contrast rating system is used as a guide to analyze the potential site-specific impacts of surface disturbance as well as facility design and placement. Surface-disturbing activities and facilities would then be designed to mitigate their visual impacts and conform to the area's assigned VRM Class objective. See Figures 39–44 for depictions of the proposed designation of VRM Classes within the VPA for each alternative.

4.19.1. IMPACTS COMMON TO ALL ALTERNATIVES

4.19.1.1. ABANDONED MINE LANDS

Under the Proposed RMP and all alternatives, the AML safety program priority would be to clean up and address AML physical safety/hazard concerns in proximity to developed recreation sites and areas with high visitor use. The reclamation of abandoned mine sites within the VPA would have an impact on scenic quality. Capping and/or removing tailings piles and mine wastes; and removing and disposing of mining and milling equipment, mining debris, and hazardous wastes would directly and indirectly enhance scenic quality. Beneficial impacts would be produced through site reclamation that would likely modify these sites (by reducing surface disturbance visual contrasts) to be more compatible with or similar to the surrounding landscape.

4.19.1.2. FIRE MANAGEMENT

Fire management decisions, including use of prescribed fire, vegetation treatment, and fire suppression, would impact visual quality under the Proposed RMP and all of the alternatives. Mechanical and/or chemical treatments, prescribed burning, and seeding treatments would have direct and indirect effects on the existing visual characteristics of the landscape. Prescribed burning impacts on visual quality would tend to be adverse in the short term and beneficial in the

long term. Burning and/or chemically and mechanically removing vegetation and then seeding would produce direct impacts that alter the color and the textural, formal, and linear attributes of the existing landscape. Indirect impacts to the color, line, form, and texture of the landscape would be produced by fences or barriers used to exclude livestock from the treated areas.

The impacts of fire suppression on visual resources, for the Proposed RMP and all of the alternatives, would also vary depending upon the methods used for suppression. The application of fire retardant to the landscape would produce minor, short-term, adverse visual contrasts because of its bright color, but this effect would dissipate relatively quickly. Access to burned areas and areas in the vicinity of dozer lines and firebreaks would be restricted in the short term, but limiting this access would have minor, beneficial effects in the long term by reducing further impacts. Fire suppression-related construction of firelines, firebreaks, dozer lines, and access roads for fire crews and equipment would produce both short-term and long-term beneficial and adverse impacts on visual resources. Beneficial impacts on visual resources would be produced by the preservation of vegetation not intended for fire treatment. Adverse impacts would be the potentially strong linear, color, texture, and form contrasts produced by the construction of highly disturbed strips of land denuded of vegetation for firebreaks, firelines, and temporary access roads. If not effectively rehabilitated, these fire-suppression features could remain as long-term visual impacts.

Long-term beneficial impacts to visual resources from fire management would be produced by: 1) the reduction in the potential for catastrophic, stand-destroying wildland fires; 2) the recreation of historic fire regimes; 3) increased biodiversity, with a reduction in diseased, stressed, and infested trees; and 4) the creation of a visual mosaic of vegetation that would tend to improve scenic quality.

4.19.1.3. Lands and Realty

Land and realty management decisions would have impacts on visual quality under the Proposed RMP and all of the alternatives. Withdrawal of lands open to mineral leasing within the Green River Scenic Corridor is a management action applicable to all of the alternatives. The impacts of this action on visual resources would be protection-related in the short term and long term because these lands would be preserved from the potentially adverse visual effects caused by mineral exploration and development (see below for mineral and hydrocarbon effects on visual resources).

4.19.1.4. Minerals

Minerals and hydrocarbon leasing would have direct and indirect adverse impacts on visual quality under the Proposed RMP and all of the alternatives, in the short term and long term. The effects on visual quality would include strong visual contrasts from (and not limited to) the construction of well pads, access roads, drilling rigs, pipelines, and processing and support facilities. Indirect impacts to visual quality, both short-term and long-term, would be the result of soil erosion from disturbed areas, fugitive dust from disturbed areas, and/or regional haze from compressor and generator emissions that could obscure or degrade scenic vistas.

4.19.1.5. RECREATION

Recreational OHV use would tend to cause direct and indirect adverse impacts to visual quality, in the short-term and long-term, under the Proposed RMP and all of the alternatives. Direct visual quality degradation would be caused by visual contrast-creating disturbances in natural areas from trail expansion and trail widening, particularly on highly visible steep slopes and ridgelines. Indirect impacts would be caused by visibility-reducing fugitive dust from trails, potential adverse impacts to cultural resources that possess visual or scenic attributes such as petroglyphs, pictographs, and prehistoric structures, and soil erosion contrasts.

4.19.1.6. VISUAL

Visual resource management (VRM) would have impacts on visual quality under the Proposed RMP and all of the alternatives. Visual Resource Management Classes I and II would provide the highest level of visual resource protection, with direct, short-term and long-term, protection and preservation-related impacts on visual quality; VRM III and VRM IV would be less protective, allowing more surface-disturbing impacts than VRM I and II.

4.19.1.7. SPECIAL DESIGNATIONS

Special designation areas are proposed under the Proposed RMP and all of the alternatives. These areas include ACECs, WSAs, and portions of rivers identified as being suitable for designation under the Wild and Scenic River System. Generally, ACECs, and Wild and Scenic Rivers are established to protect wildlife, vegetation, cultural resources, scenic quality, or recreational opportunities, each of which has direct, preservation-related impacts on the scenic quality component of an area. Each of the designations proposed would have direct, short-term and long-term preservation-related impacts on scenic quality within the designated areas by requiring all surface-disturbing activities to conform to the goals and objectives of the particular special designation area. The direct impacts on scenic quality would be the same for all the alternatives (see Section 4.19.2.9).

Air Quality, Forage, Paleontology, Rangeland Improvements, Special Status Species, Wild Horses, and Wildlife and Fisheries management decisions would have negligible affects on visual resources. These resources are not analyzed further.

4.19.2. ALTERNATIVE IMPACTS

4.19.2.1. IMPACTS OF CULTURAL DECISIONS ON VISUAL RESOURCES

4.19.2.1.1. PROPOSED RMP

Under the Proposed RMP, high-density archaeological and historical sites (and thus visual resources) would be protected from OHV-use disturbance by limiting this activity to designated routes in the Uinta Foothills, Little/Devils Hole, Upper Willow Creek, and Four Mile Wash areas. These management actions would have direct, short-term and long-term protection and preservation-related impacts on visual quality. Compared to Alternative D (No Action), the

Proposed RMP would be more protective of visual resources because OHV travel would be limited designated routes and leased for minerals development under stipulations that would protect cultural sites. Under Alternative D (No Action) these sites would not be specifically protected and OHV use would be designated as open to cross-country OHV use.

4.19.2.1.2. ALTERNATIVE A

Alternative A decisions would have the same visual impacts on cultural resources as discussed under the Propose RMP because the decisions are the same.

4.19.2.1.3. ALTERNATIVE B

Under this alternative, the protection and preservation-related impacts on cultural (and thus visual) resources would be similar to those discussed for Proposed RMP. Compared to Alternative D (No Action), this alternative would be more protective.

4.19.2.1.4. ALTERNATIVE C

Under Alternative C, high-density cultural sites and traditional sacred properties would be protected in the Uinta Foothills, Devils Hole, Upper Willow Creek, and Four Mile Wash areas as well, via the exclusion of oil and gas leasing and OHV use. These management actions would have the greatest direct, short-term and long-term protection and preservation-related impacts on visual quality. Compared to Alternative D (No Action), this alternative would be more resource protective.

4.19.2.1.5. ALTERNATIVE D (NO ACTION)

Alternative D would not limit OHV use near high-density cultural sites, and high-density cultural sites would be open to oil and gas leasing. This alternative would have long-term, adverse impacts on visual quality by permitting these regulated, surface-disturbing activities near high-density cultural resources.

4.19.2.1.6. ALTERNATIVE E

To protect areas of high cultural resource site density and traditional sacred properties, the Uinta Foothills, Devils Hole, Upper Willow Creek, and Four Mile Wash areas would be closed to oil and gas leasing and OHV use under Alternative E. These management actions would have the greatest direct, short-term and long-term protection and preservation-related impacts on visual resources because of restrictions on surface disturbances. Compared to Alternative D (No Action), this alternative would be more resource protective.

In summary, the Proposed RMP and Alternatives A, C, and E would provide the greatest level of landscape (visual resource) protection, because they also provide the highest levels of cultural resource protection. Alternative B would provide some visual resource protection, but less than

would the Proposed RMP and Alternative C. Alternative D (No Action) would provide the lowest level of cultural resource (and visual resource) protection.

4.19.2.2. Impacts of Fire Management Decisions on Visual Resources

4.19.2.2.1. Proposed RMP, and Alternatives A, B, C, and E

The Proposed RMP and the action alternatives would allow for prescriptive fire treatments on approximately 156,425 acres per decade. The impacts of fire management decisions on scenic quality would vary, depending upon the location, size, and timing of the burned areas and the type of fire management treatment conducted (as described in Section 4.17.1 of the Draft RMP/DEIS). Short-term impacts of fire management decisions on visual resources would be largely adverse, affecting the color, line, form, and texture of the vegetation by creating strong visual contrasts between burned and unburned areas. However, the use of prescribed fire as part of a fire management program would, in the long term, decrease the frequency, intensity, and size of unmanaged wildland fires and reduce smoke generation, both of which would benefit visual resources by limiting landscape-obscuring haze and preserving the desired vegetation component of the scenic landscape (see Section 4.19.1 Impacts Common to All Alternatives for a discussion of fire management decisions). Further, use of prescribed fire under the Proposed RMP and these alternatives would introduce long-term vigor and variety to the vegetation element of the landscape, creating a vegetation mosaic that would enhance scenic quality. The Proposed RMP and Alternatives A, B, C, and E, when compared to Alternative D (No Action), would have greater beneficial impacts on visual resources because prescribed fire would be applied to more area under these action alternatives than under Alternative D (No Action).

4.19.2.2.2. Alternative D (No Action)

Alternative D (No Action) would use prescriptive fire methods (including but not limited to prescribed burning) on up to 27,950 acres in the Book Cliffs area and would manipulate 22,950 acres within the Diamond Mountain area. The potential impacts, either adverse or beneficial, would be similar to those described under Alternative A and Section 4.19.1, Impacts Common to All Alternatives, but to a lesser degree and smaller scale than the action alternatives.

In summary, assuming that fire management would have long-term, beneficial impacts on scenic quality, the Proposed RMP, and Alternatives A, B, C, and E would have equivalent impacts on this resource. Alternative D (No Action) would have the least beneficial impacts on scenic quality due to the increased risk of wildland fires.

4.19.2.3. Impacts of Grazing Decisions on Visual Resources

4.19.2.3.1. Proposed RMP and Alternative B

Under the Proposed RMP and Alternative B, grazing could be allowed in the Nine Mile Acquired Area; however, this management prescription would control livestock grazing to prevent adverse impacts to recreation values (including scenic quality) and thus have direct,

protection-related impacts on visual resources. Compared to Alternative D, the Proposed RMP and this alternative would provide more protection from grazing to riparian areas because management prescriptions under Alternative D (No Action) are unspecified.

4.19.2.3.2. ALTERNATIVE A

Under this alternative, the Nine Mile Acquired Area would be grazed, which would preserve existing visual resources in the area. This alternative would be more beneficial than Alternative D (No Action) because, as mentioned above, there are no specific livestock and grazing management decisions under Alternative D (No Action).

4.19.2.3.3. ALTERNATIVE C

Alternative C would prohibit grazing in the Nine Mile Acquired Area. This alternative would have beneficial impacts by preserving scenic resources within the riparian corridor, the same as discussed under Alternative A. Compared to Alternative D (No Action), this alternative would provide more protection from grazing and livestock, as discussed under Alternative A.

4.19.2.3.4. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action) grazing and livestock management decisions are unspecified in the Nine Mile Acquired Area. This alternative would not have adverse impacts on visual quality if the loss of riparian vegetation to grazing did not conflict with or detract from recreation/scenic values along the riparian corridor. Based on the lack of specific management actions for this alternative in the Nine Mile area, the grazing impacts on scenic quality in the riparian corridor are unknown.

4.19.2.3.5. ALTERNATIVE E

Under Alternative E, lands acquired in Nine Mile Canyon would not be grazed in order to protect this area's riparian and watershed values. This would directly protect the vegetation component of the scenic landscape and visual resources within the riparian zone. Livestock grazing on the uplands outside the riparian zone would follow standards and guidelines for rangeland health. This would result in proper levels of livestock grazing and, probably, construction of some grazing facilities (e.g., fences and water features). The impacts to the vegetative component of the landscape would not be noticeable, but construction of facilities would introduce human-made features to the landscape. Compared to Alternative D (No Action), this alternative would provide more protection to the scenery of the riparian landscape from grazing.

Alternative E (along with the Proposed RMP and Alternative A, B, and C) would protect the scenic quality of riparian areas from grazing. The Proposed RMP and Alternative B would provide more protection than is given under current management, but less than that given by Alternatives A, C and E. Alternative D (No Action) would provide no specific protection to visual resources.

4.19.2.4. Impacts of Lands and Realty Decisions on Visual Resources

4.19.2.4.1. Proposed RMP

Described in Section 4.19.1 Impacts Common to All Alternatives, the Proposed RMP would pursue locatable mineral withdrawals in order to preclude mineral entry into the Green River Scenic Corridor in Browns Park, the White River, Lears Canyon, potential and developed recreation sites, and the Book Cliffs Natural Area. The proposed withdrawals, totaling 24,202 acres, would have direct, protection-related impacts on scenic quality in these areas.

Under the Proposed RMP, 106,178 acres managed as non-WSA lands with wilderness characteristics would be ROW-avoidance areas, which would prevent surface disturbance and changes to the landscape, thus protect existing scenic quality. Compared to Alternative D (No Action), the Proposed RMP would provide more protection than Alternative D (No Action) because of the additional protection given non-WSA lands with wilderness characteristics. However, the proposed withdrawal of locatable minerals leasing on 24,202 acres would be less beneficial that Alternative D (No Action) because it would be less than the currently managed withdrawal of locatable minerals leasing on 35,900 acres.

4.19.2.4.2. Alternative A

The impacts of proposed locatable minerals withdrawals would have the same impacts on visual resources as the Proposed RMP because the decisions are the same (with proposed withdrawal of 24,202 acres). However, non-WSA lands with wilderness characteristics would not be designated under this alternative and the acreage proposed for locatable mineral withdrawal would be less than currently managed under Alternative D (No Action). Therefore, this alternative would have less beneficial impacts than Alternative D (No Action).

4.19.2.4.3. Alternative B

Under this alternative, the same acreages would be proposed for locatable mineral withdrawals (19,202 acres), with the same impacts on scenic quality as discussed under the Proposed RMP.

When compared to Alternative D (No Action), this alternative would provide less protection than Alternative D (No Action) for the same reasons as discussed under the Proposed RMP (fewer acres of protection than is currently being managed).

4.19.2.4.4. Alternative C

The impacts to visual resources under this alternative would be the same as those discussed above for the Proposed RMP, except that locatable mineral withdrawals would also be pursued on 10,170 acres within the proposed Lower Green River ACEC. Under this alternative, a total of 29,372 acres of proposed withdrawals would receive scenic quality protection from potential impacts due to locatable minerals surface disturbances. As discussed under the above alternatives, Alternative C would provide less protection than Alternative D (No Action).

4.19.2.4.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would pursue mineral withdrawals in the Green River Scenic Corridor, relict vegetation areas, the Lower Green River ACEC , and 5,000 acres of mineral withdrawal within developed and potential recreation sites, for a total of 35,900 acres of mineral withdrawals. Mineral withdrawals under this alternative would have beneficial protection-related impacts on visual resources.

4.19.2.4.6. ALTERNATIVE E

Alternative E proposes mineral withdrawals in order to preclude mining in the Green River Scenic Corridor in Browns Park, the White River, Lears Canyon, the Book Cliffs Natural Area, and the Lower Green River ACEC. The proposed withdrawals, totaling 29,372 acres (the same proposed acreage as Alternative C), would prohibit hardrock mining in these areas and the surface disturbance associated with mining. The result would be no lands and realty–related changes to the landscape and to scenic quality in these areas. Under Alternative E, 277,596 acres of non-WSA lands with wilderness characteristics would be managed as ROW-exclusion areas, closed to new road construction, and recommended for withdrawal from mineral entry. These actions would prevent surface disturbance and changes to the landscape, thus protecting the existing scenic quality.

When compared to Alternative D (No Action), Alternative E would provide more protection to visual resources because more area would be proposed for locatable mineral withdrawal and non-WSA lands with wilderness characteristics would be managed to restrict surface disturbances.

With recommendations for locatable mineral withdrawal and exclusion of ROWs, the Proposed RMP and Alternative E would provide the greatest level of landscape protection for visual resources from mining, construction of utility lines, and other lands and realty–related actions. Alternative D (No Action) would provide a high level of protection to visual resources, with Alternatives A, B, and C to lesser degree than the other alternatives.

4.19.2.5. EFFECTS OF MINERALS/ENERGY DECISIONS ON VISUAL RESOURCES

As described under subsection 4.19.1, Impacts Common to All Alternatives, minerals-related exploration, development, and facilities and infrastructure construction and operation would create surface disturbances that would adversely affect scenic quality. As mentioned in the introduction, an assumption made during analysis of visual resources is that the greater the numbers of acres available for mineral exploration, the greater the potentially adverse impacts to visual resources. The proposed acreages available for minerals leasing are tabulated below in Table 4.19.1.

4.19.2.5.1. PROPOSED RMP

The Proposed RMP would allow Standard and Timing and Controlled Surface minerals leasing and mining on a total of 2,143,223 acres, with potential impacts to visual resources as discussed

under subsection 4.19.1. Under the Proposed RMP alternative, 106,178 acres of non-WSA lands with wilderness characteristics would be closed to oil and gas leasing in order to protect their wilderness values and would be managed under VRM II objectives. This closure would reduce surface disturbance caused by mineral development within the VPA and would protect the scenic quality within these areas. The Proposed RMP also proposes a total of 24,202 acres in the Green River Scenic Corridor, White River, Lears Canyon, and the Book Cliffs Natural Area for locatable minerals withdrawals, which would provide additional scenic quality protection. Compared to Alternative D (No Action), the Proposed RMP would make available 98,291 more acres for minerals development than Alternative D (No Action); however, when protection of non-WSA lands with wilderness characteristics is considered, the Proposed RMP would provide greater long term, beneficial protection of visual resources than Alternative D (No Action).

4.19.2.5.2. ALTERNATIVE A

Alternative A would allow Standard and Timing and Controlled Surface leasing and mining on 2,320,825 acres (276,486 more acres than Alternative D, No Action), with impacts as discussed under subsection 4.19.1. This alternative also proposes the same acreage for locatable minerals withdrawals as the Proposed RMP, with the same impacts on visual resources as discussed under that alternative. Compared to Alternative D (No Action), this alternative would potentially have more adverse impacts on visual resources and scenic quality than Alternative D (No Action). This is because less acreage would be protected from surface disturbances through minerals withdrawals than under the No Action, and more area would be available for surface disturbances under mineral leases and mining than under Alternative D (No Action).

4.19.2.5.3. ALTERNATIVE B

This alternative would pursue locatable mineral withdrawals on the same number of acres as discussed under the Proposed RMP, with the same impacts to visual resources within the 24,202 acres in the Green River corridor, White River, Lears Canyon, recreation sites, and the Book Cliffs Natural Area. This alternative would also allow Standard and Timing and Controlled Surface Use leasing stipulations and mining on 2,376,920 acres (332,581 more acres than Alternative D, No Action) that would potentially have long term, adverse affects on scenic quality from surface disturbances. Compared to Alternative D (No Action), Alternative B would have more potentially adverse impacts to visual resources than Alternative D (No Action) because more acreage would be available for surface disturbances to scenic quality.

4.19.2.5.4. ALTERNATIVE C

Alternative C would pursue locatable mineral withdrawals for the areas discussed under the Proposed RMP, with additional withdrawals pursued within the Lower Green River ACEC (10,170), totaling 29,372 acres. The impacts would be the same as discussed under the Proposed RMP but to a slight greater degree, but still less than the current 35,900-acre protection provided to these areas under Alternative D (No Action). This alternative would allow Standard and Timing and Controlled Surface Use leasing stipulations and mining on 2,116,201 acres within the VPA (71,862 more acres than available under Alternative D, No Action). Compared to Alternative D (No Action), this alternative would have more potentially adverse impacts on

visual resources for the same reasons as discussed above under Alternative B: more acreage would be available for surface disturbances to scenic quality than currently available under Alternative D (No Action).

4.19.2.5.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) precludes locatable mineral withdrawals on 35,900 acres within the Green River Scenic Corridor, relict vegetation areas, the Lower Green River ACEC, and developed and potential recreation sites, with beneficial long term protection-related impacts on scenic quality. This alternative also currently allows Standard and Timing and Controlled Surface Use leasing and other mining on 2,044,339 acres within the VPA, with potentially adverse impacts to scenic quality as discussed above under subsection 4.19.1.

4.19.2.5.6. ALTERNATIVE E

Alternative E would allow Standard and Timing and Controlled Surface Use leasing and other mining on 1,931,353 acres within the VPA (112,986 fewer acres than available under Alternative D (No Action), and the least area of all the alternatives), with potential impacts to scenic quality as discussed under subsection 4.19.1.

Under Alternative E, 277,596 acres of non-WSA lands with wilderness characteristics would be closed to mineral leasing in order to protect their wilderness values and would be managed under VRM Class I objectives. As discussed under the Proposed RMP alternative, this closure would prevent surface disturbance caused by mineral development and would protect the scenic quality within these areas.

Alternative E proposes mineral withdrawals in order to preclude mining in the Green River Scenic Corridor in Browns Park, the White River, Lears Canyon, the Book Cliffs Natural Area, and the Lower Green River ACEC. The proposed withdrawals total about 29,372 acres (the same as Alternative C), and their withdrawal would prohibit locatable (hardrock) mining in these areas and the surface disturbance associated with mining. Thus, there would mining-related changes to the landscape and to scenic quality in these areas.

In summary, the greatest acreage of potential minerals-related surface disturbance (and potential degradation of visual quality) would occur under Alternative B, followed by the Proposed RMP, and then Alternative C. Alternatives D and E propose the least acreage be available for potential mineral surface disturbance because of proposed mineral withdrawals and oil and gas leasing closures within non-WSA lands with wilderness characteristics.

Table 4.19.1. Mineral Leasing Acreages

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Oil and Gas – Standard Stipulations, Timing and Controlled Surface Use	1,640,381	1,780,860	1,819,397	1,627,085	1,536,030	1,499,641
Mineral Materials – Open	389,788	415,395	432,953	388,699	387,700	344,682
Phosphate – Open	76,208	87,724	87,724	63,571	84,600	52,063
Gilsonite (miles / acres)	172 / 36,846	172 / 36,846	172 / 36,846	172 / 36,846	168 / 36,009	163 / 34,967
Total	**2,143,223**	**2,320,825**	**2,376,920**	**2,116,201**	**2,044,339**	**1,931,353**

4.19.2.6. Impacts of Non-WSA Lands with Wilderness Characteristics Decisions on Visual Resources

4.19.2.6.1. Proposed RMP

Under the Proposed RMP, 106,178 acres would be managed to protect non-WSA lands with wilderness characteristics. These lands would be managed under VRM Class II objectives to preserve their wilderness landscapes. Closing these areas to oil and gas leasing and limiting OHV use to designated routes would have long term, beneficial impacts on scenic quality by protecting these areas from minerals and OHV caused surface disturbances.

4.19.2.6.2. Alternatives A, B, C, and D

Under these alternatives, no management decisions would be prescribed to specifically protect the wilderness values of non-WSA lands with wilderness characteristics, and thus there would be no direct impacts to visual resources.

4.19.2.6.3. Alternative E

Under Alternative E, 277,596 acres in 25 areas would be managed to protect their wilderness characteristics (see Section 3.10 Non-WSA Lands with Wilderness Characteristics). To achieve this objective, these lands would be managed under VRM Class I objectives to preserve the characteristic landscape. These areas would be closed to surface-disturbing activities, subject to valid existing rights. These actions would prevent changes to the characteristic landscape (the lines, forms, colors, and textures) and protect the scenic quality of these lands.

4.19.2.7. Impacts of Recreation Decisions on Visual Resources

4.19.2.7.1. Proposed RMP

The Proposed RMP would manage a total of 133,560 acres of SRMAs within the VPA, with scenic quality protection through SRMA-specific management plans: 42,729 in Blue Mountain, 1,014 acres in Pelican Lake, 18,490 acres in Browns Park, 24,259 acres in Red Mountain-Dry Fork, 69 acres in Fantasy Canyon, 44,168 acres in Nine Mile Canyon, and 2,831 acres along the White River as SRMAs. This would have direct, beneficial, short-term and long-term impacts on scenic quality by limiting surface-disturbing activities to ensure that satisfying recreational opportunities are available within the proposed SRMAs.

Some parts of the White River, Blue Mountain, Browns Park, and Nine Mile Canyon SRMAs include non-WSA lands with wilderness characteristics, and managed within the SRMAs as closed to oil and gas leasing. The non-WSA lands with wilderness characteristics would also be managed as VRM II and would limit OHV use to designated routes. These actions would restrict surface disturbances within the SRMAs, thereby protecting scenic quality and scenic values.

Under the Proposed RMP, the direct long-term, adverse impacts of light pollution adjacent to Dinosaur National Monument would be mitigated by requiring potential light pollution sources to operate at least 200 meters (656 feet) from the monument boundary.

Compared to Alternative D (No Action), the Proposed RMP would have more long term, beneficial impacts on visual resources because more area would be protected within SRMAs (including protection of scenic quality) than under current management. Under t Alternative D (No Action), 87,928 acres would be protected within the existing VPA SRMAs.

4.19.2.7.2. Alternative A

Alternative A would manage a total of 499,588 acres within the VPA under SRMA management plans to protect recreation resources (including scenic quality), an increase of 411,660 acres beyond the SRMA protection currently managed under Alternative D (No Action). The SRMAs under Alternative A would include expansion of the existing Browns Park (52,720 acres) and Nine Mile Canyon (81,168 acres) SRMAs, maintaining the Pelican Lake (1,014 acres) and Red Mountain-Dry Fork (24,259 acres) SRMAs, and designating the White River (24,183 acres), Blue Mountain (42,758 acres), and Book Cliffs (273,486 acres) SRMAs. The long term, beneficial, impacts to visual resources would be the same as discussed above under the Proposed RMP, but to a greater degree, as SRMA management plans would provide scenic quality protection to a larger area within the VPA.

The mitigation of light impacts would be the same as discussed above under the Proposed RMP alternative.

Compared to Alternative D (No Action), this alternative would have substantially greater beneficial impacts to visual resources and scenic quality because a much greater area would be

protect under SRMA management plans within proposed SRMAs than under current management.

4.19.2.7.3. ALTERNATIVE B

Alternative B would continue to manage the White River corridor for recreational use with minimal management oversight, which would potentially create scenic quality degradation due to unrestricted OHV use, unlimited recreational group sizes, potential concentrated use of certain recreational areas, and minimal monitoring of impacts to scenic quality from recreational use.

Alternative B would also manage the Book Cliffs for unlimited and unconfined recreation, which would have direct and indirect, short-term and long-term, adverse impacts from surface-disturbing activities associated with recreation.

Alternative B would continue to manage Browns Park as a 17,000-acre SRMA, Red Mountain-Dry Fork as a 24,259-acre SRMA, Pelican Lake as a 1,014 SRMA, and Nine Mile Canyon as a 44,181-acre SRMA to protect scenic, recreational, wildlife, cultural, and vegetation resources in these areas, which would result in long-term protection-related impacts to these areas. The proposed SRMAs under this alternative would encompass a total of 86,454 acres, the same as under current management.

Under Alternative B, the direct long-term adverse impacts of light pollution adjacent to Dinosaur National Monument would be mitigated the same as the Proposed RMP.

Compared to Alternative D (No Action), this alternative would have the same beneficial impacts on scenic quality and visual resources as discussed under Alternative D (No Action) because the management decisions for SRMAs would be the same.

4.19.2.7.4. ALTERNATIVE C

Alternative C would manage a total of 522,604 acres within the VPA through SRMA management plans to protect recreation resources and scenic quality (an increase of 434,673 acres beyond current SRMA management under Alternative D, No Action). Proposed SRMAs would encompass 273,486 acres within the Book Cliffs, 52,720 acres in Browns Park, 24,259 acres in Red Mountain-Dry Fork, 1,014 acres in Pelican Lake, 69 acres in Fantasy Canyon, 42,758 acres in Blue Mountain, 81,168 acres in Nine Mile Canyon, and 47,130 acres along the White River. These management actions would have direct, short-term and long-term preservation-related impacts on visual quality because either: 1) the SRMAs would use integrated activity plans in their management that provide for scenic viewing; 2) scenic vistas would be protected; or 3) surface-disturbing activities would be limited to those that complement recreational values (which usually include a scenic quality component).

Under Alternative C, the direct long-term adverse impacts of light pollution adjacent to Dinosaur National Monument would be mitigated through NSO leasing stipulations within one-half mile of the monument boundary and requirements for drilling operators to use light-reducing equipment and devices.

Compared to Alternative D (No Action), Alternative C would have impacts on scenic quality and visual resources the same as discussed under Alternative A because both alternatives would substantially increase the area currently managed under SRMA protection, including protection of scenic quality.

4.19.2.7.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would maintain the currently designated Browns Park as a 17,000-acre SRMA and Nine Mile Canyon as a 44,181-acre SRMA, the Pelican Lake SRMA as 1,014 acres, and the Red Mountain-Dry Fork SRMA within 24,259 acres. The SRMA total acreage under current management would encompass 86,454 acres, with long term, beneficial impacts to visual resources within this area from SRMA management plan protection of scenic quality. There would not be any light pollution mitigation adjacent to Dinosaur National Monument, with continuing long term, adverse impacts on night-time visual quality.

4.19.2.7.6. ALTERNATIVE E

Alternative E would manage 47,130 acres along the White River as an SRMA. Proposed SRMA management would also encompass the following areas: 273,486 acres in the Book Cliffs; 52,720 acres in Browns Park; 24,259 acres in Red Mountain–Dry Fork; 1,014 in Pelican Lake; 69 acres in Fantasy Canyon; 42,758 acres in Blue Mountain; and 81,168 acres in Nine Mile Canyon. Management of and the impacts of these SRMAs to visual resources and scenic quality would be the same as discussed under Alternative C and would provide direct, short- and long-term protection of visual quality because: 1) integrated activity plans would be prepared for the SRMAs that provide for scenic viewing; 2) scenic vistas would be protected; 3) surface-disturbing activities would be limited to those that would meet recreation (SRMA) objectives, including scenic quality; and 4) some portions of the proposed SRMAs would be closed to oil and gas leasing, reducing surface disturbance and impacts to visual quality.

Some parts of the White River, Blue Mountain, Book Cliffs, Browns Park, and Nine Mile Canyon SRMAs include non-WSA lands with wilderness characteristics. The impacts of Alternative E would be essentially the same as those for the Proposed RMP, except that Alternative E would also manage 157,231 acres of non-WSA lands with wilderness characteristics in the SRMAs as closed to oil and gas leasing. The non-WSA lands with wilderness characteristics would also be closed to solid mineral leasing and recommended for withdrawal from entry under the mining laws (157,231 acres within the SRMAs). These closures and withdrawals would prevent surface disturbances to the landscape from mineral and energy exploration and development, thereby preventing adverse impacts to visual quality in these areas. Other elements of the management prescription for non-WSA lands with wilderness characteristics are also aimed at protecting their wilderness characteristics (management under VRM I objectives and closure to OHV use). These actions would restrict surface disturbances on 157,231 acres of the SRMAs, thereby protecting scenic quality and scenic values.

Under the Proposed RMP and Alternatives A, B, C, and E, the direct long-term adverse impacts of light pollution adjacent to Dinosaur National Monument would be mitigated, which would also benefit night-time visual quality in the VPA.

In summary, Alternatives E and C would provide the greatest level of scenic quality protection within the SRMAs, followed by the Proposed RMP. Alternatives B and D (No Action) would provide the least scenic quality protection. Compared to Alternative D (No Action), Alternatives C and E would provide the most visual quality protection from light pollution, followed by the Proposed RMP and Alternative B. Alternative D (No Action) would not protect the National Monument nor the area within the VPA adjacent to the Monument from night-time light pollution.

4.19.2.8. Impacts of Travel/Roads/Trails Decisions on Visual Resources

4.19.2.8.1. Proposed RMP

The Proposed RMP would improve and/or develop up to 400 miles of hiking, horseback riding, and mechanized (non-motorized) trails. Developing additional trails would have an impact on visual resources and could affect scenic quality; however, the visual contrast rating system would be used to analyze the potential impacts of trail building and trail improvement, and trails would be designed to conform to an area's VRM Class objective. The surface-disturbing impacts on scenic quality would be minor.

Under the Proposed RMP, new permitted roads and trails would be obliterated and/or reclaimed after serving their useful purposes. This would have no net impact on scenic quality. Although the roads would be an adverse impact, reclamation would essentially reverse the impact by reducing scenic quality-degrading contrasts, restoring the existing character of the landscape, and reducing indirect adverse impacts caused by potential soil erosion and fugitive dust.

The Proposed RMP would also allow the improvement and/or development of 800 miles of motorized trails. Trail modification or construction would have direct, long-term, adverse impacts on scenic quality, but visual contrast rating analysis and conformance to the area's VRM Class objectives would mitigate the impacts of this surface-disturbing activity. Indirect, long-term, adverse impacts would be produced by soil erosion, trail widening, and unmanaged extension of the trail system by OHVs.

The Proposed RMP would not allow OHV use for off-trail, big game retrieval. This management action would have direct, long-term beneficial impacts on visual quality by reducing the creation or extension of OHV trails.

Under the Proposed RMP, areas within the VPA designated as "open" to OHV travel would be limited to approximately 6,202 acres, a decrease of approximately 781,657 acres when compared to Alternative D (No Action). Limiting the number of open-designated acres would have long-term direct and indirect, beneficial impacts on visual quality by reducing the potential production of scenic-quality degrading fugitive dust, and soil and vegetation disturbances within the landscape.

Areas designated as "limited" to OHV travel would be increased to 1,643,475 acres (an increase of 756,200 acres from current management under Alternative D, No Action), which would have direct long-term beneficial impacts on visual resources by increasing the level of OHV

management and by reducing the extent of OHV-caused visual quality degradation within the VPA.

Designating areas "closed" to OHV travel would be increased from 50,388 acres (under Alternative D) to 75,845 acres and the number of miles of routes designated routes would increase from zero miles under existing conditions (Alternative D, No Action) to 4,860 miles. This increase in designated OHV routes would have direct, long-term beneficial impacts on visual resources by reducing the OHV-related disturbances to soil, water, and vegetation.

Under the Proposed RMP, proposed management of 106,178 acres of non-WSA lands with wilderness characteristics would allow OHV travel on designated routes only. This would reduce short term and long term, adverse OHV-caused disturbances to vegetation and soil, and limit the adverse impacts to scenic quality within these areas.

Compared to Alternative D (No Action), the Proposed RMP would have more beneficial impacts on visual resources and scenic quality because potential direct, cross-country OHV-caused surface disturbances allowed under current management, and indirect impacts from loss of vegetation and from soil erosion, would be substantially reduced.

4.19.2.8.2. ALTERNATIVE A

The impacts of travel management decisions under this alternative on visual resources would be the same as discussed above for the Proposed RMP because the proposed management decisions are the same.

4.19.2.8.3. ALTERNATIVE B

Alternative B proposes not obliterating or reclaiming new permitted roads and trails if they serve public interests, and developing up to 800 miles of motorized routes. The effects, consisting of fugitive dust, erosional impacts, and surface-disturbing contrasts from OHV use, would be directly adverse to visual quality in the long term. However, these roads and trails would conform to the VRM Class objective of the area within which they lie, and monitoring would prevent unmanaged extension of the trails or roads; thus, the surface-disturbing impacts on scenic quality would be minor.

Alternative B proposes OHV use for big game retrieval off designated routes, which could have short-term and long-term direct and indirect adverse impacts on visual quality as described under Section 4.19.1, Impacts Common to All Alternatives.

Areas open to OHV travel would decrease to 5,434 acres (a decrease of 782,425 acres when compared to current management as described under Alternative D, No Action).

Areas limited to OHV travel would increase to 1,659,901 acres, an increase of 772,626 acres from current management as described under Alternative D, No Action.

Areas closed to OHV travel would increase to a total of 60,187 acres (an increase difference of 10,799 acres compared to Alternative D, No Action), the least amount of all the alternatives.

The number of miles of routes designated would increase from zero miles under existing conditions (Alternative D, No Action) to 4,861 miles.

The effects of Alternative B OHV management actions on visual resources would be similar to those described under the Proposed RMP, for areas open to OHV travel. Areas designated as closed to OHV use would be somewhat reduced, which would provide more opportunity for overland OHV travel with subsequent potential degradation of visual resources. Alternative B would have long-term beneficial impacts on visual resources similar to those described under the Proposed RMP.

4.19.2.8.4. ALTERNATIVE C

Alternative C proposes to improve and/or develop up to 400 miles of mechanized (non-motorized) trails but would not allow improvement or development of 800 miles of motorized trails. This would have direct, long-term, beneficial, protection-related impacts on visual quality by reducing the level of surface disturbances, when compared to Alternative D, No Action.

Under Alternative C, new permitted roads and trails would be obliterated and/or reclaimed after serving their useful purposes. The effects would be similar to those described under the Proposed RMP.

Alternative C would not allow OHV use for off-trail big game retrieval. The impacts of this management action would be similar to those discussed under the Proposed RMP.

The impacts of OHV management decisions would be similar to those described under Proposed RMP. There would be 5,434 acres open to OHV travel (the same as Alternative B), and the impacts of open OHV areas would be similar to those described under the Proposed RMP.

Areas designated as limited OHV travel would be increased to 1,353,529 acres, an increase of 466,254 acres, from current management under Alternative D (No Action), with impacts similar to those described under the Proposed RMP.

Areas closed to OHV travel would be increased from 50,388 acres (under Alternative D, No Action) to 366,559 acres, which would have direct long-term beneficial protection-related impacts on soil, water, and vegetation, similar to those described under the Proposed RMP.

The number of miles of routes designated would increase from zero miles under existing conditions to 4,707 miles.

Alternative C would be the most restrictive of OHV use, with long-term beneficial impacts as described under the Proposed RMP.

4.19.2.8.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) proposes 55 miles of trail development and proposes not obliterating or reclaiming new permitted roads and trails if they serve public interests. The effects, consisting of fugitive dust, erosional impacts, and surface-disturbing contrasts from OHV use, would be directly adverse to visual quality in the long term.

Current management practices designate a total of 787,859 acres as open to OHV travel, 887,275 acres as limited, and 50,388 acres as closed. No OHV routes would be designated under this alternative. Travel management under current conditions would maintain the current adverse impacts to visual resources. The adverse impacts of OHV-caused surface disturbances to soil, water, vegetation, and other components of visual quality would continue.

4.19.2.8.6. ALTERNATIVE E

Under Alternative E, up to 400 miles of trails would be developed or improved for hiking, horseback riding, and mechanized (non-motorized) use. The 800 miles of motorized trails proposed under the other alternatives would not be developed or improved under Alternative E. This would have direct, long-term, benefits to visual resources by reducing surface disturbances.

Developing additional trails would impact visual resources and scenic quality by introducing linear contrasts in the landform and vegetation elements of the landscape. Trail design would be mitigated, however, to meet VRM class objectives, and the long term impacts of surface disturbance on the scenery would be minor.

Under this alternative, OHV travel (motorized) would not be permitted in the proposed 277,596 acres of non-WSA lands with wilderness characteristics. Thus, OHV travel to dispersed campsites would not be permitted, preventing added disturbance to vegetation and soil, and the resulting impact on the scenic quality of the landscape.

Roads and trails authorized for construction would be rehabilitated after serving their intended purpose. In the short-term, road construction would result in linear contrasts in the landform and vegetation of the landscape, adversely impacting visual quality. In the long-term (sometimes beyond the life of the Plan), rehabilitation of roads would have no impact on scenic quality.

Alternative E would not allow OHV use off of designated routes or trails for big game retrieval. This action would directly benefit visual quality by reducing landform and vegetation disturbance caused by the creation of new OHV routes or an extension of existing OHV routes.

Under this alternative, there would be 5,434 acres open to cross-country OHV travel (the same as under Alternatives B and C) except in non-WSA lands with wilderness characteristics. Cross-country travel in open areas would result in soil disturbance and vegetation damage, adversely affecting the scenic landscape. The extent of cross-country OHV travel effects would vary with the type of landform and vegetation. By limiting the areas open to cross-country travel, the adverse impacts to soil and vegetation would be reduced, preserving the scenic quality of the landscape.

Areas in which OHV travel is limited to designated routes would increase to 1,326,024 acres, an increase of 438,749 acres from current management under Alternative D (No Action). Limiting travel to designated routes would directly benefit visual resources by increasing the level of management of OHV travel and by reducing the extent of OHV-caused alteration of the existing landform and vegetation in the landscape. Reducing surface disturbance would preserve scenic quality.

Areas closed to OHV travel would be increased from 50,388 acres (under Alternative D, No Action) to 392,818 acres, which would directly benefit visual resources by preventing OHV surface disturbances to soil, water, and vegetation.

The number of miles of routes designated for motorized travel would increase from zero miles under Alternative D (No Action) (though not formally designated, OHV use is occurring on many of these routes) to 4,654 miles under Alternative E. Limiting motorized use to designated routes would confine soil and vegetation disturbance to those routes and not permit expansion to other undisturbed parts of the landscape. This would have a beneficial effect on visual resources.

In summary, travel decisions under Proposed RMP and Alternatives A, C, and E would have the greatest benefit to visual resources and scenic quality, followed by those under Alternative B. Alternative D (No Action) would have greater OHV impacts on visual resources than would the other alternatives because more acres are designated as open to OHV travel with potentially adverse cross-country-related impacts to visual resources.

4.19.2.9. Impacts of Riparian/Soils/Watershed Decisions on Visual Resources

Surface-disturbing activities on steep slopes would tend to have direct and indirect, short-term and long-term, adverse impacts on scenic quality because of their high visibility. The larger the disturbance, the more visible it becomes from foreground and middle-ground viewpoints, and thus, the greater the impact on visual quality. Direct impacts would result from visual contrasts between surface disturbance and the surrounding landscape; indirect impacts would result from contrasts caused by erosion-related surface disturbance.

Under the Proposed RMP and Alternatives A, C, and E, surface disturbance impacts on 21–40% slopes would be mitigated through an erosion-control strategy developed in accordance with VRM objectives. Under Alternative B, disturbance of slopes greater than 40% would require an approved plan. The Proposed RMP, and Alternatives C and E would not allow any surface disturbance on slopes greater than 40%, and Alternative D (No Action) would not allow mineral-related activities on these slopes.

In summary, the Proposed RMP, and Alternatives A, C, and E would provide a high degree of protection of scenic quality by mitigating erosion through erosion-control strategies, GIS modeling, and project design. The Proposed RMP, and Alternatives A, C and E would provide the most protection of scenic quality by prohibiting steep slope disturbances greater than 40% in addition to erosion control and GIS modeling. Alternative B decisions would provide some protection. Alternative D (No Action) would provide the least protection to scenic quality by protecting slopes in excess of 40% from minerals disturbances only.

4.19.2.10. Impacts of Special Designation Area Decisions on Visual Resources

The effects of special designation areas on visual resources for each of the alternatives are tabulated below in Table 4.19.2.

Under the Proposed RMP and all of the alternatives, WSAs would be managed to maintain their suitability for designation as Wilderness (according to and as directed in the IMP) until Congress either designates an area as Wilderness or releases an area from wilderness consideration. Wilderness Study Areas within the VPA encompass 53,058 acres (see Special Designation Section 4.16 for a detailed discussion of these areas). Until Congressional designation or release, these area would be managed under VRM Class I objectives, with long term, beneficial preservation-related impacts on scenic quality.

Alternatives C and E would provide the most long-term visual resource protection by designating the most acres as ACECs and by recommending the longest stretches of waterways for protection under the National Wild and Scenic Rivers System (Alternatives C and E would designate 681,310 acres as ACECs). This is based on the assumption that the VPA goals and objectives for special designation areas "where special management is required to protect and prevent damage to … scenic values and natural systems and process" would maintain scenic quality within these areas. Alternative A management decisions would offer the second-best level of protection to visual resources (designating 345,850 acres), followed by Alternative B (through designation of 170, 886 acres). The Proposed RMP would provide some visual resource protection (by designating 131,700 acres as ACECs). Alternative D (No Action) would provide the lowest level of protection to visual resources, because it designates the fewest ACEC acres and recommends protecting the fewest waterways under the Wild and Scenic River system. A summary of Alternative E impacts from special designation decisions are shown below in Table 4.19.2.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
ACECs						
Bitter Creek	Potential long-term adverse visual quality impacts by not protecting the area as part of an ACEC.	Long term, beneficial impacts from designating 68,834 acres as an ACEC to protect old growth pinyon, cultural resources, and watersheds, and OHV use closed or limited to designated routes.	Same impacts as Proposed RMP.	Long-term beneficial visual quality impacts by designating 147,425 acres as an ACEC to protect old growth pinyon, with OHV use closed or limited to designated routes.	Unspecified management decisions under the current RMP.	Same impacts as Alternative C, with additional scenic protection within non-WSA lands with wilderness characteristics (VRM I, closed to wood cutting, and closed to OHV travel).
Brown's Park	Long-term beneficial visual quality impacts by designating 18,490 acres as an ACEC to protect high-value scenic views, and from OHV use closed or limited to designated routes. Those portions of the ACEC open to leasing with timing limitations or controlled surface use would allow for some landscape change that would have adverse effects on scenery but that would still meet VRM objectives.	Same Impacts as Proposed RMP, except 52,721 acres would be designated as an ACEC.	Long-term beneficial visual quality impacts by designating 18,474 acres as an ACEC to protect high-value scenic views, and from OHV use closed or limited to designated routes. Those portions of the ACEC open to standard leasing and timing limitations or controlled surface use would allow for some landscape change that would have adverse effects on scenery but that would still meet VRM objectives.	Same Impacts as Alternative A.	Long-term beneficial visual quality impacts by designating 52,721 acres as an ACEC, but potential adverse impacts from areas potentially open to OHV use. Minerals leasing impacts the same as Alternative B.	Same impacts as Alternative C, with additional scenic protection within non-WSA lands with wilderness characteristics (VRM I, closed to wood cutting, and closed to OHV travel). Outside of non-WSA lands with wilderness characteristics, minerals leasing impacts the same as Alternative B.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Coyote Basin-Snake John-Kennedy Wash ACEC	Potential long-term adverse visual quality impacts by not protecting the area as an ACEC.,	Long term, beneficial protection of scenic quality from designation of 87,743 acres to protect critical wildlife habitat. Long term, adverse surface disturbance impacts on 83,250 acres open to Standard leasing stipulations within the ACEC.	Long-term protection of visual quality by designating 47,659 acres as an ACEC. Long term, adverse surface disturbance impacts on 47,282 acres open to Standard leasing stipulations within the ACEC.	Long-term beneficial visual quality impacts by designating 124,161 acres as an ACEC. Long term, adverse surface disturbance impacts on 94,821 acres open to Standard leasing stipulations within the ACEC.	Unspecified management for this area	Same Impacts as Alternative C.
Four Mile Wash ACEC	Potentially long-term adverse visual quality impacts by not protecting the area as an ACEC.	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Long-term beneficial visual quality impacts by designating 50,280 acres as an ACEC to protect scenic values, with OHV use limited to designated routes and closed to oil and gas leasing.	Unspecified management for this area	Same Impacts as Alternative C, with additional scenic protection for areas that lie within non-WSA lands with wilderness characteristics.
Lears Canyon	Long-term, beneficial visual quality impacts by designating 1,375 acres to protect relict vegetation	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP
Lower Green River Corridor and Expansion ACEC	Long-term, beneficial visual quality impacts by designating 8,470 acres of the Lower	Lower Green River Corridor impacts same as the Proposed RMP. Additional long term	Lower Green River Corridor impacts same as the Proposed RMP.	Impacts the same as Alternative A.	Long-term beneficial visual quality impacts by designating 8,470 acres as an ACEC,	Same Impacts as Alternative C.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
	Green River Corridor as an ACEC, with NSO stipulations within line-of-sight or ½ mile from river centerline.	beneficial impacts from designating the 1,700-acre Lower Green River Expansion to protect scenic values.			managed as VRM Class II, limited or closed OHV use, and no allowed surface-disturbing activities.	
Main Canyon	Potentially long-term adverse visual quality impacts by not protecting the area as an ACEC.	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Long-term beneficial visual quality impacts by designating 100,915 acres as an ACEC, with VRM I or II management, and closed to OHV travel or limited to designated routes. Those portions of the ACEC open to leasing subject to standard, timing limitations, and controlled surface use would allow surface disturbance that would alter the landform and vegetation and that would have a minimal effect on the visual quality of the canyon, while still meeting VRM objectives.	Unspecified management under the current RMP.	Same Impacts as Alternative C, but with additional protection of scenic quality within non-WSA lands with wilderness characteristics that lie within the proposed ACEC.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Middle Green River ACEC	Potentially long-term adverse visual quality impacts by not protecting the area as an ACEC.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Long-term beneficial visual quality impacts by designating 6,768 acres as an ACEC, with OHV use limited to designated routes. Long term, adverse surface disturbance impacts to visual quality on 4,858 acres open to Standard leasing stipulations within the ACEC.	Unspecified management under the current RMP.	Same Impacts as Alternative C.
Nine Mile Canyon ACEC	Long-term beneficial visual quality impacts by designating 44,168 acres to enhance scenic vistas. Long term, adverse surface disturbance impacts to visual quality on 26,736 acres open to Standard leasing stipulations within the ACEC.	Long-term beneficial visual quality impacts by designating 48,000 acres as an ACEC to enhance scenic values. Long term, adverse surface disturbance impacts to visual quality on 27,109 acres open to Standard leasing stipulations within the ACEC.	Long-term protection of visual quality by designating 44,181 acres as an ACEC. Long term, adverse surface disturbance impacts to visual quality on 15,274 acres open to Standard leasing stipulations within the ACEC, and 21,022 acres open to Timing and Controlled Surface Use leasing stipulations.	Long-term beneficial visual quality impacts by designating 81,168 acres as an ACEC with OHV use closed or limited to designated routes. Long term, adverse surface disturbance impacts to visual quality on 49,182 acres open to Standard leasing stipulations within the ACEC, and 19,032 acres open to Timing and Controlled Surface Use leasing stipulations.	Same Impacts as Alternative B.	Same Impacts as Alternative C, but with additional beneficial impacts to those areas that lie within non-WSA lands with wilderness characteristics.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Pariette Wetlands	Long-term beneficial visual quality impacts by designating 10,437 acres to protect wetlands, wildlife, and plant habitat.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.
Red Creek Watershed	Long-term beneficial visual quality impacts by designating 24,475 acres as an ACEC to protect the Red Creek watershed.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.
Red Mountain-Dry Fork Complex	Long-term protection of visual quality by designating 24,285 acres as an ACEC to protect watershed, vegetation, crucial habitat, and recreation. Long term, adverse surface disturbance impacts to visual quality on 495 acres open to Standard leasing stipulations within the ACEC, and 21,994 acres open to Timing and Controlled Surface	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Long-term beneficial visual quality impacts by maintaining 24,285 acres as an ACEC. Long term, adverse surface disturbance impacts to visual quality on 19,955 acres open to Timing and Controlled Surface Use leasing stipulations within the ACEC.	Same Impacts as the Proposed RMP.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
	Use leasing stipulations.					
White River ACEC	Potentially long-term adverse visual quality impacts by not protecting the area as an ACEC.	Long term, beneficial impacts to visual quality from designation of 17,810 acres as an ACEC to protect scenic quality and riparian ecosystems. Long term, adverse surface disturbance impacts to visual quality on 1,438 acres open to Standard leasing stipulations within the ACEC, and on 7,371 acres open to Timing and Controlled Surface Use stipulations.	Same Impacts as the Proposed RMP.	Long-term beneficial visual quality impacts by designating 47,130 acres as an ACEC. Long term, adverse surface disturbance impacts to visual quality on 27,087 acres open to Standard leasing stipulations within the ACEC, and on 6,683 acres open to Timing and Controlled Surface Use leasing stipulations.	Unspecified management under the current RMP.	Same Impacts as Alternative C.
WSRs						
White River segments	Long-term adverse visual quality impacts by not protecting the river segments as suitable for consideration as Wild and Scenic.	Long term protection of visual quality by classifying Segment A as Scenic. Long term protection of visual quality by classifying Segment B as Scenic. Adverse impacts to visual quality by not	Same Impacts as the Proposed RMP.	Long term protection of visual quality by classifying all river segments as suitable for designation into the NWSRS (44 miles).	Long term protection of visual quality of all river segments until suitability findings are made.	Same Impacts as Alternative C, except that a portion of a stream segment would be managed as eligible, but not recommended as suitable, until a permitting process has been completed.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
		identifying Segment C as suitable for designation.				
Lower Green River segment	Long term protection of visual quality by continuing to protect previously recommended segments.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.	Same Impacts as the Proposed RMP.
Middle Green River segment	Long-term adverse visual quality impacts by not protecting the river segment as suitable for consideration as Wild and Scenic.	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Long-term protection of visual quality by recommending designation of a segment of the Middle Green River as suitable for consideration as Wild and Scenic (approximately 36 miles).	Same Impacts as the Proposed RMP	Same Impacts as Alternative C.
Nine Mile Creek segments	Potential long-term adverse visual quality impacts by not protecting segments as suitable for consideration as Wild and Scenic.	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Long-term protection of visual quality by recommending designation of segments as suitable for consideration as Scenic and Recreational (2 segments of approximately 13 miles and 6 miles).	Same Impacts as the Proposed RMP	Same Impacts as Alternative C.

Table 4.19.2. Impacts of Special Designation Areas on Visual Resources [1]

Special Designation Areas	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Upper Green River segment	Long-term protection of visual quality by continuing to protect previously recommended segments as suitable for consideration as Wild and Scenic	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP
Evacuation Creek, Argyle Creek, and Bitter Creek segments	Potentially long-term adverse visual quality impacts by not protecting any of these creek segments as suitable for consideration as Wild and Scenic.	Same Impacts as the Proposed RMP	Same Impacts as the Proposed RMP	Long-term protection of visual quality by recommending designation of segments along these creeks as suitable for consideration as Wild and Scenic. Recommending Evacuation Creek, Argyle Creek, and Bitter Creek as suitable for inclusion in the Wild and Scenic River System would limit surface disturbance, providing long-term protection to visual quality.	Same as Proposed RMP for Argyle Creek. Impacts would be the same as Alternative C for Bitter Creek and Evacuation Creek because, though suitability findings would not be made, protection would be maintained for these river segments, which would also directly protect scenic quality.	Same Impacts as Alternative C.

[1] As noted in section 4.19.2.9, VRM acreages used in this analysis of impacts on visual resources include all lands within the VPA, not only BLM administered lands. This is because the VRM analysis includes foreground, middle ground, and background views that could encompass federal, state, and private property.

4.19.2.11. Impacts of Vegetation Decisions on Visual Resources

4.19.2.11.1. Proposed RMP, and Alternatives A, B, C, and E

The Proposed RMP, and Alternatives A, B, C, and E would allow vegetation treatment via prescribed fire on 156,425 acres per decade (see also Section 4.19.2.1, Impacts of Fire Management Decisions on Visual Resources). The short-term and long-term direct impacts of this vegetation treatment are described under Section 4.19.1, Impacts Common to All Alternatives. The effects of prescribed burning on visual quality would be adverse in the short term. Removing vegetation with fire and then seeding would alter the form, line, color, and texture of the existing landscape. Short-term, indirect impacts to these landscape elements would also result from the construction of fences to exclude livestock from the treated areas.

Long-term beneficial impacts to visual resources from prescribed fire would be produced by: 1) the reduction in the potential for vegetation and stand-altering wildland fires; 2) the re-creation of historic fire regimes; 3) increased biodiversity with a reduction in diseased, stressed, and infested trees; and 4) the creation of a visual mosaic of vegetation (added variety in the vegetative element of the landscape) that would tend to improve scenic quality.

Compared to Alternative D (No Action), the Proposed RMP and these action alternatives would be more beneficial because more area within the VPA would be treated to improve scenic quality in the long term.

4.19.2.11.2. Alternative D (No Action)

Alternative D (No Action) would allow vegetation treatment via prescribed fire on up to 27,950 acres in the Book Cliffs area and on 22,950 acres in the Diamond Mountain area. The impacts of vegetation treatment are described under Section 4.19.1, Impacts Common to All Alternatives.

In summary, the Proposed RMP and Alternatives A, B, C, and E would have the greatest short-term adverse impacts and the greatest long-term beneficial impacts to visual resources from more VPA acreage that would be affected by proposed vegetation treatments. Alternative D (No Action) would have the fewest adverse and long term beneficial impacts on visual resources because a smaller area would be affected by vegetation management.

4.19.2.12. Impacts of Visual Decisions on Visual Resources

The proposed designation of VRM Class acreages for each alternative are tabulated below in Table 4.19.3. As discussed above in Section 4.19.1 Impacts Common to All Alternatives, VRM Class I- and VRM Class II- designated areas would receive the highest level of visual resource protection, with direct, short-term and long-term, beneficial protection and preservation-related impacts on visual quality. The designated VRM Class III and VRM Class IV areas would receive less visual resource protection, which would allow more surface-disturbing impacts than VRM Classes I and II.

Under the Proposed RMP, approximately 106,178 acres of non-WSA lands with wilderness characteristics would be managed under VRM Class II objectives in order to preserve their wilderness characteristics and values, which would have long term, preservation-related, beneficial impacts on scenic quality and visual resources.

Table 4.19.3. VRM Class Acreages by Alternative

VRM Class	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
VRM I and	57,776	63,136	52,764	145,781	53,086	334,516
VRM II	231,911	294,773	114,030	362,660	113,686	259,694
VRM III	786,612	716,186	199,179	580,846	199,192	535,586
VRM IV	643,641	645,845	1,353,967	630,653	1,353,976	590,144
Total	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**
VRM I and II	289,687	357,909	166,794	508,441	166,772	594,210
VRM III and IV	1,430,253	1,362,031	1,553,146	1,211,499	1,553,168	1,125,730

Under Alternative E, approximately 277,596 acres of non-WSA lands with wilderness characteristics would be managed under VRM Class I objectives in order to preserve their wilderness characteristics and values (see Table 4.19.3). Based on these visual management objectives, Alternative E would provide the highest degree of protection to scenic quality under VRM I and II, followed by Alternative C, then Alternatives A and the Proposed RMP. Alternatives B and Alternative D (No Action) would provide the least protection to scenic quality under combined VRM I and II acreages.

4.19.2.13. Impacts of Woodland and Forest Decisions on Visual Resources

4.19.2.13.1. Proposed RMP

The Proposed RMP would manage forests and woodlands to maintain and restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, disease, and other disturbances do not exceed levels normally expected in healthy forests and woodlands. This alternative would maintain relict stands of vegetation for biological and genetic diversity. Forests and woodlands would be managed under the principles of multiple use and sustained yield without permanent impairment of the productivity of the land and the quality of the environment; and allow use of forest, woodland products, biomass, and certain vegetation products in areas specified for this use to meet RMP goals. The Proposed RMP would implement the National Healthy Forest Initiative and the National Fire Plan by conducting treatments to reduce fuel loadings, fire severity, and restoring historical disturbance regimes. 546,152 acres of forest and woodlands would be open to treatments or harvesting, including 13,606 acres within WSAs and 106,178 acres of non-WSA lands with wilderness characteristics that would not have woodland

product harvest or salvage (and directly affecting 131,809 acres of woodlands within the non-WSA lands with wilderness characteristics).

The short-term, direct impacts of these actions on visual quality would be both adverse and beneficial: visual quality would be degraded by line, color, and texture contrasts created from woodland treatments, harvesting and salvage, and OHV surface disturbances in areas visible to the public where these vehicles are used to harvest and salvage woodland products. Beneficial visual quality impacts would result from the scenic variety created by the other management actions. Indirect, short-term and long-term, adverse, visual quality impacts would be produced by fences or barriers used to exclude livestock from the treated areas.

In the long-term, the woodland and forest management decisions would have beneficial impacts on visual resources by: 1) reducing the potential risk (by reducing woodland fuel loads) of stand-altering wildland fires that would adversely affect visual quality; and 2) improving visual quality through the creation of scenic variety found in the mosaic of vegetation types produced by vegetation treatments.

Compared to Alternative D (No Action), the Proposed RMP would have the same types of impacts on visual resources as Alternative D (No Action), but to a greater degree, as more acres of woodlands (257,852 more acres than under Alternative D, No Action) would be available for treatments or harvesting.

4.19.2.13.2. ALTERNATIVE A

The impacts of woodland harvesting and treatments on visual resources under this alternative would be the same as discussed under the Proposed RMP because the management decisions would be the same. However, under this alternative up to 552,152 acres would have treatments or be available for harvesting, including 13,606 acres within WSAs as discussed above. When compared to Alternative D (No Action), this alternative would have the same type and magnitude of impacts as discussed for the Proposed RMP because the acreages of woodlands available for harvesting and/or treatments are similar.

4.19.2.13.3. ALTERNATIVE B

Alternative B would allow the harvesting and salvage of woodland and forest products to achieve the greatest output of woodland and forest products, after vegetation treatments designed to achieve desired future conditions. Up to 554,108 acres would have fire treatments or be harvested. This would have direct, short-term and long-term, adverse impacts on visual quality by creating distinct line, color, and texture contrasts from woodland treatments, harvesting and salvage, and OHV surface disturbances in areas visible to the public. Indirect, short-term, adverse impacts would also be created by soil erosion in the disturbed areas, which would further contribute to the visual contrasts already described.

4.19.2.13.4. ALTERNATIVE C

Alternative C would have the same impacts on visual resources as the Proposed RMP and Alternative A, as 552,152 acres of woodlands would be available for treatments or harvesting.

4.19.2.13.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) does not specify woodland and forest management decisions, except that up to 88,200 acres of forest and 200,100 acres of woodlands would have treatments or be harvested. The types of impacts of these management decisions on visual resources would be the same as discussed under the Proposed RMP, but to a lesser degree, as fewer woodland acres would be impacted by surface disturbances, exclusion fences, and a subsequently improved visual mosaic from vegetation re-growth.

4.19.2.13.6. ALTERNATIVE E

Under Alternative E, impacts to visual resources from forest and woodland treatment would be similar to impacts discussed under the Proposed RMP alternative. Approximately 421,133 acres within the VPA would have treatments or be available for harvesting under this alternative.

Woodland salvage and/or harvesting would be prohibited on 277,596 acres of non-WSA lands with wilderness characteristics, resulting in the reduction in the long-term benefits to woodlands because this form of fuel reduction and the accompanying reduction in wildland fire risks would not be conducted.

The short-term, direct impacts of these actions on visual quality would be both adverse and beneficial, as discussed above under the Proposed RMP.

In summary, woodland management under the Proposed RMP and Alternatives A, C and E would have the greatest benefit to visual resources from management actions to improve woodland stands (and indirectly improving visual quality). Alternative B would have adverse impacts on visual quality by allowing public harvesting for maximum output of woodland and forest products. Alternative D (No Action) would provide the least protection of visual quality because woodland management decisions under it are unspecified.

4.19.2.14. SUMMARY OF IMPACTS FROM ALTERNATIVES

4.19.2.14.1. PROPOSED RMP

The Proposed RMP would provide high scenic quality protection (though less than Alternatives E, C, and A) by:

- Proposing 133,560 acres for protection as SRMAs
- Recommending 106,178 acres of non-WSA lands with wilderness characteristics for withdrawal from mineral entry and establishing OHV designated route only use for mechanized travel within these lands

- Designating 289, 687 acres of VRM I and II for protection

4.19.2.14.2. ALTERNATIVE A

Alternative A would provide a high degree of scenic quality protection (but less than Alternative E and C) by:

- Proposing 499,620 acres for protection as SRMAs
- Designating 357,909 acres for visual protection under VRM Classes I and II

4.19.2.14.3. ALTERNATIVE B

Alternative B provides less scenic quality protection than the Proposed RMP, or Alternatives A, C, and E by:

- Opening the most area for minerals leasing and mining
- Protecting the least area within the VPA under VRM Class I and II designation (166,794) of all the action alternatives
- Protecting visual resources with the least area designated as SRMAs (86,454 acres), the same as Alternative D (No Action).

4.19.2.14.4. ALTERNATIVE C

Alternative C would provide a very high level of protection for scenic quality (but less than Alternative E) by:

- Opening the least area for minerals leasing and mining of all action alternatives (except for Alternative E)
- Protecting the most area under VRM Class I and II designation (508,441 acres), except for Alternative E
- Recommending the most acreage for protection of visual resources within SRMAs (522,604,(522,604, the same as Alternative E)

4.19.2.14.5. ALTERNATIVE D (NO ACTION)

This alternative provides the lowest level of protection for scenic quality by:

- Not establishing cultural site buffer zones
- Proposing the fewest acres and least scenic quality protection within SRMAs (86,454 acres), the same as Alternative B)
- Managing the least number of acres for protection under VRM Class I and II designation (166,772 acres)

4.19.2.14.6. ALTERNATIVE E

Alternative E would provide the highest level of protection for scenic quality (comparable to Alternative C) by:

- Establishing protection for areas of concentrated cultural resources
- Authorizing the fewest number of acres to be leased for mineral development (1,782,199 acres)
- Recommending 277,596 acres of non-WSA lands with wilderness characteristics for visual resource protection under VRM Class I designation and closed to OHV travel
- Proposing the largest acreages for designation under VRM Class I and II (594,210 acres)
- Proposing the most area within the VPA for protection under SRMAs (522,604 acres, the same as Alternative C)

4.19.3. MITIGATION MEASURES

All surface-disturbing activities, regardless of alternative or management action, would be subject to the VRM Class objectives of the area within which the activity takes place. The visual resource contrast rating system is used as a guide to analyze the potential site-specific impacts of surface disturbance as well as facility design and placement. Surface-disturbing activities and facilities would then be designed to mitigate their visual impacts and conform to the area's assigned VRM Class objective. Mitigation would include camouflage coloring, facility design, placement, and/or topographic screening.

4.19.4. UNAVOIDABLE ADVERSE IMPACTS

Minerals exploration and development, trail construction, and woodland and vegetation treatments for fire management would cause short-term and long-term, unavoidable adverse impacts on visual quality that cannot be completely mitigated by camouflage coloring, facility design, placement, and/or topographic screening.

4.19.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

The short-term construction of exploratory well pads and access roads would produce a long-term loss of scenic quality, particularly in areas where reclamation is problematic and/or unsuccessful. Similarly, short-term OHV trail use, such as woodcutting trails, seismic exploration, and unmanaged or unlimited recreational OHV use, would cause long-term losses in scenic quality if it occurs in highly visible or visually sensitive areas. The short-term adverse impacts of prescribed fire and other vegetation treatments would have long-term beneficial impacts on visual quality by improving the form, color, and line of vegetation, improving the vegetation mosaic, and reducing the potential for visual quality degradation from wildland fire.

4.19.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Some cultural resources, such as petroglyphs, pictographs, and prehistoric and historically important structures, are considered to have a visual resource/scenic quality component. Projects or activities that cause damage to or loss of these resources would have irreversible impacts on the resource. Irretrievable visual impacts would occur to these sites if surface disturbances occurred or structures were built near cultural sites such that there was loss of cultural context or setting.

Irretrievable impacts to visual resources would also result from: 1) surface disturbance caused by construction during the life of a project; and 2) fire management (until vegetation re-growth).

4.2. AIR QUALITY

The VPA is located in a region designated as unclassifiable for PM_{10} and unclassifiable/attainment for all other airborne pollutants [See 40 CFR Part 81] (L. Svoboda, EPA Region VIII, 2005). The proposed management alternatives discussed below have been evaluated using requirements and assumptions appropriate to ensure accurate identification of potential impacts related to air quality for each alternative. The impacts of implementing the Proposed RMP and Alternatives A, B, C, D, and E are described in detail in the following sections.

4.2.1. GLOBAL CLIMATE CHANGE

The assessment of climate-changing pollutant emissions and climate change is in its formative phase; therefore, it is not yet possible to know with confidence the net impact to climate. However, the Intergovernmental Panel on Climate Change (IPCC 2007) recently concluded that "warming of the climate system is unequivocal" and "most of the observed increase in globally average temperatures because the mid-20th century is very likely due to the observed increase in anthropogenic [man-made] greenhouse gas concentrations."

The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts. Currently BLM does not have an established mechanism to accurately predict the effect of resource management–level decisions from this planning effort on global climate change. However, potential impacts to air quality due to climate change are likely to be varied. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased wind blown dust from drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated. Due to loss of habitat, or due to competition from other species whose ranges may shift northward, the population of some animal species may be reduced. Less snow at lower elevations would be likely to impact the timing and quantity of snowmelt, which, in turn, could impact aquatic species. In the future, as tools for predicting climate changes in a management area improve and/or changes in climate affect resources and necessitate changes in how resources are managed, BLM may be able to re-evaluate decisions made as part of this planning process and adjust management accordingly.

4.2.2. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

Projected emissions common to all development scenarios include particulate matter (PM_{10} and $PM_{2.5}$), SO_2, NO_x, hydrocarbons and combustion by-products.

With the exception of prescribed fire, impacts from management decisions related to the Proposed RMP and Alternatives A, B, C, D, and E are projected to have no effect to a negligible effect on air quality in those regions where they are implemented. Prescribed fire is expected to result in a short-term increase in particulate matter (primarily $PM_{2.5}$), CO_2 and ozone emissions in burn areas and those locations immediately downwind. The detrimental effects from wildfire

would likely be greater than those from prescribed fire and exert a larger negative effect on air quality in the VPA.

The magnitude of air quality emissions common to all development scenarios can be further minimized by surface stabilization techniques, replacing/improving surface vegetation, and by air emission restrictions imposed by regulatory agencies and management authorities. The actual pollutant loads produced are dependant on the number and type of pollutant sources, source location, duration of loading, and local topographical and meteorological conditions.

4.2.3. Impacts from the Proposed RMP and All Alternatives

4.2.3.1. Impacts of Cultural, Paleontological, Special Status Species, Visual Resource Management, and Wild Horse Management Decisions

Impacts from cultural, paleontological, special status species, visual resource management, management of non-WSA areas with wilderness characteristics, and wild horse management decisions are projected to have no substantial effect on air quality except as they limit development, access or site use through related management decisions. Therefore, the management of these resources will not be discussed under the comparison of the Proposed RMP and all alternatives.

Effects of Soil and Watershed, Special Designations, Recreation Management, and Wildlife and Fisheries Management Decisions

Many of the areas have proposed management and travel-related decisions that limit or reduce surface and vegetation disturbance, OHV and other off-trail access, and improve existing roadway and trail surfaces. Air quality impacts from these activities are generally projected to result in negligible effects on short-term air quality and negligible to incrementally positive effects on long-term air quality.

The surface-disturbing activities related to these decisions are very similar and will be discussed jointly in this section.

4.2.3.2. Proposed RMP and Alternatives A, B, C, D, and E

4.2.3.2.1. Direct Impacts

The Proposed RMP generally include lower overall surface/soil disturbance. Direct air quality impacts from surface-disturbing activities would likely be small and most noticeable in a cumulative fashion when coupled with other management decisions. Potentially beneficial outcomes from these management decisions include reduced PM_{10} and other windborne particulate from erosion of exposed soils. Air quality impacts are expected to be comparable to those described for the Proposed RMP for Alternatives A, B, C, D, and E.

- **Short Term**: Short-term benefits to air quality would most likely not be measurable in the overall project area under the Proposed RMP or Alternatives A, B, C, D, and E.

- **Long Term**: Long-term benefits would include incremental site-specific reductions in windborne particulate from reduced erosion of exposed soils as vegetation/soil cohesion improves over time. These benefits are expected to be comparable under the Proposed RMP and Alternatives A, B, C, D, and E.

4.2.3.2.2. Indirect Impacts

Indirect effects on air quality would most likely not be measurable in the overall project area.

4.2.3.3. Impacts of Livestock Grazing, Rangeland Improvement, Riparian Management, Vegetative Management, and Woodland and Forest Management Decisions

Many areas have proposed management decisions that limit or reduce grazing intensity and time and manage for greater vegetation retention and generation. These alternatives are generally projected to result in increased vegetation (density and height) and lower overall surface/soil disturbance and surface erosion.

The surface-disturbing activities related to these decisions are very similar and will be discussed jointly in this section.

4.2.3.3.1. Proposed RMP and Alternatives A, B, C, D, and E

4.2.3.3.1.1. Direct Impacts

Proposed management decisions generally include increased vegetation (cover, density and height) and lower overall surface/soil disturbance. Direct air quality impacts from surface-disturbing activities would likely be small and most noticeable in a cumulative fashion when coupled with other management decisions. Potential effects from these management decisions include improved vegetative cover in many areas. Air quality impacts are expected to be comparable to those described for the Proposed RMP for Alternatives A, B, C, D, and E.

- **Short Term**: Short-term benefits to air quality would most likely not be measurable in the overall project area under the Proposed RMP or Alternatives A, B, C, D, and E.
- **Long Term**: Long-term benefits would include incremental site-specific reductions in windborne particulate from reduced erosion of exposed soils as vegetation improves over time. These benefits are expected to be comparable under the Proposed RMP and Alternatives A, B, C, D, and E.

4.2.3.3.1.2. Indirect Impacts

Potential indirect effects from these management decisions include reduced PM_{10} and other windborne particulate from erosion of exposed soils due to improved vegetative cover.

4.2.3.4. IMPACTS OF LAND AND REALTY MANAGEMENT DECISIONS ON AIR QUALITY

Impacts from land and realty management decisions, outside of those specific to compressor stations discussed below, are projected to have no significant effect on air quality under the Proposed RMP or any of the alternatives except as they impact other management decisions. It should be recognized that some compressor stations are [and would be] authorized by lands-realty while some are [or would be] located on oil and gas leases (BLM). The impacts from compressor stations and other associated activities specific to lands-realty authorization were not modeled separately from those specific to BLM authorization. All were modeled collectively to allow projection of potential cumulative air quality impacts. These projections and modeling assumptions are discussed in detail in Section 4.2.3 and in the Air Quality Technical Support Document (TSD) (Trinity and Nicholls 2006).

4.2.3.5. IMPACTS OF FIRE DECISIONS ON AIR QUALITY

Prescribed burning is a useful tool for resource management and may be used to achieve a variety of objectives such as restoring a fire-dependent ecosystem, enhancing forage for cattle, improving wildlife habitat, preparing sites for reforestation, or reducing hazardous fuel loads. Fire, used for any of these reasons, will produce smoke and other air pollutants. Some short-term air pollutant releases are necessary to achieve the benefits related to prescribed burning. Land managers recognize that smoke management is critical to avoid air quality intrusions over sensitive areas and related visibility problems. As a result of careful management, there is usually less smoke from a prescribed fire than from a wildfire burning over the same area.

Specific policy, rules and procedures are implemented by BLM to minimize the air quality impacts and specifically impacts to regional haze for fire events. On July 19, 2000, the BLM Utah State Office implemented a Smoke Management Plan (SMP) with its interagency partners USFS, NPS, USFWS, UDNR, and UDAQ. The goals of the SMP include the protection of public health, safety, and visibility; and the development of an emission inventory for pollutants of interest for prescribed fire, wildland fire, and wildland fire used for resource benefits. Compliance with the current Smoke Management Memorandum of Understanding (MOU) between BLM, USFS, and UDAQ, in accordance with UAC regulation R446-1-2.4.4, requires reporting size, date of burn, fuel type, and estimated air emissions from each prescribed burn.

All prescribed burns and mechanical and chemical treatments and impacts would be analyzed under a project-specific NEPA compliance document.

Public notification for all prescribed burns occurs at several levels. Hunters in Limited Entry areas are notified of upcoming burns that are planned to occur during the fall hunting period, through a short letter and project map that is sent with each hunting tag/permit. The letter/map describes the project size, location, dates, and contact person for questions. The general public is typically notified of planned burn events through radio and newspaper announcements beginning several weeks before the planned ignition date. Points of contact for further information are included. Other agencies are notified 48 hours in advance of upcoming fire events. These include state, local and federal agencies. This notification is implemented through the Uinta Basin Interagency Dispatch Center.

4.2.3.5.1. PROPOSED RMP AND ALTERNATIVE A

The Proposed RMP and Alternative A identify the potential for approximately 156,425 acres to be treated by prescribed fire per decade. As no more specific information on fuel loads, spatial distribution, timing, or vegetative species is available at this time; the evaluation of potential air quality effects is necessarily somewhat general and qualitative rather than quantitative in nature.

4.2.3.5.1.1. Direct Impacts

There are several criteria pollutants of concern specific to prescribed burning, chiefly particulate matter and carbon monoxide (CO). Particulate matter produced in prescribed burns is predominantly $PM_{2.5}$. Biomass burning contributes to the release of greenhouse gases (such as CO_2), and eliminates a carbon sink.

Direct effects of prescribed fire fall into two general categories: short-term and long-term.

- **Short Term**: Short-term air quality effects projected from prescribed burns include a general increase in $PM_{2.5}$ particulate and CO emissions specific to the burn area and locations downwind. The magnitude of increase is directly dependent on the size, extent and controlled level of the burn. The type and amount of air pollutants released from burning wildland vegetation varies with type of fuel, moisture content, temperature of the fire, and the amount of smoldering occurring after the fire. If air quality were already approaching the threshold for particulate matter, prescribed burning could cause a region to exceed the daily limits. Because prescribed burning occurs irregularly, it is generally possible to restrict burning on "bad air quality days" to avoid violating air quality standards.
- **Long Term**: Long-term direct air-quality effects projected from prescribed burns include a general increase in airborne particulate materials from the burn site as a result of ash dispersion and transport. This increase would occur only until revegetation is complete and growth matures.

4.2.3.5.1.2. Indirect Impacts

Short-term and long-term indirect effects on air quality from prescribed burns include an increase in airborne particulates from the burn site as a result of wind-based erosion of devegetated areas. This effect is expected to be small as vegetation management is an active part of fire management techniques. A greater long-term effect of prescribed burning is a reduction in particulate, CO_2 and ozone emissions specific to wildfire in unmanaged areas. Ozone (a product of biomass combustion formed through the interaction of ozone precursors, volatile organic carbon compounds (VOCs), and nitrogen oxides) is a precursor to greenhouse gases, and a major constituent of photochemical smog. Although generally ozone produced by prescribed fire is quickly diluted and dispersed into the air, it may act as a contributor to the greenhouse effect. As a criteria pollutant, ozone production may be regulated by a State Implementation Plan (SIP), or burns may be banned under ozone alerts.

The detrimental effects from wildfire would likely be greater than those from prescribed fire and exert a larger negative effect on air quality in the VPA.

4.2.3.5.2. ALTERNATIVE B, C AND E

Air quality impacts are expected to be comparable to those described for Alternative A because the acres of treatment by prescribed burn per decade are the same.

4.2.3.5.3. ALTERNATIVE D

Impacts under this alternative would be similar to those discussed for the Proposed RMP, with a difference in magnitude of both impacts and benefits associated with the difference in total acres treated. Alternative D identifies the potential for 50,900 acres to be burned (27,950 acres in the Book Cliffs RMP area and 22,950 acres in the Diamond Mountain RMP area), which is 33% of the 156,425 acres identified under the Proposed RMP.

4.2.3.6. IMPACTS OF MINERAL DECISIONS ON AIR QUALITY

The results of air quality analysis for the Proposed RMP and each alternative specific to mineral decisions are presented in the following sections. The assessment of such air quality impacts is unique and does not easily conform to the established format of direct and indirect, short- and long-term effects. To better clarify the pertinent impacts and considerations involved, and to provide the reader with a more direct and understandable summary of the projected air quality effects, the air quality section has been divided into near- and far-field air quality analyses, each with a detailed discussion of model methodology, emission constituents evaluated and overall air quality effects.

This assessment is based on best available engineering data, meteorological data, and EPA dispersion modeling procedures. However, where specific data or procedures were not available, appropriate assumptions have been incorporated.

It should be kept in mind that all dispersion models, regardless of their level of complexity, are mathematical approximations of the behavior of the atmosphere. Therefore, particularly given the uncertain nature of the number and placement of the emission sources used in this analysis, the results need to be viewed as estimates of possible future concentrations and not exact predictions in time and space.

Dispersion modeling is generally conducted in a somewhat conservative manner, attempting to ensure that the final results do not underestimate the actual or future impacts, so that appropriate planning decisions can be made. For example, sources may be assumed to operate for longer times or emit more pollutants than might be reasonable to ensure that health-based air standards are protected (i.e., the far-field air quality impact assessment assumed that under Alternative A an additional 6,343 new wells would go into production up to five years from the date of the RODROD [assumed for purposes of the air quality analysis], then operate at full production levels with no "dry holes" or "shut ins," while in reality a small percentage of dry holes and shut ins would be expected to occur in projects of this size).

On the other hand, analyses are not conducted assuming the worst-case conditions across the board, which would lead to a "false-positive" result. Hence, dispersion modeling analyses are a

balancing act, using the best available information and methods (EPA recommended models, emission factors, etc.), and the best scientific and professional judgment where necessary, trying to direct the analysis so that the final results do not under-predict the actual concentrations that would occur in the future.

Detailed modeling results including a more complete discussion of the models used, the modeled scenarios evaluated, the location and date of each maximum impact, plots showing the receptor grid, terrain, and location of each maximum impact, and the output, input and list files for the post-processing are available in the TSD (Trinity and Nicholls 2006).

4.2.3.6.1. NEAR-FIELD ANALYSIS

4.2.3.6.1.1. Modeling Methodology

The ISCST3 model as contained in Lakes Environmental ISC-AERMOD View software (Lakes 2002) was used for all near-field modeling. All near-field modeling assumed flat terrain, rural dispersion conditions, and building downwash effects for a hypothetical structure. A hypothetical grouping of sources (including wells pads, glycol dehydrators, natural gas compressors, and an unpaved road traversing the source area) was used that provides an estimate of potential near-field pollutant impacts. Details of the source types and configurations are discussed in the TSD (Trinity and Nicholls 2006). Operating parameters used for each source were (unless otherwise stated) the same as those used in the CALPUFF modeling performed by Trinity Consultants. Inventory and RFD sources are not included in the near-field analysis.

The best available air quality monitoring data collected near the VPA were used to compare changes in air quality contributed by the modeled emission sources. There were existing monitoring stations for various pollutants near the VPA. Air quality data were obtained from the EPA AirData database (EPA 2002) and from the state air quality regulatory agencies. Detailed information on the air quality modeling techniques employed, parameters utilized, and meteorological conditions incorporated is presented in the TSD (Trinity and Nicholls 2006). Model receptors (points at which the model estimates concentrations) were placed as outlined in 4.2.1 below.

Table 4.2.1. Receptor Spacing for Near-field Modeling

Pollutant(s)	Source Type(s)	Receptor Ranges (m)	Receptor Spacing (m)
PM_{10}, $PM_{2.5}$	Roads	50–1, 500	50
	Pad Construction	50–1,700	50
All Other Criteria Pollutants	Pad Construction, Compressors, and Glycol Dehydrators	100–4,000	100
		4,000–10,000	2,000
Hazardous Air Pollutants (HAPs)	Compressors and Glycol Dehydrators	100–4,000	100
		4,000–10,000	2,000

Results of the ISCST3 near-field modeling air-quality analysis are common to all alternatives and are presented in the following sections.

4.2.3.6.1.2. Carbon Monoxide (CO)

Maximum potential CO emissions from natural gas-fired compressors were used to determine the maximum potential 1-hour and 8-hour average CO concentrations. The maximum-modeled concentrations were 233.3 $\mu g/m^3$ (1-hour) and 114.8 $\mu g/m^3$ (8-hour). When background concentrations are added (6,984 $\mu g/m^3$ and 4,236 $\mu g/m^3$ respectively), the total concentrations were 7,217 $\mu g/m^3$ (1-hour) and 4,351 $\mu g/m^3$ (8-hour). These concentrations are well below the applicable NAAQS for CO of 40,000 $\mu g/m^3$ (1-hour) and 10,000 $\mu g/m^3$ (8-hour).

4.2.3.6.1.3. Particulate Matter

To address the concerns of some of the stakeholders and cooperating agencies, the modeling analysis for particulate matter (PM_{10} and $PM_{2.5}$) for all proposed alternatives was divided into two parts: an analysis of road-related particulate (road-only); and an analysis of all particulate sources grouped together (roads and other sources) that included well pads (construction, traffic), compressors, and roads. It should be noted that different receptor configurations were used for the two analyses (as discussed in the TSD). All particulate matter sources were modeled with emissions limited to the hours from 7:00 A.M. to 7:00 P.M., the period when these sources are generally active (Trinity and Nicholls 2006). PSD increments do not apply, as the majority of these sources are temporary in nature.

<u>PM_{10}</u>

For the road-only analysis, the maximum-modeled potential PM_{10} concentrations were 0.29 $\mu g/m^3$ (24-hour) and 0.043 $\mu g/m^3$ (annual). When background concentrations are added (28 $\mu g/m^3$ and 10 $\mu g/m^3$ respectively), the total concentrations were 28.3 $\mu g/m^3$ for the 24-hour average and 10.04 $\mu g/m^3$ for the annual average. These concentrations are below the applicable NAAQS of 150 $\mu g/m^3$ (24-hour).

For the roads, wells and compressors analysis, the maximum-modeled potential PM_{10} concentrations were 3.76 $\mu g/m^3$ (24-hour) and 0.96 $\mu g/m^3$ (annual). When background concentrations are added (28 $\mu g/m^3$ and 10 $\mu g/m^3$ respectively), the total concentrations were 31.8 $\mu g/m^3$ for the 24-hour average and 11.0 $\mu g/m^3$ for the annual average. These concentrations are well below the applicable NAAQS of 150 $\mu g/m^3$ (24-hour).

<u>$PM_{2.5}$</u>

For the road-only analysis, the maximum-modeled potential $PM_{2.5}$ concentrations were 0.04 $\mu g/m^3$ (24-hour) and 0.0006 $\mu g/m^3$ (annual). When background concentrations are added (19 $\mu g/m^3$ and 7 $\mu g/m^3$ respectively), the total concentrations were 19.0 $\mu g/m^3$ for the 24-hour average and 7.0 $\mu g/m^3$ for the annual average. These concentrations are below the NAAQS for $PM_{2.5}$ of 35 $\mu g/m^3$ (24-hour) and 15 $\mu g/m^3$ (annual).

For the roads, wells and compressors analysis, the maximum-modeled potential $PM_{2.5}$ concentrations were 0.55 μg/m^3 (24-hour) and 0.14 μg/m^3 (annual). When background concentrations are added (19 μg/m^3 and 7 μg/m^3 respectively), the total concentrations were 19.6 μg/m^3 for the 24-hour average and 7.1 μg/m^3 for the annual average. These concentrations are well below the proposed NAAQS of 35 μg/m^3 (24-hour) and 15 μg/m^3 (annual).

4.2.3.6.1.4. Sulfur Dioxide (SO_2)

The maximum short-term (3-hour and 24-hour) and long-term (annual average) SO_2 concentration from compressors used to move the gas through the pipelines was modeled to be 20.2 μg/m^3 (3-hour), 10.1 μg/m^3 (24-hour), and 5 μg/m^3 (annual), including representative background values. All predicted short-term and long-term SO_2 concentrations were well below the applicable NAAQS of 1,300 μg/m^3 (3-hour), 365 μg/m^3 (24-hour) and 80 μg/m^3 (annual).

4.2.3.6.1.5. Nitrogen Oxide (NO_2)

Maximum NO_2 impacts during operations were modeled using "reasonably foreseeable" compressor NO_x emission rates. The maximum-modeled concentration for NO_2 reflects an adjustment by a factor of 0.75, in accordance with standard EPA methodology (Federal Register 60:153, p. 40469, dated August 9, 1995) to convert from the modeled NO_x concentration to NO_2 (Trinity and Nicholls 2006). The maximum-modeled annual NO_2 concentration was 1.40 μg/m^3. When the assumed representative background concentration (10 μg/m^3) is added, the resulting projected maximum total impact is 11.40 μg/m^3, which is below the applicable NAAQS of 100 μg/m^3 (annual).

4.2.3.6.1.6. Hazardous Air Pollutants (HAPs)

Maximum HAPs impacts during operations were modeled for the hypothetical arrangement of sources as described above. Emissions sources include compressors (benzene, ethylbenzene, formaldehyde, toluene, and xylenes) and glycol dehydrators (benzene, toluene, ethyl benzene, hydrogen sulfide, and xylenes).

Because neither the State of Utah nor the EPA have established HAP standards, 24-hour and annual HAP concentrations were projected using the ISCST3 model and compared to a range of acceptable ambient concentration levels (AACLs) from other states and/or EPA Reference Concentrations (RfCs) (EPA 1997 and Archer 2001). These thresholds are presented in Table 4.2.2.

Table 4.2.2. Summary of HAP Acceptable Ambient Concentration Levels (AACLs)

Benzene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Formaldehyde ($\mu g/m^3$)	Hydrogen Sulfide ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Xylenes ($\mu g/m^3$)	Agency
0.12	1,000	0.077	0.9	400	1,500	Washington Department of Ecology, WAC 176-460-150
annual	24-hour	annual	24-hour	24-hour	24-hour	
53	14,467	-	467	6,267	14,467	Utah DEQ Toxic Screening Level[a]
24-hour	24-hour		24-hour	24-hour	24-hour	
-	-	-	140	-	-	North Dakota Department of Health, Division of Environmental Engineering, 33-15-02 or Air Toxics Policy
			24-hour			
13-45b	-	8b	-	-	-	EPA IRIS Database 1/10000 Risk Level
annual		annual				
-	1,000	-	1	400	100	EPA IRIS Database RfC[c]
	24-hour		24-hour	24-hour	24-hour	

[a]The Toxic Screening Level (TSL) for Utah can be found in Utah Administrative Code R307-410-4.
[b]The range of values shown here represents the air unit risk of 1 in 10,000 taken from EPA's IRIS database.
[c]U.S. EPA's Integrated Risk Information System (IRIS) contains information on reference concentration for chronic inhalation exposure (RfC). (EPA 1997).

The results of the near-field HAPs modeling show that the maximum modeled annual benzene and formaldehyde concentrations (11.0 $\mu g/m^3$ and 0.531 $\mu g/m^3$, respectively), and the 24-hour concentration for xylenes (185.1 $\mu g/m^3$) exceed the low end of the range of respective AACLs. However, the background concentration for xylenes recommended for use was greater than the 100 $\mu g/m^3$ threshold identified for the 24-hour average (Table 4.2.3).

To better characterize the risk associated with the modeled concentrations of benzene and formaldehyde (xylenes are not considered carcinogenic according to EPA's IRIS database, EPA 2003) in BLM source emissions, two estimates of cancer risk were performed; one that corresponds to a most likely exposure (MLE) condition (related to residents of the area), and one reflective of the maximally exposed individual (MEI) such as compressor station workers. Possible incremental cancer risks were calculated based on the maximum predicted annual

concentrations from BLM sources only (excluding background), EPA's unit risk factors for carcinogenic compounds (EPA 1997), and an adjustment for time spent at home or on the job.

Table 4.2.3. Near-field HAPS Modeling Results for Vernal MA

Pollutant	Averaging Period	Maximum Modeled Concentration ($\mu g/m^3$)	Low end of AACLs ($\mu g/m^3$)[b]	High end of AACLs ($\mu g/m^3$)[b]
Benzene	24-hour	62.5	53	—
Benzene	Annual	11.0	0.12	13-45
Ethylbenzene	24-hour	11.4	1,000	14,467
Formaldehyde	Annual	0.53	0.077	8
H2S	24-hour	2.46E-04	0.9	467
Toluene	24-hour	98.2	400	6,267
Xylenes	24-hour	185.1	100	14,467

[a] Sources modeled: Glycol dehydrators, compressors; except H2S – dehydrators only
[b] See Table 4.2.2 for details on the AACLs

This analysis assumed that residential exposure was 20 years (well over the national nine-year average duration a family lives at a residence) and worker exposure was 20 years. In addition, it assumed that family members were exposed to the maximum concentrations 64% of the day, and to one forth of this concentration for the remaining 36% of the day. It should be noted that the modeled concentrations used in these calculations do not include background concentrations because the incremental cancer risk due to BLM sources only is the focus of this portion of the analysis.

Under the MLE scenario, the estimated individual cancer risks associated with long-term exposure to benzene (compressors, dehydrators) and formaldehyde (dehydrators) are 5.03 × 10-6 to 1.78×10^{-5} and 1.44×10^{-6}, respectively. Under the MEI analysis, the individual cancer risks for benzene and formaldehyde are 6.89×10^{-6} to 2.44×10^{-5} and 1.97×10^{-6} respectively. All are at the lower end of the threshold range of EPA's presumptively acceptable risks (1.0×10^{-4} to 1.0×10^{-6}, representing one excess cancer per 1 million people to one excess cancer per 10,000 people, respectively) (EPA 1999a).

The above risk calculations are based upon the maximum modeled concentration found anywhere in the vicinity of the hypothetical arrangement of sources. These maximum concentrations will most likely occur only within a few hundred meters of the edge of the sources. It is unlikely that any individual would be living this close to the sources. Therefore, the calculated risk values should be viewed as an upper bound on the range of possible risks associated with near-field impacts, with risks to actual residents likely being much lower. Therefore, the long-term cancer risk analyses for near-field modeling projections indicate minimal potential for concern.

4.2.3.6.1.7. Natural Gas Flare

A separate modeling exercise was conducted for potential natural gas flaring emissions. The flare modeling was performed with the SCREEN3 model (EPA 1995b), as suggested at a meeting of

the air quality stakeholders for this project (BLM 2003). Information provided by the BLM Vernal Field Office (VFO) showed that a significant percentage of proposed new wells would require flaring (60% of natural gas wells; BLM 2004b). Because the exact locations of wells requiring flaring is not known, these emissions were distributed evenly across existing point sources, weighted by the percent of the total area covered by each sub-region. Flare emissions were modeled as "sweet gas" which is assumed to contain no sulfur. Therefore, no emissions were estimated for SO_2. Detailed information is presented in the TSD (Trinity and Nicholls 2006). Modeled results show that all concentrations are well below the NAAQS.

4.2.3.6.2. FAR-FIELD ANALYSIS

4.2.3.6.2.1. Modeling Methodology

The CALPUFF air dispersion model is the preferred model for long-range transport recommended by the Federal Land Manager Air Quality Related Value Workgroup (FLAG) guidance, the Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and the EPA in its Guideline on Air Quality Models (EPA 2005); Trinity and Nicholls 2006).

Specific information on the CALPUFF air dispersion model (Version 5.5, Level 010730-1)[1], the CALMET diagnostic meteorological model (Version 5.2, Level 000602d), and the SCREEN3 flare emissions model (EPA 1995a) used for this analysis is available in the TSD (Trinity and Nicholls 2006). The air quality assessment included an evaluation of potential impacts associated with proposed future development on ambient air quality and on Air Quality Related Values (AQRV) managed by Federal Land Managers (FLM). The following assessments were conducted:

- Projection of potential direct and cumulative air quality impacts of emissions from existing and foreseeable oil, gas, and mineral development scenarios (Proposed RMP, and Alternatives A, B, C, D, and E).
- Comparison of potential direct and cumulative air quality impacts, plus the existing background concentration to the applicable NAAQS and those state ambient air quality standards that are more stringent than the NAAQS.
- Visibility impacts within mandatory Federal PSD Class I areas and specific Class II areas of concern.
- Atmospheric deposition of total sulfur and nitrogen within mandatory Federal PSD Class I areas and specific Class II areas of concern, including a lake chemistry analysis.

Best available air quality monitoring data collected near the VPA were used to compare changes in air quality contributed by modeled emission sources. There were existing monitoring stations for various pollutants near the VPA. Air quality data were obtained from the EPA AirData database (EPA 2002) and from the state air quality regulatory agencies. Detailed information on

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the air quality modeling techniques employed, parameters utilized, and meteorological conditions incorporated is presented in the TSD (Trinity and Nicholls 2006).

4.2.3.6.3. AIR QUALITY MODELING ASSUMPTIONS

In the development of this analysis, there was recognized uncertainty regarding the actual magnitude of final resource development. This uncertainty included the number of wells, type and number of equipment used, specific location of development, etc. Due to this uncertainty, actual impacts may vary from the modeled values and would potentially be affected by permit requirements.

All emission sources were assumed to operate at their maximum emission rates simultaneously throughout the lifetime of the project. In reality, some sources would only emit during a portion of any given day or year. It was also assumed that primary road traffic would occur during working, daylight hours (7 A.M. to 7 P.M.), particularly during the construction period of the wells[2], and that 50% control of particulate emissions would be attained by watering.

The contribution to the degradation of air quality from other [non-oil and gas] mineral development (i.e., from mine plans associated with solid leasable minerals such as gilsonite and phosphate, mineral materials and surface management), outside of the modeled impacts from dust due to increased activity and road-building, was considered nominal and only oil and gas related activities (the largest component of minerals related activity within the VPA) were considered in assessing impacts to air quality. This analysis does not include tar sands/oil shale minerals. Such analysis will be addressed and data updated with a land-use amendment after the PEIS tar/sands oil shale ROD is signed.

Other specific assumptions are detailed in the appropriate sections of this report and the associated sections of the TSD (Trinity and Nicholls 2006). It should be noted that exceedances, over predictions, and under predictions may be caused by limitations within the model. The accuracy of modeled results depends on the representation of sources within the model and accuracy of the state's emission inventory. One limitation of this air quality analysis is that the location of some BLM sources is unknown at this time. Small changes in source location may cause a change in modeled impacts, especially given the complex terrain that exists over much of the project area.

Air quality modeling for this document is based on the initial acreages proposed for Alternatives A, B, C, and D in June and July 2004 (see Tables 4.1.4a and 4.1.4b). Alternative E formulated later than the other Alternatives and is assumed to have the same air quality impacts as Alternative C. Similarly, the assumptions relevant to oil and gas development as they pertain to air quality are identical for the Proposed RMP and Alternative A. Projected well numbers and road-related air quality impacts were based on these proposed acreages. The total acreages for potential mineral development for Alternatives A, B, C, and D have changed somewhat over time as additional considerations and information has been brought forward through the assessment process. For Alternatives A, B and C/E, and the Proposed RMP, the changes are very small and represent < 1% difference from the acreages and well numbers modeled for air quality

[2] Mineral Potential Report for the Vernal Planning Area (BLM 2002).

impacts. In the case of Alternative D, the acreage used in the modeling assessment is approximately 6% greater than that currently recognized. This difference is specific to air quality modeling only and is due to a change in proposed total acreage for Alternative D. When the air quality modeling was undertaken, the Hill Creek extension (encompassing approximately 188,500 acres in total) was included in the acreage totals for modeling. However, in the intervening time frame, BLM decided that because the Hill Creek Extension was not leased in the Book Cliffs RMP, this acreage should have not been included in the modeling for Alternative D. Air quality modeling for Alternative D does not reflect the withdrawal of the 188,500 acres and therefore exhibits a slight overestimation of air quality impacts for this alternative. Given the conservative nature of the assumptions used, these differences are considered to be minor at most and the modeled air quality impacts for these alternatives remain valid.

4.2.3.6.4. EMISSION SOURCES

Two groups of emission sources were modeled for this analysis. The first group, referred to as "inventory sources," included new and modified emission sources that have commenced operation since the monitoring base year date. Data for inventory-source emissions were provided by the Utah Department of Environmental Quality (UDEQ) and the Colorado Department of Public Health and Environment (CDPHE) state inventories.[3] The second group of sources, referred to as "BLM sources," included those future proposed sources projected to result from BLM oil and gas development. Compressors for gas compression, glycol dehydrators, and fugitive dust from new roads were included in this category.

4.2.3.6.5. INVENTORY SOURCES

If a source in the emission inventory was in operation prior to the monitoring date of the background concentration, that source was assumed to be included in the background and was not modeled. Background air quality data were values recommended by UDEQ and Colorado Department of Public Health and Environment[4] and is detailed in Table 3.2.4 in Chapter 3. The base year date applied for each pollutant is presented in Table 4.2.4.

Table 4.2.4. Base Year Date for Background Concentrations

Pollutant	PM_{10}	$PM_{2.5}$	NO_2	CO	SO_2
Proposed Base Year Date	2000	2001	2000	2001	2000

This analysis assumed that reasonable variations in emissions occur through the years. If an emission source showed increases or decreases in emissions that occurred in the year immediately before or after the base year date, and the inventory information provided by the states did not show modification to the source, the emissions changes were assumed to be a part of expected variation and were not modeled. The following sources in the emission inventory were not considered to be background and were modeled:

[3] Deborah McMurtrie, SIP/Rules Section, Planning Branch, Division of Air Quality, Department of Environmental Quality, (801) 536-4187. Dave Thayer, Public Health Engineer Colorado Department of Public Health and Environment, Air Pollution Control Division / Stationary Sources Program, david.thayer@state.co.us, Voice: 303-692-3187, FAX: 303-782-0278.

[4] Background concentration recommended by CDPHE in the review comments provided by Nancy Chick, dated on December 20, 2002. Background concentrations recommended by the Utah Department of Environmental Quality in memorandum No. DAQP-003-03, dated on January 17, 2003 from Richard W. Sprott to Yu Shan Huang.

- A source that commenced operation after the monitoring base year date.
- Any emissions increase from a source that had a permit issued after the monitoring base year date. If the last permit issue date was not available, the emission increase was modeled. The UDEQ inventory did not provide a permit issue date. Therefore, any emissions increase after the monitoring base year date was modeled.

A review of all sources provided in the Utah source inventory and all Title V permits available on the UDEQ website was conducted on a per-pollutant basis because each pollutant had a different monitoring base year date. The modeling domain was set so that it extended 50 km beyond all sources and receptors. Therefore, only sources inside 50 km of the modeling domain boundary were modeled. No sources were placed within 10 km of any modeled sensitive areas in order to provide a more realistic analysis of existing and expected sources.5 Gravel pits, storage piles, haul roads, and other fugitive sources were modeled as area sources.

A list of all inventory sources that were excluded from the analysis together with the reason for exclusion is available in Appendix C of the TSD (Trinity and Nicholls 2006). Additional information on modeling domains, stack parameters, emission rates and emission factors used is available in the TSD (Trinity and Nicholls 2006).

4.2.3.6.6. BLM Sources

The four proposed development alternatives modeled include estimates of the number of wells drilled for oil and gas, compressor stations, and pipelines, along with other foreseeable development activities by non-BLM entities (Trinity and Nicholls 2006). The modeling analysis is, at most, a prediction of short-term and annual average air quality impacts. Modeling was based on a single year of activity, as little or no variation in activity levels from year to year is expected according to BLM field office personnel (BLM 2004a and 2004b).

Potential emissions specific to BLM sources are summarized in a general fashion in the following sections. A detailed summary of the modeled air quality parameters is available in the TSD (Trinity and Nicholls 2006).

4.2.3.6.7. Proposed RMP and Alternative A

The following subsections present the CALPUFF modeling results for the Proposed RMP and Alternative A for NAAQS, PSD increments, HAPs, visibility, deposition, and acid neutralizing capacity (ANC) specific to BLM sources.

4.2.3.6.7.1. NAAQS

Modeling results show no exceedances of the NAAQS for any pollutant or averaging period from BLM sources for any of the modeled alternatives.

[5] For sources located within 10 km of any Class I area, the Prevention of Significant Deterioration (PSD) permitting rules consider any net emissions increase that would have an air quality impact greater than 1 $\mu g/m^3$ (24-hour average) at the Class I area to be a significant increase.

4.2.3.6.7.2. PSD Increment Thresholds

BLM identified three mandatory Federal Class I and six Class II areas within the VPA to be considered in the analysis. These selected sensitive areas are listed in Table 3.2.3 in Chapter 3. The modeling results show no potential concentrations predicted that would exceed the Class I or Class II increments for BLM sources only.

4.2.3.6.7.3. HAPs Emissions

Near-field HAP concentrations were projected using the ISCST3 model and compared to a range of AACLs from other states and/or EPA RfCs (EPA 1997 and Archer 2001). These thresholds are presented in Table 4.2.4. Background concentrations for HAPs emissions (Table 4.2.5) were estimated using data from EPA's Urban Air Toxics Pilot Project collected in the city of Grand Junction between May 2001 and April 2002, as recommended by the Colorado Department of Health and Environmental Quality (Chick 2002). As these concentrations were measured in an area that is more urban in nature than the majority of the VPA, they may represent an overestimation of the actual background levels occurring at any single location within the VPA.

Table 4.2.5. Recommended HAPs Background Concentration

Agency	Benzene	Ethylbenzene	Formaldehyde	Toluene	Xylenes
Annual Mean (ppbv)[a]	0.90	0.84	5.78	3.70	3.63 [b]
24-hour Maximum (ppbv)[a]	2.72	10.68	14.00	33.26	43.66 [b]
Annual Mean ($\mu g/m^3$)	2.87	3.65	7.11	13.95	15.75
24-hour Maximum ($\mu g/m^3$)	8.68	46.35	17.22	125.39	189.48

[a] ppbv = parts per billion by volume

[b] The xylenes concentration represents the sum of m,p-xylene and o-xylene.

The results of the HAPs modeling show no concentration values (excluding background concentrations) that exceeded any of the AACLs/RfCs for BLM sources only (annual benzene concentration 0.0375 $\mu g/m^3$, annual formaldehyde concentration 0.0557 $\mu g/m^3$). However, when background concentrations were included, the annual concentrations for benzene (2.9 $\mu g/m^3$) and formaldehyde (7.1 $\mu g/m^3$) as well as the 24-hour concentration for xylenes (192 $\mu g/m^3$) exceed their respective AACLs. (The background concentration for xylenes recommended for use was greater than the 100 $\mu g/m^3$ threshold identified for the 24-hour average.) BLM sources contribute, at most, 1% to these concentrations, meaning that at least 99% of these concentrations are due to assumed background concentrations.

Because one or more of the AACLs/RfCs was exceeded (when background concentrations were included), an incremental cancer risk analysis was performed for benzene and formaldehyde emitted from the proposed sources modeled (xylenes are not considered carcinogenic). Two estimates of cancer risk (MLE and MEI) were completed as discussed previously for near-field modeling. Background concentrations are not included in the risk assessment calculations because the incremental cancer risk due to BLM sources only is the focus of this portion of the analysis.

The MLE range of estimated individual cancer risks for long-term benzene exposure from BLM sources only is 1.72×10^{-8} to 6.10×10^{-8}. For formaldehyde, the MLE risk is 1.51×10^{-7}. These values are well below the lower end of the threshold range (1×10^{-4} to 1×10^{-6}) of presumptively acceptable risks (EPA 1998). Under the MEI analysis, the range of individual cancer risks for benzene is 2.36×10^{-8} to 8.36×10^{-8}. For formaldehyde, the MEI risk is 2.07×10^{-7}. These values are also well below the lower end of the threshold range of presumptively acceptable risks. These values are also well below the lower end of the threshold range of presumptively acceptable risks. Therefore, the long-term cancer risk analyses indicate no potential for concern.

It should be noted that these risk calculations are based on the maximum modeled concentration found anywhere near the hypothetical arrangement of sources. It is unlikely that an individual is residing at this exact location for the entire length of time assumed in the calculations. Therefore, the risk values calculated above should be viewed as an upper bound on the range of possible risks associated with near-field impacts, with actual risks to residents likely being lower.

4.2.3.6.7.4. Visibility Analyses

Because emissions from the alternatives constitute many small sources spread out over a very large area, discrete visible plumes are not likely to impact the PSD Class I areas or other wilderness areas.

Regional haze is caused by fine particles and gases scattering and absorbing light. The first level screening analysis for visibility compared daily modeled primary (PM_{10}) and secondary (sulfate and nitrate) particulate matter concentrations to "natural" background conditions and seasonal relative humidity values, to calculate the potential change in visibility (FLAG 2000).

A 1.0-deciview (dv) change is considered potentially significant in mandatory Federal PSD Class I areas as described in the EPA Regional Haze Regulations (EPA 1999b, Pitchford and Malm 1994). The results of the screening visibility analysis for all alternatives (Trinity and Nicholls 2006) indicate that emissions from proposed BLM sources are not expected to result in a 1.0-dv reduction in visibility at any of the PSD Class I wilderness areas under any of the alternatives.

Comparisons of modeled concentrations to the PSD Class I and II increments in this analysis were intended solely to evaluate a threshold of concern for potential impacts to provide decision makers with as much information as possible upon which to base their decisions. They do not represent regulatory PSD Increment Consumption Analyses. Such regulatory analyses are the responsibility of the state air quality agency (under EPA oversight) and would be conducted during permitting process (Trinity and Nicholls 2006).

In addition, the U.S. Forest Service (USFS) and other members of the stakeholders group requested that a separate analysis be done, comparing the screening visibility results to the USFS's 0.5-dv "Limit of Acceptable Change" threshold to evaluate potential significant visibility impacts at the PSD Class I Areas. The BLM performed the analysis of potential visibility impacts at the 0.5 dv level at the request of the USFS and other stakeholders, not based on any legal requirement. All visibility results are presented in detail in the TSD (Trinity and Nicholls 2006).

Screening visibility results for a number of Class II areas were added at the request of various members of the stakeholder group and are presented for disclosure purposes only. These Class II wilderness areas, parks, and monuments have no visibility protection under state or federal law at this time. However, inclusion of these areas in the analysis provides BLM decision makers with a more complete picture of potential impacts throughout the region.

At this preliminary resource planning stage, the emission sources in this analysis do not have a defined location. In addition, the U.S. Congress has delegated implementation of the Clean Air Act to applicable local, state and tribal air quality regulatory agencies (with EPA oversight). The regulatory agencies are able to determine the visual impact of the plume from individual emission sources during the new source review process. Therefore, this analysis did not evaluate the near-field visibility impact of the sources at the resource planning stage (Trinity and Nicholls 2006).

Potential 24-hour primary PM_{10}, and secondary sulfate and nitrate particulate matter concentrations were calculated within mandatory Federal Class I areas and at specific Class II areas of concern. PSD Increments have not yet been established for $PM_{2.5}$ and therefore were not addressed in this analysis.

The Class II areas included in this analysis were incorporated at the request of some of members of the stakeholder group (National Park Service, USFS, etc.). These Class II areas do not have any visibility protection under local, state, or federal laws. Their inclusion in the analysis is strictly to meet the disclosure requirements under NEPA and to provide decision makers with sufficient information upon which to make decisions (Trinity and Nicholls 2006).

The BLM has consulted with the Ute Indian Tribe concerning the Hill Creek Extension. Those areas considered to be sensitive to the tribe (i.e., traditional cultural properties) have been closed to oil and gas leasing.

Calculated values were first compared to "natural" background conditions as recommended in the FLAG Guideline document (FLAG 2000). Because this analysis was conducted for multiple emission sources simultaneously, the FLAG 10% change in extinction (1.0 dv) "just noticeable change" threshold was used to assess the significance of potential impacts.

No visibility criteria exceedances were projected for any pollutant or averaging period from BLM sources for any of the modeled alternatives (Table 4.2.6). Because the visibility impacts for BLM sources for all modeled alternatives was below 10% (1.0 dv) for all Class I areas, no refined visibility analysis was conducted.

Table 4.2.6. Results of Screening Visibility Analysis for Alternative A (BLM Sources Only)

PSD Class	Name of Class I or Class II Area	Days >0.5 Deciview Change		Days >1.0 Deciview Change	
		BLM Sources Only	Inventory Sources	BLM Sources Only	Inventory Sources
I	Arches NP	0	1	0	1
I	Canyonlands NP	0	4	0	0

Table 4.2.6. Results of Screening Visibility Analysis for Alternative A (BLM Sources Only)

PSD Class	Name of Class I or Class II Area	Days >0.5 Deciview Change		Days >1.0 Deciview Change	
		BLM Sources Only	Inventory Sources	BLM Sources Only	Inventory Sources
I	Capitol Reef NP	0	0	0	0
II	Browns Park NWR	0	0	0	0
II	Dinosaur NM	0	8	0	2
II	Flaming Gorge NRA	0	0	0	0
II	High Uintas WA	0	0	0	0
II	Ouray NWR	0	6	0	0
II	USFS Request[a]	0	0	0	0

[a] Areas near Mount Olympus, Twin Peaks, Lone Peak, Mount Timpanogos, and Mount Nebo

4.2.3.6.7.5. Deposition

All modeled values of sulfur and nitrogen deposition for BLM sources only were well below the applicable thresholds of 3 kilograms per hectare per year (kg/ha-yr) for total sulfur and 5 kg/ha/yr for total nitrogen.

4.2.3.6.7.6. Acid Neutralizing Capacity

Where background lake chemistry data were available, an analysis of potential changes to ANC (the ability of a given lake to neutralize acid precipitation) was performed using the procedure recommended by the USFS (2000). This screening methodology takes deposition values of sulfur and nitrogen estimated by CALPUFF and converts these values into a potential change in the ability of a given lake to neutralize acid precipitation.

ANC thresholds were not exceeded for any of the lakes considered in the analysis of modeled BLM source emissions.

4.2.3.6.8. Alternatives B, C, D, and E

The following subsections present the CALPUFF modeling results for Alternatives B, C, D and E for NAAQS, PSD increments, HAPs, visibility, deposition, and ANC from BLM sources.

4.2.3.6.8.1. NAAQS

Modeling results were the same as for Alternative A and show no exceedances of the NAAQS for BLM sources.

4.2.3.6.8.2. PSD Increment Thresholds

Modeling results were the same as for Alternative A and show no exceedances of the Class I or Class II increments for BLM sources.

4.2.3.6.8.3. HAPs Emissions

The results of the HAPs modeling were similar to those for Alternative A and show no concentration values (excluding background concentrations) that exceeded any of the AACLs/RfCs for BLM sources only (annual benzene concentration 0.0376 μg/m^3, 0.0243 μg/m^3, 0.0056 μg/m^3, 0.0243 μg/m^3 for Alternatives B, C, D, and E respectively; annual formaldehyde concentration 0.0559 μg/m^3, 0.0555 μg/m^3, 0.0559 μg/m^3 0.0555 μg/m^3 for Alternatives B, C, D, and E respectively.

However, when background concentrations are included, the annual concentrations for benzene and formaldehyde and the 24-hour concentration for xylenes exceed their respective AACLs under all alternatives (Table 4.2.7). The background concentration for xylenes recommended for use is greater than the 100-μg/m^3 threshold identified for the 24-hour average (see Table 4.2.5). BLM sources contribute, at most, 1% to these concentrations, meaning that at least 99% of these concentrations are due to assumed background concentrations.

Table 4.2.7. HAPs Analysis Results for HAPs Found to Exceed AACLs

Pollutant (μg/m^3)	Alternative B			Alternative C/E			Alternative D		
	BLM Sources	Background Sources	BLM sources + Background	BLM Sources	Background Sources	BLM sources + Background	BLM Sources	Background Sources	BLM sources + Background
Annual Benzene (annual)	0.0376	2.871	2.9086	0.0056	2.871	2.8766	0.0056	2.871	2.8766
Formaldehyde (annual)	0.0559	7.1094	7.1653	0.0555	7.1094	7.1649	0.0559	7.1094	7.1653
Xylenes (24-hour)	2.13	190	192	0.362	190	190	0.361	190	190

HAPs analysis results for BLM sources, background sources, and BLM + background sources for Alternatives B, C/E, and D for HAPs found to exceed AACLs. All concentrations are reported in units of μg/m^3.

An incremental cancer risk analysis (excluding background concentrations) was conducted for Alternatives B, C, D, and E as for the Proposed RMP and Alternative A. Individual cancer risks for long-term exposure to benzene under the MLE scenario were 1.73×10^{-8} to 6.12×10^{-8} for Alternative B, 2.57×10^{-9} to 9.11×10^{-9} for Alternatives C, D, and E. The MLE results of the risk analysis for formaldehyde show an individual cancer risk value of 1.52×10^{-7} for Alternative B, 1.50×10^{-7} for Alternative C and E, and 1.52×10^{-7} for Alternative D. All of the MLE risks

are well below the lower end of the range of presumptively acceptable risks (1×10^{-4} to 1×10^{-6}, EPA 1998), indicating no potential for concern.

Under the MEI analysis, the individual cancer risk for benzene was 2.36×10^{-8} to 8.38×10^{-8} for Alternative B, 3.52×10^{-9} to 1.25×10^{-8} for Alternatives C and E, and 3.52×10^{-9} to 1.25×10^{-8} for Alternative D for long-term exposure to benzene. The MEI results of the risk analysis for formaldehyde show a risk value of 2.08×10^{-7} for Alternative B, 2.06×10^{-7} for Alternatives C and E, 2.08×10^{-7} for Alternative D. These risks values are also below the range of presumptively acceptable risks, indicating no potential for concern.

4.2.3.6.8.4. Visibility Analyses

Modeling results were the same as for the Proposed RMP and Alternative A and show no visibility criteria exceedances.

4.2.3.6.8.5. Deposition

Modeling results were the same as for the Proposed RMP and Alternative A and show no exceedances of the applicable thresholds for total sulfur and total nitrogen.

4.2.3.6.8.6. Acid Neutralizing Capacity

Modeling results were the same as for the Proposed RMP and Alternative A and show no exceedances of ANC thresholds for any of the lakes considered in the analysis of modeled BLM source emissions.

4.2.3.7. DISCUSSION

Table 4.2.8 contains a relative comparison of physical characteristics and modeled air quality parameters from BLM emission sources for the Proposed RMP and Alternatives A, B, C, D, and E.

Table 4.2.8. Relative Comparison of Modeled Air Quality Parameters from BLM Sources for Proposed Management Alternatives

Parameter	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E[b]
Physical Characteristics						
Proposed number of wells[a]	6,342.8	6,342.8	6,432.6	6,225.7	6,247.6	6,225.7
Estimated number of new road miles per year[a]	253.8	253.8	257.3	249.1	250.0	249.1
Modeled PM_{10} fugitive dust impacts associated with new road use	120.9	120.9	122.5	118.7	119	118.7

Table 4.2.8. Relative Comparison of Modeled Air Quality Parameters from BLM Sources for Proposed Management Alternatives

Parameter	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E[b]
and construction (tons/year)						
Air Quality Impacts						
Total NAAQS exceedances	None	None	None	None	None	None
PSD increment exceedances	None	None	None	None	None	None
Hazardous air pollutants (HAPs) benzene	BLM sources add an incremental increase (1%) to background concentrations that already exceed at least one AACL.					
Hazardous air pollutants (HAPs) formaldehyde	BLM sources add an incremental increase (1%) to background concentrations that already exceed at least one AACL.					
Hazardous air pollutants (HAPs) xylenes	BLM sources add an incremental increase (1%) to background concentrations that already exceed at least one AACL.					
Other hazardous air pollutants	BLM sources add an incremental increase (1%) to background concentrations, none of which exceed any AACL.					
Visibility impacts	No visibility criteria exceedances projected. Visibility impacts for BLM sources for all alternatives were below 5% (0.5 dv) for all Class I and Class II areas.					
Deposition of sulfur and nitrogen	None	None	None	None	None	None
Acid neutralizing capacity (ANC) exceedances	None	None	None	None	None	None

[a] Please see discussion of well numbers under Section 4.2.2.6.3 Air Quality Modeling Assumptions

[b] Alternative E was formulated later than the alternatives and was developed to be the same as C, but managing for non WSA lands with wilderness characteristics. For the purposes of the air quality analysis, Alternative E is assumed to be the same as C.

The information presented in the preceding sections and summarized in Table 4.2.6 shows that the proposed BLM sources alone are not projected to cause exceedance of any applicable standards or thresholds. Therefore, air quality effects specific to BLM emission sources from mineral development are expected to be negligible at most.

Also, it should be noted that the multiple conservative assumptions used throughout the modeling further underscore that actual air quality impacts are likely to be less than the modeled values. For example, some pollutant sources were assumed to operate 100% of the time throughout the modeled period although it is unlikely that this will occur; the maximum modeled concentration was used for health risk calculations, although it is unlikely that anyone resides at the maximum location; fugitive dust sources were conglomerated into area sources, likely increasing local $PM_{2.5}$ and PM_{10} concentrations, and roads are assumed to emit dust equally throughout the year, when dust emissions are reduced or eliminated when roads are frozen or wet.

4.2.4. MITIGATION MEASURES

No air quality exceedances were projected under the Proposed RMP and all alternatives. However, the following mitigating measures may be implemented to further minimize air quality emissions related to the proposed management decisions.

Prescribed burning would be concentrated in spring (mid-April through mid-June) and fall (mid-September through mid-November) to avoid coinciding with peak summer levels of air pollutants from other anthropogenic activities in the area and winter inversion potential. The increase in local and sub-regional smoke associated with prescribed burns must be traded off against the large regional smoke plumes of the wildfires that can be expected without prescribed burning. Computer smoke dispersion modeling and related smoke management techniques can help to identify the potential for prescribed burning to result in air quality exceedances within the VPA.

Roads, well locations, and other mineral development-related disturbances in areas with soils susceptible to wind erosion would be appropriately surfaced (covering of piles where appropriate, graveling or surfactants applied to roads, etc.) to reduce fugitive dust generated by traffic and related activities. Such treatments would also be applied as appropriate on local and resource roads that represent a dust problem. Lower speed limits, enforced by the appropriate authority, would also act to limit dust in project and adjacent areas.

In addition, a variety of multi-level regulatory processes exist to ensure that pollutant levels do not increase above identified thresholds and/or air quality criteria. Pre-construction permitting processes are required to consider cumulative impacts of proposed and surrounding future sources to ensure that proposed sources within the project area would not contribute to exceedances of the ambient air quality standards.

4.2.5. CUMULATIVE IMPACTS

The CALMET/CALPUFF dispersion modeling system was used with the best available meteorological data (1996) plus numerous surface, precipitation, and upper-air data to predict maximum potential far-field cumulative air quality impacts at downwind PSD Class I Wilderness Areas. This assessment was conducted to:

- Determine if the NAAQS and PSD Class I and Class II increments might be exceeded,
- Calculate potential total nitrogen and sulfur deposition (and their related impacts) in sensitive lakes,
- Determine if AACLs are exceeded for HAPs when combined with background concentrations,
- Predict potential impacts to regional visibility.

Potential emissions from other "reasonably foreseeable" facilities not represented by the measured background values were added to modeled emissions from implementation of Alternative B (the alternative representing the greatest degree of potential oil and gas

development) to determine potential cumulative air quality impacts. Therefore, the cumulative effects analysis represents the highest potential cumulative impact from the four alternatives. Detailed information on the sources outside the VPA is presented in the TSD (Trinity and Nicholls 2006).

4.2.5.1. NAAQS

Modeling results show no exceedances of the NAAQS for any pollutant for any of the modeled alternatives.

4.2.5.2. PSD INCREMENT THRESHOLDS

The modeling results show no potential concentrations that would exceed the Class I or Class II increments for the VPA.

4.2.5.3. HAPS EMISSIONS

The results of the far-field HAPs modeling show that the annual benzene and formaldehyde concentrations (2.9 $\mu g/m^3$ and 7.2 $\mu g/m^3$ respectively, including background concentrations) and the 24-hour concentration of xylenes (192 $\mu g/m^3$, including a background concentration greater than the 100 $\mu g/m^3$ 24-hour concentration threshold) were the only values that exceeded any of the AACLs. An incremental cancer risk analysis was performed for benzene and formaldehyde emitted from the proposed sources modeled (xylenes are not considered carcinogenic).

Under the MLE scenario, the estimated individual cancer risks associated with long-term exposure to benzene range from 1.43×10^{-6} to 5.07×10^{-6}, while the formaldehyde risk was estimated to be 1.97×10^{-5}. These values are within the EPA (1998) range of presumptively acceptable risks of 1.0×10^{-4} to 1.0×10^{-6}. Under the MEI analysis, individual cancer risks for benzene were 1.96×10^{-6} to 6.94×10^{-6}, while the risk for formaldehyde was 2.70×10^{-5}. Again, the values are within the range of presumptively acceptable risks and both indicate minimal potential for concern.

As described for Alternatives A through E, risk calculations are based on the maximum modeled concentrations and should be viewed as an upper bound on the range of possible risks associated with far-field impacts, with risks to actual residents likely being lower.

4.2.5.4. VISIBILITY ANALYSES

Potential 24-hour primary PM_{10}, and secondary sulfate and nitrate particulate matter concentrations were calculated within mandatory Federal Class I areas and at specific Class II areas of concern, as described for Alternative A. PSD Increments have not yet been established for $PM_{2.5}$ and therefore were not addressed in this analysis.

Calculated concentrations were first compared to "natural" background conditions as recommended in the FLAG (2000) Guideline document. Because the analysis was conducted for multiple emission sources simultaneously, the FLAG 10% change in extinction (1.0 dv) "just

noticeable change" threshold was used to assess the significance of potential impacts. If the seasonal screening analysis indicated that predicted changes in visibility exceeded the 1.0-dv Limit of Acceptable Change (LAC), a daily refined analysis was conducted based on hourly IMPROVE (2002) optical monitoring data measured at Canyonlands National Park for 1987 through 2001. Additional detailed information on parameters used and assumptions made for this analysis are available in the TSD (Trinity and Nicholls 2006).

Results of the visibility analyses (Trinity and Nicholls 2006) for all sources are presented in Table 4.2.8.

Table 4.2.8. Screening Visibility Modeling Results and Refined Visibility Analysis for All Sources (Cumulative)

PSD Class	Name of Class I or Class II Area	Screening Visibility Modeling Results		Refined Visibility Analysis Results[b]	
		Days >1.0 Deciview Change		Minimum Days >1.0 Deciview Change	Maximum Days >1.0 Deciview Change
		All BLM sources only	All BLM and inventory sources		
I	Arches NP	0	1	0	0
I	Canyonlands NP	0	0		
I	Capitol Reef NP	0	0		
II	Browns Park NWR	0	0		
II	Dinosaur NM	0	2	0	1(0)
II	Flaming Gorge NRA	0	0		
II	High Uintas WA	0	0		
II	Ouray NWR	0	3		
II	USFS Request c	0	0		

a Results reflect maximum concentration from all alternatives.

b Values in parenthesis reflect all BLM sources. All Class II areas and Class I areas with no impacts from the screening analysis are not included in the refined analysis.

c Areas near Mount Olympus, Twin Peaks, Lone Peak, Mount Timpanogos, and Mount Nebo

Results of the screening visibility analysis shown in Table 4.2.7 indicate that potential BLM sources, along with existing inventory sources, do not result in a perceptible (1.0-dv reduction) impact on visibility at any of the PSD Class I areas in the study domain. The Class II areas included in this analysis were included at the request of some of the members of the stakeholder group (National Park Service, USFS, etc.). These Class II areas have no visibility protection under local, state, or federal laws. These areas are included in the analysis strictly to meet the disclosure requirements under NEPA and to provide decision-makers with sufficient information.

4.2.5.5. DEPOSITION

All modeled values of sulfur and nitrogen deposition for BLM sources only were well below the applicable thresholds of 3 kg/ha/yr for total sulfur and 5 kg/ha/yr for total nitrogen.

4.2.5.6. ACID NEUTRALIZING CAPACITY

ANC thresholds were not exceeded for any of the lakes considered in the analysis of modeled BLM source emissions.

4.2.6. AIR QUALITY IMPACT SUMMARY

Management decisions specific to the Proposed RMP and alternatives have the potential to impact air quality to the following degrees:

- Mineral management decisions would emit pollutants during operation (i.e., well operations, compressor engines, etc.), along with fugitive dust from construction and mineral extraction activities. Air quality impacts from the projected levels of emission are expected to be negligible.
- Air quality impacts from prescribed fire management decisions would generally be related to particulate matter (primarily $PM_{2.5}$) and carbon monoxide (CO). Impacts would generally be short term and would have long-term benefits for other resources.
- Impacts from forage management decisions, livestock grazing, rangeland improvement decisions, recreation management decisions, riparian management decisions, soils and watershed management decisions, special designations decisions, travel-based decisions, wildlife and fisheries management decisions, and woodland and forest management decisions are projected to have a negligible to incrementally positive effect on air quality in those regions where they are implemented.
- Impacts from cultural resource management decisions, land and realty management decisions, paleontology-based decisions, special status species decisions, visual resource management decisions, and wild horse management decisions are projected to have no significant effect on air quality except as they impact other management decisions.
- The burning of fossil fuels (natural gas, crude oil, etc.) produces many types of emissions, including greenhouse gases (GHGs). These GHGs (primarily carbon dioxide, CO_2) are believed to cause global warming. The production and combustion of natural gas associated with the proposed alternatives would produce GHGs. However, the amount of GHGs produced is an extremely small fraction of the global emissions total, and lower than if other fuels (coal, oil, etc.) were being used. Therefore, no significant adverse impacts to climate are anticipated from implementation of any of the alternatives.

4.2.7. UNAVOIDABLE ADVERSE IMPACTS

Prescribed fire may result in degradation of air quality through increases in wind-borne particulate (PM_{10} and $PM_{2.5}$) due to loss of vegetation unless revegetation measures are adequately monitored and supported for regrowth. Cumulative impacts to air quality are further addressed in Section 4.23.1.

Adverse impacts to air quality are not projected to occur under any of the proposed mineral development alternatives.

4.2.8. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Prescribed fire may result in short and long-term (to a lesser degree) degradation of air quality through increases in wind-borne particulate (PM_{10} and $PM_{2.5}$) due to loss of vegetation unless revegetation measures are adequately monitored and supported for regrowth.

Adverse impacts to air quality are not projected to occur under any of the proposed mineral development alternatives.

4.2.9. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

With proper management and remediation, there is no projected irreversible or irretrievable air quality impacts associated with the proposed prescribed burning alternatives.

There are no irreversible or irretrievable impacts to air quality projected to occur under any of the proposed mineral development alternatives.

4.20. WILD HORSES

Impacts from decisions concerning paleontological resources, soils and watershed, special status species, visual resource management, and woodland and forests would have negligible or minor impacts on wild horse forage and water availability, or herd health and sustainability in the VPA; therefore, they will not be discussed further in this analysis. Impacts from decisions concerning cultural resources, fire management, forage allocation, lands and realty management, livestock grazing, mineral resources, recreation, riparian resources, special designations, travel, vegetation resources, wild horse management, and wildlife and fisheries management would potentially impact wild horses in the VPA. Decisions relating to these resources and resource uses would have short-term or long-term direct or indirect impact on wild horses in the VPA.

There are currently one herd area (HA) and two herd management areas (HMAs) in the VPA: the Bonanza HMA, Winter Ridge HA, and Hill Creek HMA. The Proposed RMP and all alternatives vary in their impacts on maintaining the wild horse herds in these areas, as summarized in Table 4.20.1.

Table 4.20.1. Maintaining Wild Horse Herds, Proposed RMP and all Alternatives

	Bonanza HMA	Winter Ridge HA	Hill Creek HMA
Proposed RMP	No	No	No
Alternative A	No	Yes	Yes
Alternative B	No	No	No
Alternative C	Yes	Yes	Yes
Alternative D (No Action)	No	No	Yes
Alternative E	Yes	Yes	Yes

There are no known reports of wild burros existing within the VPA; therefore, no further analysis or discussion of wild burros will be made in this section.

4.20.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

4.20.1.1. FIRE

Fire management other than prescribed burning, which includes mechanical and chemical treatment methods, would impact wild horses under the Proposed RMP and all of the alternatives. Mechanical and/or chemical treatments and seeding treatments would have direct and indirect, adverse, short-term effects on wild horse herds. Direct impacts would be caused by the removal of forage within the fire treatment areas. Indirect impacts would be produced by fencing the treated areas during vegetation re-growth, which would make forage unavailable to herds until vegetation re-establishment.

4.20.1.2. LANDS AND REALTY

For lands and realty management actions under the Proposed RMP and all of the alternatives, there is the potential that land tenure adjustments (i.e., acquisitions, disposals, and withdrawals) would adversely impact wild horse herds associated with areas where adjustments might be made. The land tenure adjustment process would analyze impacts to wild horses on a case-by-case basis. This would, in turn, adversely increase wild horse harassment, which could disrupt the daily and seasonal activities of the wild horse bands in these areas. Repeated and consistent disruption of the herds would have a long-term, adverse impact on wild horses.

4.20.1.3. RIPARIAN

Riparian management actions would impact wild horses under the Proposed RMP and all of the alternatives by reducing or eliminating their access to riparian areas during efforts to improve riparian resources. Any actions that would have the potential to impact wild horses in the VPA would be further analyzed on a case-by-case basis prior to the implementation of a project, but restricting wild horse access to water within riparian areas would have direct, adverse impacts on wild horses.

4.20.1.4. WILDLIFE

Wildlife management actions under the Proposed RMP and all of the alternatives would adversely impact wild horses. Wildlife has the potential to compete directly and indirectly with wild horses for forage and habitat. However, management decisions have been proposed under all of the alternatives and the Proposed RMP to adequately allocate forage and habitat to wildlife and wild horses to mitigate forage and habitat competition.

4.20.2. PROPOSED RMP AND ALTERNATIVE IMPACTS

4.20.2.1. IMPACTS OF CULTURAL DECISIONS, RECREATION DECISIONS, SPECIAL DESIGNATIONS DECISIONS, TRAVEL DECISIONS, AND NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS DECISIONS ON WILD HORSES

4.20.2.1.1. PROPOSED RMP AND ALTERNATIVE B

No wild horses would be maintained within the VPA under the Proposed RMP and Alternative B. Therefore, there would be no impacts to wild horses from cultural, recreation, special designations, travel, and non-WSA lands with wilderness characteristics decisions.

4.20.2.1.2. ALTERNATIVES A, C, AND E

The protection of cultural resource areas under these alternatives by limiting OHV travel to designated routes or closed areas to OHV use, and protecting cultural sites from minerals surface disturbances under Timing and Controlled Surface Use leasing stipulations would have indirect, long term, beneficial impacts on wild horses. These management decisions would benefit wild

horses by reducing the potential for herd harassment and disturbances caused by human noise, motion, night lighting, and human presence.

Under these alternatives, substantial areas within the VPA would be managed as designated SRMAs (and each SRMA managed under an integrated activity plan) to provide opportunities for specific recreational experiences. Under Alternative A, 499,588 acres would be proposed for SRMA designation; Alternatives C and E propose 522,604 acres for management within SRMAs. The impacts on wild horses would be the same as discussed for cultural resources above because minerals-related surface disturbances would be managed to ensure satisfactory recreational experiences. Wild horses would benefit indirectly from SRMA designation because OHV use and backcountry and front country activities would be controlled, which would reduce human harassment caused by noise and human presence.

Special designation areas under these alternatives would have impacts similar to those discussed above for SRMAs because these areas would be managed to protect and prevent irreparable damage to scenic, cultural, wildlife, and other natural systems. Thus, minerals-related surface disturbances would be constrained, OHV use would be limited to designated routes or prohibited, and habitat would be protected. Substantial areas are proposed for ACEC designation under these alternatives: Alternative A proposes 345,850 acres for ACEC management; Alternatives C and E propose 681,310 acres for management under ACEC special designations. This would have indirect beneficial impacts on wild horses similar to those for SRMAs because potential human-related wild horse harassment and human presence would be managed to protect the resource values within the ACECs, proposed wild and scenic river segments, and WSAs.

Travel management decisions under these alternatives would have beneficial impacts on wild horses by minimizing areas within the VPA that are open to cross-country OHV travel. Substantial portions of the VPA would either be closed to OHV use or would limit travel to designated routes. Under Alternative A, 6,202 acres would be open to cross-country OHV travel; Alternatives C and E would limit open OHV use to 5,434 acres. These management decisions would indirectly and beneficially preserve wild horse habitat and reduce potential human harassment of herds in the Winter Ridge HA and Hill Creek HMA.

Under Alternative E, 277,596 acres of non-WSA lands with wilderness characteristics would be managed to preserve their wilderness values. These areas would be managed under VRM Class I objectives, closed to OHV use, closed to woodland harvesting, closed to new road construction, and closed to oil and gas leasing. However, management of these areas would allow construction of wildlife waters and fuels treatments. These management decisions would indirectly benefit wild horses in the long term by reducing human presence and the potential for human harassment, and improve water availability and forage conditions in the long term.

Compared to Alternative D (No Action), Alternatives A, C and E would provide a higher degree of protection to wild horses by restricting some activities around designated cultural sites. More acres would be managed as SRMAs and ACECs, more area managed to limit surface disturbances, and greater restrictions would be placed on OHV travel under Alternatives A, C, and E for more beneficial indirect impacts on wild horses than under Alternative D (No Action).

4.20.2.1.3. ALTERNATIVE D (NO ACTION)

Alternative D does not specify designating Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads as BLM Back Country Byways and allows for continued recreational use of the White River with minimal management oversight and unlimited and unconfined recreation in the Book Cliffs. Alternative D (No Action) would maintain current levels of adverse indirect, long-term impacts on wild horses in the HA and HMAs.

4.20.2.2. IMPACTS OF FIRE DECISIONS ON WILD HORSES

4.20.2.2.1. PROPOSED RMP AND ALTERNATIVE B

Fire management decisions would allow prescribed burning on 156,425 acres per decade within the VPA; however, there would be no impacts from fire decisions on wild horses, as in the long term all herds would be removed from the VPA.

4.20.2.2.2. ALTERNATIVES A, C, AND E

Fire management decisions for Alternatives A, C and E would allow for prescribed burning on 156,425 acres per decade (the same as under the Proposed RMP and Alternative B). Short-term, adverse impacts on wild horses, in the form of reduced forage and restricted use of these areas by wild horses, would occur in areas where prescribed burning was applied. However, these prescribed fires would be planned in areas where long-term benefits (including improved forage for wild horses) would be expected as a result of vegetation treatment. Compared to Alternative D (No Action), these alternatives would be more beneficial to wild horses in the long term because more area would be managed for prescribed fire vegetation treatments, which would have more long-term, indirect improvements on wild horse forage conditions.

4.1.1.1.1 Alternative D (No Action)

Fire management under Alternative D (No Action) would allow for prescribed fire on approximately 27,950 acres in the Book Cliffs area. Short-term, adverse impacts on wild horses, in the form of reduced forage and restricted use of these areas by wild horses, would occur in areas subject to such treatments. However, these prescribed fires would be planned in areas where long-term benefits would be realized as a result of the vegetation treatment.

Compared to the other alternatives, Alternative D (No Action) would provide the most protection to wild horses in the short term by potentially disturbing fewer acres of forage through fire treatments. However, the smaller acreage where prescribed burning would be allowed would have fewer beneficial impacts from improved forage in the long term.

4.20.2.3. Impacts of Forage Allocation Decisions on Wild Horses

4.20.2.3.1. Proposed RMP

Under the Proposed RMP, and in the long term, all wild horses would be removed from the VPA, but forage would be temporarily allocated to wild horses until they are removed within the Winter Ridge HA and the Hill Creek HMA. Short term forage allocations within the VPA to wild horses (in the Winter Ridge HA and the Hill Creek HMA) would total 2,340 AUMs. Wild horses were removed in the Bonanza area in 2001, and no forage allocations are proposed for that locality under the Proposed RMP. In the long term, the gradual decrease and reallocation of forage for wildlife and livestock would have no impact on wild horses because they would not be present. In the short term, allocation of forage for the Winter Ridge and Hill Creek localities would be beneficial to wild horses because forage would be available to them until final gathering and removal from the VPA. Compared to Alternative D (No Action), the wild horse forage allocation under the Proposed RMP would be less beneficial because in the long term wild horse forage would reallocated to wildlife and livestock.

4.20.2.3.2. Alternative A

Under this alternative, 2,940 AUMs would be allocated for wild horse herds in the Winter Ridge HA and Hill Creek HMA. This would have long term, beneficial impacts on wild horses because allocated forage would ensure the sustainability and health of herds in these localities. Compared to Alternative D (No Action), this alternative would be more beneficial to wild horse herds because more AUMs would be allocated under Alternative A.

4.20.2.3.3. Alternative B

This alternative would not allocate any forage AUMs to support wild horse herds until they were permanently removed from the VPA. Alternative B forage allocation decisions would have short term, adverse impacts on wild horses within the VPA because no forage would be allocated until gathering had been completed to remove horses from the VPA. The long term impacts would be the same as discussed under the Proposed RMP alternative because all wild horses would be removed from the VPA.

4.20.2.3.4. Alternatives C and E

Under these alternatives, wild horse forage allocations would be 3,960 AUMs: 1,020 AUMs would be allocated within the Bonanza HMA, 1,200 AUMs would be allocated within the Winter Ridge HA, and 1,740 AUMs would be allocated within the Hill Creek HMA. The impacts would be beneficial in the short term and long term because these allocations would provide for the dietary needs, health, and sustainability of wild horses within the VPA.

Proposed management decisions under Alternatives C and E stipulate that if forage conflicts between livestock and wild horses are identified in the Bonanza HMA, use by livestock and wild horses would be reduced, but the wild horse herd forage allocations would not be reduced below 480 AUMs. If forage conflicts are identified between wildlife and wild horses in the Bonanza

HMA, use by wildlife and wild horses would be reduced proportionally. . The impacts of these forage allocation decisions on wild horses would be adverse because reduced forage could affect herd size and health. If additional forage were available in the Bonanza HMA, wild horse use would be increased in accordance with available forage, which would be beneficial to the Bonanza HMA herd because the additional forage would support herd health and population sustainability.

Compared to Alternative D (No Action), these alternatives would be more beneficial because they would allocate more forage for wild horses than Alternative D (No Action) (3,360 AUMs).

4.20.2.3.5. ALTERNATIVE D (NO ACTION)

There would be no AUM allocation for a wild horse herd in the Winter Ridge HA under Alternative D (No Action) because all wild horses would be removed. Total forage allocation under this alternative would be 3,360 AUMs: wild horse forage in the Hill Creek HMA would be 2,340 AUMs, and forage allocations to wild horses in the Bonanza HMA would be 1,020 AUMs (Note: the 1,020 AUMs allocated in the Bonanza HMA was carried forward into Alternative D (No Action) in error, as the proposed Bonanza Herd Plan Amendment was never approved or implemented). Forage conflicts and additional forage allocations would remain unspecified in the Book Cliffs Locality (Hill Creek HMA and Winter Ridge HA) under Alternative D (No Action).

4.20.2.3.6. SUMMARY OF ALTERNATIVES FOR FORAGE ALLOCATIONS DECISIONS

The Proposed RMP, and Alternatives B and D would provide the least protection to wild horses. In the Bonanza HMA, Alternatives C and E would be the most beneficial. In the Winter Ridge HA, Alternatives C and E would be the most beneficial. Alternatives C and E would allocate 1,020 AUMs in the Bonanza HMA. In the Winter Ridge HA and the Hill Creek HMA, the Proposed RMP would allocate the most AUMs (2,340 AUMs), however, the AUMs under the Proposed RMP would be temporarily allocated until the wild horses are removed. Alternative D (No Action) would allocate 2,340 AUMs in the Hill Creek HMA only. Alternatives A, C, and E would allocate 1,200 AUMs in Winter Ridge and 1,740 AUMs in Hill Creek.

4.20.2.4. IMPACTS OF MINERALS DEVELOPMENT DECISIONS ON WILD HORSES

4.20.2.4.1. PROPOSED RMP AND ALTERNATIVE B

Under the Proposed RMP and Alternative B, all wild horses would be removed from the VPA. Horses would be temporarily authorized until they were removed; therefore, there would be short term direct and indirect impact to wild horses. Direct impacts from well drilling, and access road and infrastructure construction would reduce the AUMs available to wild horses. Indirect impacts would include the general effects of widespread activities that would create motion, noise, and other disturbances to horses.

4.20.2.4.2. ALTERNATIVE A

Alternative A would manage 240,247 acres within the HMAs and HA under Standard and Timing and Controlled Surface Use leasing stipulations, which is 89% of the total area proposed for wild horse management. Minerals development would have long-term direct and indirect, adverse impacts to wild horses. Direct impacts would reduce the AUMs available to wild horses, caused by well pad, infrastructure, and access road construction. Indirect impacts would include the general effects of widespread activities that would create noise, light, movement, human presence and associated disturbances to horses. The acreages that would be available for Standard and Timing and Controlled Surface Use leasing for the Proposed RMP and all alternatives are shown in Table 4.20.2 below. Compared to Alternative D (No Action), the impacts under Alternative A would be greater as more acreage would be affected by these leasing categories under Alternative A.

4.20.2.4.3. ALTERNATIVES C AND E

Under Alternative C, a total of 213,908 acres within the Bonanza and Hill Creek HMAs and the Winter Ridge HA (79% of the total area managed for wild horses within these areas) would be managed under Standard and Timing and Controlled Surface Use leasing stipulations. The impacts to wild horses would be the same as discussed under Alternative A. This is because of the relatively large percentage of these wild horse management areas that would be available for minerals leasing-related surface disturbances.

Alternative E would manage a total of 209,838 acres within the HMAs and HA under Standard and Timing and Controlled Surface Use leasing stipulations (78% of the total area). The impacts would be the same as discussed under Alternative A.

Compared to Alternative D (No Action), Alternatives C and E would have a lower percentage of the HMAs and HAs available for direct minerals-related surface disturbances under Standard and Timing and Controlled Surface Use leasing, with less directly adverse impacts to wild horse range.

4.20.2.4.4. ALTERNATIVE D (NO ACTION)

Under this alternative, the impacts from minerals development would be similar to those described under Alternative A except for the long-term adverse impacts to wild horses, which would maintain current minerals development designation on lands in the HMAs and HA. Minerals leasing under Standard and Timing and Controlled Surface Use would be allowed on 234,010 acres within the existing HMAs and HA. The total area available for Standard and Timing and Controlled Surface Use leasing within the existing HMAs and HA is 234,010 acres, which is 88% of the area currently managed for wild horses in the VPA.

Alternatives C and E would provide the highest degree of resource protection from minerals development by restricting minerals development in the HMAs and HA, followed by Alternative D (No Action). Alternatives A and B would provide no protection, as wild horses would be removed from the VPA.

Table 4.20.2. Acres of Standard and Timing and Controlled Surface-use Minerals Leasing within the HMAs and HA

	Bonanza HMA	Winter Ridge HA	Hill Creek HMA
Proposed RMP	0[1]	0	0
Alternative A	120,023 (96)[2]	20,438 (53)	99,786 (95)
Alternative B	0	0	0
Alternative C	120,000 (96)	7,253 (19)	86,655 (81)
Alternative D (No Action)	119,953 (96)	20,392 (52)	93,665 (91)
Alternative E	115,973 (93)	7,233 (23)	86,632 (81)

Source: BLM GIS 2008

[1] Under Proposed RMP and Alternative B, wild horse herds would be removed and the HMAs and HA would not be maintained.

[2] The number in parentheses is the percentage of the HMA or HA proposed for leasing under Standard and Timing and Controlled Surface Use leasing stipulations.

4.20.2.5. Impacts of Non-WSA Wilderness Area Decisions on Wild Horses

Decisions to protect non-WSA wilderness characteristics areas within the VPA are described under the Proposed RMP and Alternative E. Under the Proposed RMP, 1,378 acres of non-WSA lands with wilderness characteristics lie within the Bonanza HMA. Under Alternative E, 16,396 acres of wilderness characteristics lie within the Hill Creek HMA, and approximately 7,449 acres lie within the Bonanza HMA. The impacts of these decisions on wild horses would be beneficial in the long term because these non-WSA lands with wilderness characteristics that are within the above HMAs would be managed as closed to oil and gas leasing, and closed to woodland harvesting. These areas would also be either closed to cross-country OHV travel (under Alternative E) or would limit OHV travel to designated routes (under the Proposed RMP), managed under VRM I Class or Class II objectives, and managed to preserve their wilderness values. These decisions would have long-term, beneficial impacts on the VPA wild horse herds by restricting surface disturbances within the HMAs, by reducing the impacts to vegetation productivity, and by reducing the impacts of other human-caused disturbances on the herds (e.g., noise, OHV vehicle and human presence). Compared to Alternative D (No Action), this alternative would have more direct and indirect beneficial impacts because it would provide more protection to wild horses and to their range.

4.20.2.6. Impacts of Rangeland Improvements Decisions on Wild Horses

In those areas where wild horses would be maintained, wild horses would directly benefit in the long-term from rangeland improvements through efforts to improve forage and provide improved access to water. Any rangeland improvements would done as a case-by-case determination of need to maintain the health of the VPA herds and would include:

- Conducting vegetation treatments aimed at improving forage composition
- Constructing guzzlers or other reservoirs
- Constructing wells or improving springs
- Installing additional water pipelines

Rangeland improvements for the Proposed RMP and each alternative are shown below in Table 4.20.2.

4.20.2.6.1. PROPOSED RMP

Vegetation treatments for rangeland improvements under the Proposed RMP would occur on 5,750 fewer acres and 23 fewer wells/springs than Alternative D (No Action). Overall, the Proposed RMP would have beneficial long-term rangeland improvement impacts on wild horses similar to Alternative D, as the Proposed RMP would increase the number of guzzlers/reservoirs and miles of water pipeline over those proposed under Alternative D (No Action). Although wild horses would not be managed in the long term under this alternative (and would eventually be removed from the VPA), there would be beneficial impacts to wild horse populations from rangeland improvements until such time as horses are removed.

4.20.2.6.2. ALTERNATIVE A

Vegetation treatments for rangeland improvements under Alternative A would occur on 5,750 fewer acres and 23 fewer wells/springs (the same as discussed above under the Proposed RMP) than Alternative D (No Action). Alternative A would have beneficial long-term rangeland improvement impacts on wild horses similar to Alternative D (No Action), as Alternative A would increase the number of guzzlers/reservoirs and water pipeline miles over those proposed under Alternative D (No Action).

4.20.2.6.3. ALTERNATIVE B

Although wild horses are not managed under Alternative B from the VPA, there would be short term beneficial impacts to wild horse populations from rangeland improvements until such time as horses are removed, as discussed above under the Proposed RMP.

Table 4.20.2. Rangeland Improvements for the Proposed RMP and Each Alternative

	Proposed RMP and Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Vegetation Treatment (acres)	34,640	50,900	45,860	40,390	45,860
Fencing (miles)	68.5	368.5	129.0	65.0	129.0
Guzzlers/reservoirs	812	1,165	811	775	811
Wells/springs	51	78	87	74	87
Water pipeline (miles)	37.5	51.0	29.5	35.0	29.5

4.20.2.6.4. ALTERNATIVES C AND E

Under Alternatives C and E there would be an increased number of acres for vegetation treatment fencing, guzzlers/reservoirs, and wells/springs when compared to Alternative D (No Action). Consequently, Alternatives C and E would have more beneficial long-term impacts on wild horses than Alternative D.

4.20.2.6.5. ALTERNATIVE D (NO ACTION)

This alternative would continue the rangeland improvement currently scheduled to be completed in the areas associated with the wild horse HA and HMAs.

4.20.2.7. IMPACTS OF WILD HORSE DECISIONS ON WILD HORSES

4.20.2.7.1. PROPOSED RMP

4.20.2.7.1.1. Bonanza

The Proposed RMP would not reintroduce a wild horse herd into the Bonanza HMA, wild or feral horses present would be gathered and removed, and forage would be allocated for wild horse use until they were removed from the VPA. The area would be managed as a HA with no specific wild horse management plan, gap fencing and water development for wild horses would be constructed. The impacts to the wild horse herd within this HMA would be adverse in the long term because the herd would be eliminated from this management area.

4.20.2.7.1.2. Winter Ridge

Any wild or feral horses present would be gathered and removed, and forage would be allocated until removal. The area would be managed as a HA with no specific wild horse management plan. No horse grazing permits would be allowed within the HA to grazing permittees, including the Northern Ute Tribe and SITLA. A gathering plan would be prepared for removal of wild horses and these horses would be made available for adoption under the BLM's Adopt-A-Horse program. Also, the BLM would pursue an agreement with the Northern Ute Tribe and issue a MOU with for the gathering and removing of wild and feral horses on federal lands. The impacts to the wild horse herd in this HA would be adverse in the long term because the herd would be removed.

4.20.2.7.1.3. Hill Creek

Any wild or feral horses present would be gathered and removed, and forage would be allocated until their removal.

Under the Proposed RMP, the impacts to wild horse herds would be adverse in the long term because all wild horses would be removed from the VPA; individuals would be gathered and made available for adoption under the BLM's Adopt-a-Horse program, forage allocated until

their removal, and the same stipulations would apply as described above in Section 4.20.2.7.1.2 for Winter Ridge.

4.20.2.7.2. ALTERNATIVE A

4.20.2.7.2.1. Bonanza

The impacts to the Bonanza wild horse herd under Alternative A would be the same as discussed above for the Proposed RMP because the herd would not be maintained or re-introduced.

4.20.2.7.2.2. Winter Ridge

Under this alternative the Winter Ridge herd would be established and maintained with the population ranging between 50 and 100 horses, the HA would be designated as an HMA, and monitoring plan would be prepared. The impacts to the Winter Ridge herd would be beneficial in the long term because the herd population would be adjusted for health and sustainability, and because the population would be monitored under a Management Area Plan to ensure its health.

4.20.2.7.2.3. Hill Creek

The Hill Creek herd would be maintained at a minimum population of 70 horses, a range improvement program and MOU would be pursued with the North Ute Tribe and adjacent private land owners, and a 4-year gathering plan would be implemented. The boundaries of the HMA would be extended to include Wild Horse Bench and Big Pack Mountain (an increase of 53,212 acres). These proposed decisions would have long term beneficial impacts on the Hill Creek herd because the herd range would be expanded; a program would be developed to ensure herd and sustainability through a monitoring program.

Under this alternative, equine diseases could have adverse impacts on the VPA herds, affecting both the Northern Ute Tribe horses as well as wild horses because of the potential for contact between herds. However, proposed fence construction in key areas of concern for management of tribal and wild horse herds would likely reduce this impact.

Compared to Alternative D (No Action), this alternative would have more beneficial impacts on VPA wild horse herds because more specific management decisions and management plans would be implemented to ensure herd health and sustainability than under Alternative D (No Action).

4.20.2.7.3. ALTERNATIVE B

4.20.2.7.3.1. Bonanza, Winter Ridge, and Hill Creek

Horses were removed from the Bonanza HMA in 2001 and area was declared unpopulated. The area would be managed as a HA with no specific wild horse management plan. In the Winter Ridge HA, no horse grazing permits would be allowed or the immediate areas to grazing permittees including the Northern Ute Tribe and SITLA. Alternative B would have the same

impacts on wild horses as discussed under the Proposed RMP because all horses would be removed from the VPA.

4.20.2.7.4. ALTERNATIVES C AND E

4.20.2.7.4.1. Bonanza

Under Alternative C, a wild horse herd would be re-established with a minimum herd size of 40 horses, a herd management plan would be developed, fencing would be constructed to contain the herd, and additional herd watering areas would be developed. Under this alternative, a herd gathering plan would be developed and integrated with the BLM's Adopt-a-Horse Program. All of these management decisions would have long term, beneficial impacts on the Bonanza Herd because they would ensure that the re-established herd would remain healthy and sustainable by limiting the population to available management area forage allocations and water resources.

Alternative E proposes the same management decisions as discussed under Alternative C, so the impacts would be the same.

4.20.2.7.4.2. Winter Ridge

Alternatives C and E propose the same management decisions as Alternative A, so the impacts would be the same as discussed under that alternative.

4.20.2.7.4.3. Hill Creek

Under Alternatives C and E, the proposed management decisions for Hill Creek would be the same as proposed under Alternative A so the impacts would be the same.

4.20.2.7.5. ALTERNATIVE D (NO ACTION)

4.20.2.7.5.1. Bonanza

The impacts on wild horses would be the same as discussed under the Proposed RMP because wild horses would not be maintained within the Bonanza HA.

4.20.2.7.5.2. Winter Ridge

Under this alternative the Winter Ridge herd would not be maintained, and wild horses would be removed from the HA. The impacts would be adverse in the long term on wild horses within the VPA because the wild horse population would be reduced.

4.20.2.7.5.3. Hill Creek

The Hill Creek HMA would be managed for wild horses under this alternative, with an unspecified minimum herd size and a 195-horse maximum population size. Management decisions for this HMA are unspecified under the current RMP, which would have long term, adverse impacts on wild horses within the HMA. The impacts would be adverse because equine

disease concerns would not be addressed, no gathering plan would be developed to maintain the herd population within its forage allocations, no range improvements are specified, and Ute Tribe and private property boundary concerns would not be specifically addressed. Therefore, the long term health and sustainability of the herd would not be ensured.

4.20.2.8. SUMMARY

4.20.2.8.1. PROPOSED RMP AND ALTERNATIVE B

Under the Proposed RMP and Alternative B wild horses would be removed from the VPA. These alternatives would provide no protection to wild horse herds.

4.20.2.8.2. ALTERNATIVE A

Alternative A would have a high level of beneficial protection to wild horse herds because the herds would be maintained within the Winter Ridge HA and the Hill Creek HMA.

4.20.2.8.3. ALTERNATIVES C AND E

These alternatives would provide the highest degree of wild horse protection by re-establishing the Bonanza HMA, designating the Winter Ridge HA as a HMA, extending herd management boundaries, designating travel corridors, and providing the most range improvements.

4.20.2.8.4. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would provide some protection to wild horses, but less than Alternatives C and E by maintaining the Hill Creek HMA. This alternative would cause potentially less short-term disturbance to forage from fire treatment than the other alternatives and allocate more AUMs in the Hill Creek HMA than the other alternatives.

4.20.3. MITIGATION MEASURES

- Consider fencing major arterial roadways and major roads in the vicinity of oil and gas development areas to reduce the potential for vehicle-wild horse collisions.
- Use a staggered schedule for fire treatment within HMAs to reduce the short-term, adverse impacts to wild horses from treated areas that have been fenced off for vegetation regrowth.
- Coordinate equine disease testing with the State of Utah Veterinarian to ensure that wild horse herds remain healthy and do not impact Ute Tribe horses.
- Encourage Uintah County and the Ute Tribe to establish an equine disease-testing program.

4.20.4. UNAVOIDABLE ADVERSE IMPACTS

There are no unavoidable adverse impacts to wild horses if mitigation measures are implemented.

4.20.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

The short-term resource uses associated with minerals development (such as seismic exploration and natural gas test well drilling, and the noise associated with these activities) in an area would have adverse impacts on the long-term productivity of wild horse herds if they impinge on wild horse foraging areas and water sources. These activities, though short term, would have cumulatively long-term adverse impacts on wild horse productivity if they continue sporadically throughout an area.

Short-term fire management activities, such as prescribed burning or other fire treatments would have beneficial impacts on the long-term productivity of the herds by increasing available forage. Dispersed recreational activities in an area, while individually short-term, would potentially have cumulative long-term impacts on wild horse herd productivity by preventing an area's use for shelter, forage, or as a water source.

4.20.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Irretrievable impacts to the VPA wild horse herds would include the loss of forage in areas of minerals development. The construction and maintenance of access roads, drilling well pads, and support facilities would temporarily remove areas from vegetation production that would otherwise be available for wild horse forage or as shelter. Gap fencing to protect riparian areas would be an irretrievable loss of water resources for wild horses and would have an adverse impact on wild horses. Under Proposed RMP and Alternatives A and B, the complete removal of wild horses from the VPA would be an irretrievable loss of the wild horse resource. There are no irreversible impacts to the wild horse resource.

4.21. WILDLIFE AND FISHERIES RESOURCES

Impacts from decisions concerning Paleontological Resources and Visual Resource Management would have a negligible effect on wildlife in the Vernal Planning Area (VPA) and therefore will not be discussed further in this analysis. Paleontological resource decisions would not result in substantial amounts of surface disturbance nor protections from surface disturbance whereas Visual Resource Management decisions would generally be reflected in energy and minerals decisions discussed below. All other proposed management decisions have the potential to impact wildlife in the VPA. A detailed description of these impacts is given below. It should be noted that the effects of livestock grazing decisions on wildlife and fisheries resources would be generally limited to the disease transmission impacts of domestic sheep to bighorn sheep. Forage allotments that currently allow domestic sheep would continue to be phased to cattle allotments if they are associated with bighorn sheep reintroduction areas.

4.21.1. IMPACTS OF RESOURCE MANAGEMENT DECISIONS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

BLM would, wherever possible, provide habitat for a diversity of wildlife and fish species within the planning area, maintain and protect existing crucial habitats for big game and upland game species, restore degraded habitats, and manage for large un-fragmented blocks of continuous wildlife habitat that would provide the life cycle requirements of a variety of wildlife species. BLM recognizes the need to identify species and habitats most in need of conservation so that these areas can receive prioritization in preserving valuable wildlife habitats. BLM also recognizes the important role of UDWR in managing wildlife populations, hunting, and fishing associated with lands managed by BLM. Specific BLM actions to achieve these goals are listed in Chapter 2. These actions note that habitat preservation and cooperative wildlife management would be important in maintaining the wildlife populations associated with lands managed by BLM in the VPA.

4.21.2. IMPACTS OF RESOURCE MANAGEMENT DECISIONS ON WILDLIFE AND FISHERIES FOR THE PROPOSED RMP AND ALL ALTERNATIVES

4.21.2.1. IMPACTS OF CULTURAL RESOURCES DECISIONS ON WILDLIFE AND FISHERIES RESOURCES

Under the Proposed RMP and Alternatives A, B, C, and E, closing or limiting OHV use to designated trails in the Uinta Foothills, Little Devil/Big Hole, Upper Willow Creek, and Four Mile Wash areas would reduce surface-disturbing activities and thus would have beneficial protection-related impacts to wildlife near cultural sites and traditional sacred properties. Alternative D (No Action) would maintain these areas as open to OHV use, and areas near cultural sites and traditional sacred properties would not provide protection to wildlife from OHV use, when compared to the Proposed RMP and the action alternatives.

4.21.2.2. Impacts of Fire Management on Wildlife and Fisheries Resources

The Proposed RMP and Alternatives A, B, C, and E allow for prescribed fire on approximately 156,425 acres per decade. The effects of prescribed fire on wildlife and fish populations would be direct and adverse in the short term by removing habitat, reducing short-term habitat quality and causing individual mortality. Additionally, the use of fire lines and fire suppression activities for wildfire under the Fire Management Plan would likely have similar short-term direct adverse effects from habitat removal. However, fire management decisions would generally have a long-term beneficial impact to wildlife and fish populations by helping to restore the natural fire regime, which would improve habitat health and increase habitat diversity. Restoring the natural fire regime would also reduce the chance of catastrophic fire, and the subsequent loss of major ecosystem components, in comparison to Alternative D (No Action). Alternative D (No Action) provides for a total of 50,900 acres per decade of prescribed fire (27,950 and 22,950 acres for the Book Cliffs and Diamond Mountain RMPs respectively). This alternative provides for fewer acres of disturbance and therefore would likely have fewer short-term direct adverse impacts to wildlife and fish populations, but would likely result in a higher long-term risk of catastrophic wildfire than the action alternatives. This, in turn, would result in greater long-term risk to wildlife and fish populations than the action alternatives.

4.21.2.3. Impacts of Forage Allocation on Wildlife and Fisheries Resources

The overarching goal of forage allocation decisions is to maintain or improve the total forage resource using techniques that are compatible with the use and development of other resources and that would maintain, meet, or make substantial progress towards meeting Utah BLM Rangeland Health Standards. The impacts of forage allocation decisions by alternative are discussed below for all localities and under the heading of each forage locality. AUMs for wildlife are obtained by a combination of previously adjudicated AUMs and AUMs obtained either from the previous purchase of private grazing lands or through the allocation of AUMs currently owned and controlled by non-governmental organizations.

4.21.2.3.1. All Localities

4.21.2.3.1.1. Proposed RMP

The Proposed RMP would restrict forage utilization on uplands to a maximum of 50% utilization. Alternative D (No Action), on the other hand, would not specify forage utilization on uplands. The Proposed RMP would allocate 104,865 animal unit months (AUMs) for wildlife, which would include all wildlife species and populations. This is about 9% more (8,258 more AUMs) than Alternative D (No Action), which would allocate 96,607 AUMs to wildlife. In the short-term Alternative D (No Action) would have greater beneficial impacts to wildlife than the Proposed RMP by allowing for more forage utilization (not limited to 50%). However, in the long-term Alternative D (No Action) would have greater adverse impacts to wildlife than the Proposed RMP because the lack of a forage utilization limit would result in greater adverse impacts to the forage vegetation resource on which wildlife species depend.

4.21.2.3.1.2. Alternative A

Alternative A would restrict forage utilization on uplands to a maximum of 50% utilization. Alternative D (No Action), on the other hand, would not specify forage utilization on uplands. Alternative A would allocate 104,871 AUMs for wildlife, which would include all wildlife species and populations. This is about 9% more (8,264 more AUMs) than t Alternative D (No Action), which would allocate 96,607 AUMs to wildlife. In the short-term Alternative D (No Action) would have greater beneficial impacts to wildlife than Alternative A by allowing for more forage utilization (not limited to 50%). However, in the long-term Alternative D (No Action) would have greater adverse impacts to wildlife than Alternative A because the lack of a forage utilization limit would result in greater adverse impacts to the forage vegetation resource on which wildlife species depend.

4.21.2.3.1.3. Alternative B

Alternative B would restrict forage utilization on uplands to a maximum of 60% utilization. Currently there is no specification for forage utilization on uplands under Alternative D (No Action). Alternative B would allocate 104,871 AUMs for wildlife. This would be an increase of 8,264 AUMs (about 9%) allocated to wildlife in comparison with Alternative D (No Action). With respect to AUMs allocated for wildlife Alternative B would be more beneficial to wildlife than Alternative D (No Action) due to the greater number of AUMs. Under Alternative B the impacts of forage utilization limits on wildlife compared to Alternative D (No Action) would be the same as the impacts discussed under Alternative A except that Alternative B would limit forage utilization to 60%.

4.21.2.3.1.4. Alternatives C and E

Alternatives C and E would restrict forage utilization on uplands to a maximum of 50% utilization (the same as Alternative A). Currently there is no specification for forage utilization on uplands under Alternative D (No Action). Alternatives C and E would allocate 106,196 AUMs for wildlife. This would be an increase of 9,589 AUMs allocated to wildlife in comparison to Alternative D (No Action). The impacts of forage utilization decisions on wildlife under Alternatives C and E would be the same as under Alternative A because the decisions would be the same. With respect to AUMs allocated for wildlife Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) due to the greater number of AUMs.

4.21.2.3.1.5. Alternative D (No Action)

Currently there is no specification for forage utilization on uplands under Alternative D (No Action). The Alternative D (No Action) would allocate 96,607 AUMs for wildlife.

4.21.2.3.2. BONANZA LOCALITY

4.21.2.3.2.1. Proposed RMP and Alternative A

Under the Proposed RMP and Alternative A, if forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in the Bonanza locality AUMs allocated to livestock and pronghorn would be reduced proportionally though pronghorn use would not be reduced below 502 AUMs. The Proposed RMP and Alternative A would be more beneficial to wildlife than Alternative D (No Action) because the Proposed RMP and Alternative A specify necessary actions when the aforementioned criteria are met.

If, however, additional forage is available forage increases would be divided proportionately between livestock and big game with the wildlife AUMs going to pronghorn and deer. In this case, the impacts of the Proposed RMP and Alternatives A and D (No Action) are approximately the same because both alternatives would provide additional forage for wildlife.

4.21.2.3.2.2. Alternative B

Under Alternative B, in the Bonanza locality if forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health pronghorn use would be reduced, but not below 502 AUMs. Other appropriate reductions in big game use would also be made but prior to making reductions in livestock numbers. In this case, Alternative B would be more beneficial to wildlife than Alternative D (No Action) because Alternative B specifies necessary actions when the aforementioned criteria are met.

If additional forage is available up to 502 AUMs would be provided for pronghorn and sheep and/or cattle use would be increased in accordance with available forage. If livestock and pronghorn are not in need of additional forage remaining AUMs would be allocated to deer. In this case, Alternative D (No Action) would be more beneficial to wildlife than Alternative B because Alternative B would favor livestock over wildlife in allocating additional forage.

4.21.2.3.2.3. Alternatives C and E

Under Alternatives C and E, if forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in the Bonanza locality livestock AUM use would be reduced while pronghorn, deer, and other big game use would be maintained. Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because Alternative D (No Action) does not specify management actions when the aforementioned criteria are met whereas Alternatives C and E do. Alternatives C and E would not reduce big game use at all. Instead all forage allocation reductions would be borne by livestock.

If additional forage is available wildlife use would be increased in accordance with available forage and livestock use would not be increased above permitted use. In this case, Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because all additional available forage would be allocated for wildlife.

4.21.2.3.2.4. Alternative D (No Action)

If forage allocation reductions are necessary to make significant progress towards or sustain rangeland health, there is no specified management plan for the Bonanza locality under Alternative D (No Action).

If additional forage is available and rangeland health is being sustained, or significant progress is being made towards sustaining rangeland health in the Bonanza Area, additional forage allocations would: (1) Provide for optimum wildlife levels where conflicts with livestock do not exist. (2) Specific to deer, habitat would be managed to support significantly increased levels; and specific to pronghorn, habitat would be managed to support increased levels. (3) Target livestock AUM figures are not final stocking levels. (5) Rather, all livestock use adjustments would be implemented through documented mutual agreement or by decision. When livestock use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. (6) Additionally, any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations.

4.21.2.3.3. Bonanza Wild Horse Herd Area Locality

4.21.2.3.3.1. Proposed RMP

Wild horses in the Bonanza Wild Horse Herd were gathered and removed from the area in 2001. Under the Proposed RMP, the area would be declared unpopulated and managed as an HA with no specific management plan for wild horses. No AUMs are allocated for wild horses potentially leaving more forage available for wildlife and livestock.

If forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in this locality and demonstrated conflicts are between wildlife and livestock the Proposed RMP would proportionately reduce sheep and pronghorn AUM use but pronghorn use would not be reduced below 239 AUMs, making the Proposed RMP more beneficial to wildlife than livestock than Alternatives C and E because the Proposed RMP eliminates conflicts for forage with wild horses.

If additional forage is available and rangeland health is being sustained, or significant progress is being made towards sustaining rangeland health and the additional forage meets the needs of livestock and wildlife, then sheep and wildlife use would be increased proportionately with available forage. If additional forage meets the needs of livestock, and pronghorn then livestock and wildlife use would be increased proportionately in accordance with available forage because no are within this area. As in the other situations described above, in this case the Proposed RMP would be more beneficial to wildlife than Alternative D (No Action) because, under the Proposed RMP, no wild horses are within this area potentially resulting in more additional forage for wildlife.

4.21.2.3.3.2. AUMs Alternative A

Under Alternative A, horses would not be gathered and removed from the locality but no AUM allocations would be made to maintain the wild horse population there. In this case, Alternative A would be more beneficial to wildlife than Alternative D (No Action) due to the fact that Alternative A would not allocate AUMs to wild horses whereas Alternative D (No Action) would allocate 1,020 AUMs to wild horses. However, horses would still use AUMs under Alternative A because they would still be present.

If forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in this locality and demonstrated conflicts are between wildlife and livestock Alternative A would proportionately reduce sheep and pronghorn AUM use but pronghorn use would not be reduced below 239 AUMs. Under Alternative A, while conflicts between wild horses and livestock or between wild horses and wildlife may arise they would not be addressed (no management prescriptions) because wild horses would not be managed under Alternative A. In this situation Alternatives A and D (No Action) would have approximately the same impact on wildlife because neither alternative specifies management for this issue.

If additional forage is available and rangeland health is being sustained, or significant progress is being made towards sustaining rangeland health and the additional forage meets the needs of livestock and wildlife then sheep and wildlife use would be increased proportionately with available forage. If additional forage meets the needs of wild horses, sheep, and pronghorn then sheep and wildlife use would be increased proportionately in accordance with available forage because wild horses would not be managed under this alternative. As in the other situations described above, in this case Alternative A would be more beneficial to wildlife than Alternative D (No Action) because, under Alternative A, wild horses would not be managed potentially resulting in more additional forage for wildlife.

4.21.2.3.3.3. Alternative B

Alternative B would be the same as the Proposed RMP except, if forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in this locality and demonstrated conflicts are between wildlife and livestock, then Alternative B would reduce wildlife AUM use but not below 239 AUMs and 147 AUMs for pronghorn and deer, respectively. If additional forage is available and rangeland health is being sustained, or significant progress is being made towards sustaining rangeland health and the additional forage meets the needs of livestock and wildlife, the management prescriptions under Alternative B would be the same as those under the Proposed RMP. Because the management prescriptions would be the same, the impacts would be the same compared to Alternative D (No Action).

4.21.2.3.3.4. Alternatives C and E

Forage allocation decisions in the Bonanza Wild Horse Herd Area locality would be the same under Alternatives C and E as under Alternative D (No Action). Because the management decisions would be the same under each of these alternatives, the impacts would be the same. Under these alternatives there would be minimal impact on wildlife due to the small number of AUMs (1,020) allocated for wild horses under these alternatives.

If forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in this locality and demonstrated conflicts are between wildlife and livestock, under Alternatives C and E wildlife use would not be reduced but livestock use would. If conflicts are between wild horses and livestock wild horse use would be reduced to as low as 480 AUMs and livestock use would be reduced with no minimum level specified. If conflicts are between wild horses and wildlife, wild horse and wildlife use would be reduced proportionately. In this case, Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because Alternatives C and E would allocate more AUMs for wildlife whereas Alternative D (No Action) does not specify management.

If additional forage is available and rangeland health is being sustained, or significant progress is being made towards sustaining rangeland health and the additional forage meets the needs of livestock and wildlife pronghorn and deer use would be increased in accordance with available forage but livestock use would not be increased above permitted use. If additional forage meets the needs of wild horses, sheep, and pronghorn then AML would not increase, but pronghorn use would increase until there are conflicts with sheep and sheep use would increase in accordance with available forage. These actions would be beneficial to wildlife because they would make additional forage available for use by wildlife species. In this case the impacts of Alternatives C and E would be the same as Alternative D (No Action), because the management decisions would be the same.

4.21.2.3.3.5. Alternative D (No Action)

Under Alternative D (No Action), 1,020 AUMs would be allocated for wild horses. AUMs for livestock and wildlife are not specified. The allocation of AUMs to wild horses rather than wildlife would adversely impact wildlife by reducing the forage available to them.

If forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in this locality and demonstrated conflicts are between wildlife and livestock then pronghorn use would not be reduced below 289 AUMs but sheep use would be reduced. Under Alternative D (No Action) no management prescriptions are specified for situations where conflicts are between wild horses and livestock or between wild horses and wildlife.

For situations were additional forage is available and rangeland health is being sustained, or significant progress is being made towards sustaining rangeland health and the additional forage meets the needs of livestock and wildlife pronghorn use would be increased until there are conflicts with sheep and sheep use would increase in accordance with available forage. For situations where the additional forage meets the needs of livestock, wildlife, and wild horses the management prescriptions, and therefore impacts, would be the same under Alternative D (No Action) as under Alternatives C and E.

4.21.2.3.4. Book Cliffs Locality

4.21.2.3.4.1. Proposed RMP

Under the Proposed RMP, 1,325 unallocated AUMs acquired by the acquisition of private lands at Cripple Cowboy would be reserved for watershed. Livestock and wildlife would not be excluded from utilizing these AUMs but no additional AUMs would be allocated for either livestock or wildlife. In this case, the Proposed RMP would be more beneficial to wildlife than Alternative D (No Action) because the Proposed RMP explicitly states that additional AUM use would be for watershed but would not exclude wildlife.

Under the Proposed RMP, in the Winter Ridge/Hill Creek Herd Area the wild horse population would be gathered and removed from the area over an approximately 10 year period. Initially, 2,340 AUMs would be allocated to wild horses under the Proposed RMP in this locality but these AUMs would be decreased overtime as horses are gathered. Under the Proposed RMP these AUMs would be reallocated through future planning processes. In this situation, the Proposed RMP would be more beneficial to wildlife than Alternative D (No Action) because the Proposed RMP would phase out wild horses potentially leaving more AUMs for wildlife.

Under the Proposed RMP, when additional forage is present in cattle allotments 60% would be allocated to cattle to restore suspended AUMs and 40% would be allocated for wildlife. After all suspended cattle AUMs have been restored additional AUMs would be allocated proportionately between cattle and wildlife.

Under the Proposed RMP, when additional forage is present in sheep allotments forage increases would be allocated proportionately between livestock and big game.

4.21.2.3.4.2. Alternative A

Under Alternative A, forage decisions with respect to Cripple Cowboy would be the same as the Proposed RMP, therefore the impacts would be the same compared to Alternative D (No Action).

Under Alternative A, 1,200 and 1,740 AUMs would be allocated to wild horses in the Winter Ridge and Hill Creek Herd Areas, respectively. Alternative A would be more detrimental to wildlife than Alternative D (No Action) because Alternative A would allocate more AUMs for wild horses over all leaving fewer AUMs available for wildlife use.

If monitoring shows that reductions are necessary in all areas because of conflicts between wildlife, livestock, and/or wild horses under Alternative A forage use would be reduced proportionately between the conflicting animal groups. In these situations Alternative A would be less beneficial to wildlife than Alternative D (No Action) because forage for big game would be reduced under Alternative A but this action is not specified under Alternative D (No Action).

Under Alternative A, when additional forage is present in cattle allotments 60% would be allocated to cattle to restore suspended AUMs and 40% would be allocated for wildlife. After all suspended cattle AUMs have been restored additional AUMs would be allocated to livestock.

Under Alternative A, when additional forage is present in sheep allotments forage increases would be allocated proportionately between livestock and big game.

4.21.2.3.4.3. Alternative B

Under Alternative B, 1,325 unallocated AUMs acquired by the acquisition of private lands at Cripple Cowboy would be allocated to livestock. In this case Alternative B would be less beneficial to wildlife than Alternative D (No Action) because Alternative B would allocate additional AUMs to livestock therefore making these AUMs unavailable to wildlife.

Under Alternative B, horses would not be gathered and removed from the Winter Ridge/Hill Creek Herd Area but no AUM allocations would be made to maintain the wild horse population there. Alternative B would be more beneficial to wildlife than Alternative D (No Action) because Alternative B would not allocate AUMs to wild horses. However, this benefit would be limited because horses would still be present and using the resource.

If monitoring shows that reductions are necessary in all areas because of conflicts between wildlife and livestock under Alternative B big game use would be reduced. In this situation Alternative B would be less beneficial to wildlife than Alternative D (No Action) because forage for big game would be reduced under Alternative B but this action is not specified under Alternative D (No Action).

When additional forage is present in cattle allotments Alternative B would allocate 60% of the additional forage to cattle to restore suspended AUMs and 40% to wildlife. After restoring all suspended AUMs additional forage would be allocated to livestock. In this case, Alternative D (No Action) would be more beneficial to wildlife than Alternative B because Alternative D (No Action) would optimize wildlife levels and Alternative B would explicitly allocate additional forage to livestock rather than wildlife.

Under Alternative B, when additional forage is present in sheep allotments forage increases would be allocated to sheep. In this case, Alternative D (No Action) would be more beneficial to wildlife than Alternative B because Alternative D (No Action) would optimize wildlife levels and Alternative B would explicitly allocate additional forage to sheep.

4.21.2.3.4.4. Alternatives C and E

Under Alternatives C and E, 1,325 unallocated AUMs acquired by the acquisition of private lands at Cripple Cowboy would be allocated to wildlife. Alternative C and E, in this respect, would be more beneficial to wildlife than Alternative D (No Action) because these alternatives would explicitly allocate additional AUMs for wildlife.

In the Winter Ridge Herd Area under Alternatives C and E 1,200 AUMs would be allocated for wild horses. In the Hill Creek Herd Area under these alternatives 1,740 AUMs would be allocated for wild horses. Under Alternatives C and E the total allocation of AUMs to wild horses in these areas would be 2,940. In the Winter Ridge Herd Area Alternatives C and E would be less beneficial to wildlife than Alternative D (No Action) because Alternatives C and E would allocate 1,200 AUMs for wild horses in this area and Alternative D (No Action) would not provide wild horse AUM allocations in this area. In the Hill Creek Herd Area Alternatives C and E would be more beneficial for wildlife than Alternative D (No Action) because Alternatives C and E would allocate fewer AUMs for wild horses than Alternative D (No Action) potentially making more AUMs available for wildlife use.

If monitoring shows that reductions are necessary in all areas except Wild Horse Herd Areas because of conflicts between wildlife and livestock under Alternatives C and E livestock use would be reduced. In this case, Alternative C and E would be more beneficial to wildlife than Alternative D (No Action) because Alternatives C and E explicitly state that livestock use would be reduced.

When additional forage is present in cattle allotments Alternatives C and E would allocate 60% of the additional forage to cattle to restore suspended AUMs and 40% to wildlife. After restoring all suspended AUMs additional forage would be allocated to wildlife. In this situation Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because Alternatives C and E would explicitly allocate additional forage for wildlife.

Under Alternatives C and E, when additional forage is present in sheep allotments forage increases would be allocated to big game. However, if forage were not needed by big game, it would be given to livestock. Under these alternatives in this situation big game numbers would be allowed to increase to the point that livestock permitted use would not be reduced. Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because they account for wildlife forage use first and livestock secondarily.

4.21.2.3.4.5. Alternative D (No Action)

Under Alternative D (No Action) no management prescriptions are specified for the 1,325 unallocated AUMs acquired through the acquisition of private lands at Cripple Cowboy.

In the Hill Creek Herd Area under Alternative D (No Action), 2,340 AUMs would be allocated for wild horses. No allocations or prescriptions are specified for the Winter Ridge Herd Area under this alternative.

Under Alternative D (No Action) there are no prescriptions specified for situations where monitoring shows that reductions are necessary in all areas except Wild Horse Herd Areas because of conflicts between wildlife and livestock.

When additional forage is present in cattle allotments under Alternative D (No Action) the following would apply: (1) Additional forage in the Book Cliffs locality would be used to provide for optimum wildlife levels where conflicts with livestock do not exist; specific to deer,

habitat would be managed to support significantly increased levels. (2) Target livestock AUM figures are not final stocking levels. (3) All livestock use adjustments would be implemented through documented mutual agreement or by decision. (4) When livestock use adjustments would be implemented by decision, it would be based on operator consultation and monitoring of resource conditions. (5) Any necessary adjustments in stocking levels or other management practices, including changes or additions to existing management facilities, would be based on allotment evaluations. In this situation, Alternative D (No Action) would generally have beneficial impacts to wildlife because it would optimize wildlife levels.

When additional forage is present in sheep allotments under Alternative D (No Action) the same items would apply as for cattle allotments except that habitat on the East Bench would be managed to support increased levels of pronghorn. In this situation, Alternative D (No Action) would generally have beneficial impacts to wildlife because it would optimize wildlife levels.

4.21.2.3.5. Blue Mountain Locality

4.21.2.3.6. Proposed RMP and Alternative A

Under the Proposed RMP and Alternative A in the Blue Mountain locality if monitoring of forage indicates that AUM allocations cannot be met livestock permitted and wildlife use would be reduced proportionately. In this case, in the Blue Mountain locality Alternative D (No Action) would be more beneficial to wildlife than the Proposed RMP and Alternative A because Alternative D (No Action) only specifies livestock use adjustments whereas the Proposed RMP and Alternative A would reduce livestock and wildlife use proportionately.

Under the Proposed RMP and Alternative A when there is additional forage in the Blue Mountain locality it would be allocated proportionately between livestock and big game. This strategy would generally provide additional forage to wildlife under these conditions when compared to Alternative D (No Action).

4.21.2.3.6.1. Alternative B

Under Alternative B in the Blue Mountain locality if monitoring of forage indicates that AUM allocations cannot be met wildlife use would be reduced to a level at which no livestock/wildlife forage conflict exists and any additional reductions would be made to livestock. Under these conditions Alternative D (No Action) would be more beneficial to wildlife than Alternative B because Alternative B would reduce wildlife use first.

Under Alternative B when there is additional forage in the Blue Mountain locality it would be allocated for livestock. In this situation Alternatives B and D (No Action) would have about the same impacts because both alternatives would allocate additional forage to livestock.

4.21.2.3.6.2. Alternatives C and E

Under Alternatives C and E in the Blue Mountain locality if monitoring of forage indicates that AUM allocations cannot be met livestock permitted use would be reduced. In this situation

Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because they explicitly state that permitted use would be reduced potentially leaving more forage available for wildlife.

Under Alternatives C and E when there is additional forage in the Blue Mountain locality it would be allocated for wildlife. Under these conditions Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because Alternatives C and E would explicitly allocate additional forage to wildlife.

4.21.2.3.6.3. Alternative D (No Action)

Under Alternative D (No Action) if monitoring of forage indicates that AUM allocations cannot be met livestock use adjustments would be implemented by mutual agreement or by decision. Decreases in livestock forage would be implemented over a five year period. Alternative D (No Action) would generally benefit wildlife because it would generally reduce livestock forage use when forage allocations cannot be met.

Under Alternative D (No Action) when there is additional forage in the Blue Mountain locality the same process would be followed as when monitoring of forage indicates that AUM allocations cannot be met.

4.21.2.3.7. DIAMOND MOUNTAIN LOCALITY

4.21.2.3.7.1. Proposed RMP and Alternative A

Under the Proposed RMP and Alternative A in the Diamond Mountain locality if monitoring of forage indicates that AUM allocations cannot be met livestock and wildlife use would be reduced proportionately. In this case, in the Diamond Mountain locality the Proposed RMP, Alternative A, and Alternative D (No Action) would benefit wildlife to approximately the same extent because Alternative D (No Action) would employ a mix of management actions resulting in livestock and wildlife use reductions (see Section 4.19.2.3.7.4).

Under the Proposed RMP and Alternative A, when there is additional forage in the Diamond Mountain locality it would be allocated 1) in the area's northern half to livestock until wildlife demands require them, and 2) in the southern half proportionately between livestock and big game on non-crucial wildlife areas. The impacts of the Proposed RMP and Alternative A on wildlife would be about the same as the impacts under Alternative D (No Action) because the management prescriptions are about the same.

4.21.2.3.7.2. Alternative B

Under Alternative B in the Diamond Mountain locality if monitoring of forage indicates that AUM allocations cannot be met wildlife use would be reduced to a level at which no livestock/wildlife forage conflict exists and any additional reductions would be made to livestock. Under these conditions Alternative D (No Action) would be more beneficial to wildlife than Alternative B because Alternative B would reduce wildlife use first.

Under Alternative B when there is additional forage in the Diamond Mountain locality it would be allocated for livestock. In this situation Alternatives B and D (No Action) would have about the same impacts because both alternatives would allocate additional forage to livestock.

4.21.2.3.7.3. Alternatives C and E

Under Alternatives C and E in the Diamond Mountain locality if monitoring of forage indicates that AUM allocations cannot be met livestock permitted use would be reduced. In this situation Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because they explicitly state that permitted use would be reduced potentially leaving more forage available for wildlife.

Under Alternatives C and E when there is additional forage in the Diamond Mountain locality it would be allocated for wildlife or retained for watershed. Under these conditions Alternatives C and E would be more beneficial to wildlife than Alternative D (No Action) because Alternatives C and E would explicitly allocate additional forage to wildlife.

4.21.2.3.7.4. Alternative D (No Action)

Under Alternative D (No Action) in the Diamond Mountain locality reductions would be made using the following criteria. (1) Livestock temporary, nonrenewable AUMs above permitted use would be reduced first. (2) On wildlife crucial habitat, livestock permitted use would be reduced if there is a conflict between use by livestock and wildlife, and if wildlife numbers are within the herd unit or population objective levels. If there is no conflict and the reduction is necessary because of overuse by either livestock or wildlife, the number of grazers would be reduced. (3) On non-crucial wildlife habitat, livestock permitted use and wildlife numbers would be reduced equally. The first year, there would be an initial 10% adjustment in permitted use. Five-year agreements would be developed and signed at the same time outlining the process for phased reductions in the desired level. (4) Temporary adjustments in use due to effects of drought would be made to livestock and/or wildlife as shown needed by monitoring.

Under Alternative D (No Action) when there is additional forage in the Diamond Mountain locality it would be used to provide additional AUMs (over permitted use) to livestock on a temporary, nonrenewable basis until identified for crucial wildlife needs. Additional AUMs outside crucial wildlife areas could be assigned to livestock. In this situation under Alternative D (No Action) there would generally be beneficial impacts to wildlife because additional AUMs would be allocated to wildlife as needed.

4.21.2.4. Impacts of Land and Realty Management on Wildlife and Fisheries Resources

Land access decisions under the Proposed RMP and any alternative would generally have minimal impacts to wildlife due to the limited nature of the access that each decision would provide. On the other hand, land withdrawals would benefit wildlife in both the short- and long-term by reducing the potential for surface disturbance by mineral extraction activities. Impacts to wildlife and fisheries and their habitat would depend on the area involved in a lands and realty

activity. Acquisition or withdrawal of lands with special status species habitat would generally contribute positively to the objectives of wildlife and fisheries habitat protection.

4.21.2.4.1. PROPOSED RMP AND ALTERNATIVES A, B, C, AND E

The Proposed RMP and Alternatives A, B, C and E would pursue locatable mineral withdrawal in the Book Cliffs Natural Area (401 acres), Green River Scenic Corridor in Browns Park (8,208 acres), relict vegetation areas in Lears Canyon (1,375), and the White River (9,218 acres). Alternatives C and E would also pursue locatable mineral withdrawal in the Lower Green River ACEC (17,063 acres) while the Proposed RMP and Alternatives A and B would also pursue locatable mineral withdrawal in developed and potential recreation sites (5,000 acres).

4.21.2.4.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would pursue mineral withdrawals in the Green River Scenic Corridor in Browns Park (19,400); relict vegetation areas in Lears Canyon (3,600 acres); the Lower Green River ACEC (7,900 acres), and developed and potential recreation sites (5,000 acres). The total acreage of land withdrawals would be greater under Alternative D (No Action) (35,900 acres) than under the Proposed RMP and Alternatives A and B (24,202 total acres under each of these alternatives) resulting in more short- and long-term benefits to wildlife than the Proposed RMP and Alternatives A and B. On the other hand, Alternative D (No Action) would have fewer short- and long-term benefits to wildlife than Alternatives C and E because Alternatives C and E would pursue more acres (36,265) for locatable mineral withdrawal than Alternative D (No Action). Also, because of the developed nature of the developed and potential recreation sites, these withdrawals would have negligible impacts on wildlife and fisheries populations.

4.21.2.5. IMPACTS OF LIVESTOCK GRAZING ON WILDLIFE AND FISHERIES RESOURCES

Livestock grazing has the potential for both direct and indirect impacts on wildlife and fisheries populations and their habitats. Direct impacts would primarily include the removal or trampling of vegetation that would be subsequently lost as forage or cover by wildlife species. The severity of such impacts to wildlife species would depend on the density and types of livestock, extent and relative locations of grazing, and the terrain and water availability. An additional direct impact would be the transmission of disease from domestic to wild animal populations. Indirect impacts of grazing to wildlife populations would consist of changes in vegetation and habitat value due to livestock grazing. Relative percent ages of nutritive grasses and forbs, as well as total vegetative cover, can shift with livestock grazing and subsequently impact the health and survival of wildlife species dependent on that forage and cover.

Depending on its implementation, livestock grazing has the potential to improve or degrade rangeland habitat quality for wildlife. In 1997, the BLM in Utah developed Standards for Rangeland Health and Guidelines for Grazing Management. With proper rotational and seasonally restricted management, livestock grazing could have beneficial effects on wildlife and fisheries. Selective and timely grazing by livestock can increase the diversity of forage (forbs and grasses) by removing deteriorating vegetation and promote bank stabilization through healthy vegetative cover of hillsides. Hence, proper grazing could aid in reducing erosion,

increasing water quality of nearby waterways, and increasing the nutritive value of the vegetation in areas also used by wildlife such as deer, elk, pronghorn, small mammals, and birds. The mosaic pattern of varied grazing pressure that occurs with carefully monitored rotational grazing management can emulate natural habitat variation and promote an increase in select wildlife populations over time (Forest and Range Web site, 2006).

Adverse impacts to rangeland health typically occur with improper grazing management, including high stock densities, continued heavy grazing by a single stock species, and unrestricted access to riparian areas (Belsky et. al, 1999). Improper grazing practices in the western United States have been linked to such adverse impacts as losses of biodiversity, decreases of wildlife population densities, disruption of ecosystem functions including nutrient cycling and succession, changes in community organization, and changes in the physical characteristics of both terrestrial and aquatic habitats (Fleischner 1994). Because livestock in the arid West tends to congregate in riparian areas for shade, water, and an abundance of forage plants, the ecological costs listed above can easily be magnified in riparian zones. Potential specific impacts from improper grazing in the VFO might include the decreased quality and diversity of forage plants for big and small game, decreased amounts of vegetation used by wildlife for cover, increases in noxious weeds, decreased nest sites for upland game species, increased disturbance at big game fawning grounds, the trampling or disturbance of waterfowl/riparian bird nests, and decreased water quality in creeks and rivers (Forest And Range Web site, 2006).

The VFO is divided into Areas 1–7 for the purpose of livestock grazing management. Under each alternative, livestock grazing would be allowed in these areas only during specific time periods. These temporal limitations would likely affect livestock both directly and indirectly as described above. An alternative that allows livestock grazing during spring vegetation growth periods could impact wildlife by limiting the development of important forage plant quantity and/or diversity and increasing the potential for erosion and degraded water quality. An alternative that allows livestock grazing for extended periods each year might encourage increased trampling of habitat and would be more likely to increase interactions between domestic and wildlife species.

4.21.2.5.1. PROPOSED RMP AND ALTERNATIVE A

Under the Proposed RMP and Alternative A, seasons of use would be determined based on plant phenology to ensure that the physiological requirements of plants would be met. Deferments and other tools would be used to facilitate an adaptive management approach. Ensuring that the physiological requirements of plants would be met also ensures that forage resources will be available to the species that use them (wildlife and livestock). In so doing, these alternatives would have fewer adverse impacts to wildlife than Alternative D (No Action), which would allow grazing on many allotments during critical growth periods.

4.21.2.5.2. ALTERNATIVE B

The determination of season of use under Alternative B would be based on an average of billed use. The billed use is based on how the permittees are actually billed. Under this alternative

grazing on many allotments would continue during critical growth periods (April/May) of forage species without a deferment and, therefore, the impacts of Alternative B on wildlife are similar to the impacts of Alternative D (No Action).

4.21.2.5.3. ALTERNATIVES C AND E

The determination of season of use under Alternatives C and E would be based on how grazing was adjudicated in the 1960s. It is similar to Alternative A, but lacks the discretion to allow adaptive management approaches to react to change. The impacts of this alternative compared to Alternative D (No Action) would be similar to those described above for Alternative A.

4.21.2.5.4. ALTERNATIVE D (NO ACTION)

Under this alternative, seasons of use would be based on the current permitted use. Grazing on many allotments would continue during critical growth periods (April/May) of forage species resulting in short- and long-term adverse impacts to forage resources and, by extension, adverse impacts to wildlife.

4.21.2.6. IMPACTS OF MINERAL RESOURCE DECISIONS ON WILDLIFE AND FISHERIES RESOURCES

The development of leasable minerals would have long-term direct and indirect adverse impacts to wildlife and fisheries populations in the VPA. Direct impacts include a reduction in AUMs available to wildlife, loss of wildlife and fisheries habitats, and disruption and/or alteration of seasonal migration routes due to the additional construction of roads, pipelines, well pads, compressor stations, power lines, and fences in areas where mineral development would occur. Indirect impacts include habitat fragmentation and changes in behavior, distribution, activity, and energy expenditure that are caused by human disturbance. These disturbances can include human presence at project operations, improved hunter access and success, illegal hunting, and vehicle-related mortality.

The exact number and location of facilities relating to mineral development have not been determined and therefore are not analyzed in this programmatic EIS. The impacts of project-level mineral development, including location and timing, would be analyzed on a site-specific basis as required under NEPA. However, for the purposes of this programmatic analysis, it is assumed that all land categorized for mineral extraction would be developed to its full potential. Accordingly, this analysis discloses the potential impacts of the maximum potential disturbance from this development on wildlife habitat throughout the entire VPA. Additionally, programmatic protective measures have been formulated to minimize or avoid these impacts wherever possible. These measures are described by alternative and the Proposed RMP in the following sections.

4.21.2.6.1. LAND CATEGORIZATION

BLM has developed four land categories for oil and gas development that describe the conditions placed upon public domain lands in regard to their availability for fluid hydrocarbon leasing. These categories are discussed in Section 3.9 Minerals and Energy Resources.

BLM has also made land use designations for the development of mineral materials, phosphate, and Gilsonite. A discussion of these mineral developments is made in the Chapter 3 and 4 Minerals Sections. These areas are either open or closed to development which follows the same category designations as oil and gas RFD areas.

Tables 1 through 19 of Appendix H outline the land categorization of mineral development on BLM lands in the VPA by alternative and the Proposed RMP with respect to important wildlife habitats. The impacts of these land categorizations on wildlife habitat and populations in the VPA are discussed by alternative and the Proposed RMP in the following sections.

4.21.2.6.2. HABITAT FRAGMENTATION

Current habitat fragmentation by existing roads in the VPA was analyzed using three roads effects zones (660 feet, 1,320 feet, and 2,640 feet). An analysis of existing habitat fragments 250 acres or greater shows there is currently a broad range of number, average size, and percent of wildlife habitat available outside these roads effects zones. These roads effects zones and the minimum fragment size were selected based on the latest literature dealing with wildlife habitat use and fragmentation (see the Wildlife and Fisheries Resources section of Chapter 3). Although the analysis shows that there is a relatively low rate of fragmentation in most areas of the VPA, many of these remaining habitat fragments are categorized as being open for mineral development. This may lead to further fragmentation and loss of wildlife habitat and populations in these areas. This fragmentation can separate wildlife populations into smaller "meta" populations that are more susceptible to extinction from random events such as drought, disease, introduction of an exotic predator, etc. This fragmentation also makes movement between habitat fragments more difficult during periods when resources are limited or mates are not available. Fragmentation degrades the unique habitat characteristics of large, unbroken habitat tracts; characteristics such as accessible migration corridors, cover and forage that are free from disturbance, and areas isolated from hunting and predators. In many cases, habitats fragmented by human disturbances such as roads, buildings, and structures facilitate the invasion of noxious weeds and exotic species that are better adapted to human disturbance, usually to the detriment of native species.

Efforts would be made under the Proposed RMP and all alternatives to reduce habitat fragmentation throughout the VPA to the extent possible by requiring oil and gas field development plans and encouraging such activities as well clustering, multiple drilling from a single pad, utilization of existing roads and pipelines, and other measures to minimize surface impacts.

The existing fragmentation showing all fragments and fragments larger than 250 acres created by roads and pipelines on BLM-administered lands in the VPA is outlined in Table 20 of Appendix H. This analysis is also broken down by RFD area in Tables 21-32 of Appendix H. These tables

show the number and average size of fragments at road/pipeline width (11.5 feet) and at 660-foot, 1,320-foot, and 2,640-foot functional habitat loss zones. These tables also show what proportion of these fragments would be open to surface occupying minerals development under the Proposed RMP and each alternative. This analysis shows that the West and East Tavaputs Plateau RFD areas have the least amount of fragmentation with approximately 98% and 96%, respectively, of each RFD area composing fragments larger than 250 acres; the Tabiona-Ashley Valley RFD and Monument Butte-Red Wash RFD areas with a moderate amount of fragmentation with approximately 92% of each RFD area composing fragments larger than 250 acres; and the Manila-Clay Basin RFD and Altamont-Bluebell RFD areas with the most fragmentation with approximately 89% of each RFD area composing fragments larger than 250 acres.

Even though the West Tavaputs Plateau has the least amount of fragmentation with regard to having the highest percent area consisting of fragments 250 acres or greater, this RFD area also has the highest proportion of large fragments categorized to be open to minerals development of any of the RFD areas under the Proposed RMP and each alternative. This indicates that the existing minerals development land categorization has the potential to increase fragmentation at a greater degree in this less-disturbed RFD area than in RFD areas that are already more developed. This land categorization may be inconsistent with the direction to manage for large un-fragmented blocks of continuous wildlife habitat in the VPA as identified in Chapter 2, Management Common to All for Wildlife and Fisheries.

The Altamont-Bluebell RFD area is the smallest in the VPA and has a road and pipeline density of approximately 1.45 miles of roads and pipelines per square mile. The Monument Butte-Red Wash RFD area is the largest RFD area and, while having a considerable number of large fragments over 250 acres, has a relatively high road and pipeline density of approximately 2 miles of roads and pipelines per square mile. As zones on these roads are extended out 2,640 feet, the proportion of large fragments outside of this zone is reduced to only 36% of the RFD area (Monument Butte-Red Wash RFD area), which is the lowest proportion of large fragments of all the RFD areas. The other RFD areas are between 1.23 and 1.53 miles of roads and pipelines per square mile. Under the Proposed RMP and Alternatives A, B, C, and E road and pipeline densities in all RFD areas would be reduced compared to Alternative D (No Action), except in the Monument Butte-Red Wash RFD area, where road and pipeline densities would increase by between 20% and 23% (see Tables 4.19.1 through 4.19.6).

Table 4.21.1. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the Manila-Clay Basin RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Road and Pipeline Densities (mi/mi2)	1.48	1.47	1.47	1.45	1.53	1.41
Percent outside a Functional Habitat Loss-660' zone	86%	86%	86%	86%	82%	87%
Percent outside a Functional Habitat Loss-1,320' zone	75%	75%	75%	75%	68%	76%
Percent outside a Functional Habitat Loss-2,640' zone	57%	57%	57%	58%	48%	60%

Table 4.21.2. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the Tabiona-Ashley Valley RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Road and Pipeline Densities (mi/mi^2)	1.21	1.21	1.20	1.11	1.34	1.06
Percent outside a Functional Habitat Loss-660' zone	88%	88%	88%	89%	84%	90%
Percent outside a Functional Habitat Loss-1,320' zone	79%	78%	79%	80%	71%	81%
Percent outside a Functional Habitat Loss-2,640' zone	63%	63%	63%	66%	51%	67%

Table 4.21. 3. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the Altamont-Bluebell RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Road and Pipeline Densities (mi/mi2)	1.34	1.33	1.33	1.33	1.45	1.33
Percent outside a Functional Habitat Loss-660' zone	85%	85%	85%	85%	83%	85%

Table 4.21. 3. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the Altamont-Bluebell RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Percent outside a Functional Habitat Loss-1,320' zone	72%	72%	72%	72%	70%	72%
Percent outside a Functional Habitat Loss-2,640' zone	51%	51%	51%	51%	49%	51%

Table 4.21.4. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the Monument Butte-Red Wash RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Road and Pipeline Densities (mi/mi^2)	2.45	2.42	2.42	2.40	2.00	2.40
Percent outside a Functional Habitat Loss-660' zone	78%	78%	78%	79%	77%	79%
Percent outside a Functional Habitat Loss-1,320' zone	61%	62%	62%	62%	59%	62%
Percent outside a Functional Habitat Loss-2,640' zone	39%	39%	40%	40%	36%	40%

Table 4.21.5. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the West Tavaputs Plateau RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Road and Pipeline Densities (mi/mi^2)	1.27	0.88	0.88	0.82	1.23	0.76
Percent outside a Functional Habitat Loss-660' zone	86%	90%	90%	91%	85%	91%
Percent outside a Functional Habitat Loss-1,320' zone	74%	81%	81%	82%	73%	84%
Percent outside a Functional Habitat	54%	65%	65%	68%	52%	70%

Table 4.21.5. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the West Tavaputs Plateau RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Loss-2,640' zone						

Table 4.21 6. Functional Habitat Loss Created by Proposed Roads and Pipelines on BLM Lands in the East Tavaputs Plateau RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Road and Pipeline Densities (mi/mi^2)	0.85	0.83	0.83	0.76	1.45	0.74
Percent outside a Functional Habitat Loss-660' zone	90%	91%	91%	91%	83%	92%
Percent outside a Functional Habitat Loss-1,320' zone	82%	82%	82%	84%	69%	84%
Percent outside a Functional Habitat Loss-2,640' zone	66%	67%	67%	70%	47%	71%

Table 4.19.7 indicates existing habitat fragmentation within the VPA and the percentage of fragments that would be open to minerals development under the Proposed RMP and each alternative.

Table 4.21.7. Habitat Fragments Created by Roads and Pipelines in the VPA and Road-effects Zones Associated with These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	4,485	383	99.6	PRMP: 86.6 Alt A: 93.3 Alt B: 95.2 Alt C: 84.6 Alt D: 89.1 Alt E: 76.0	736	2,194	93.6	PRMP: 85.6 Alt A: 92.9 Alt B: 95.0 Alt C: 83.9 Alt D: 88.4 Alt E: 74.5
Fragments outside the 660-foot road effects zone	2,849	492	81.2	PRMP: 85.4 Alt A: 92.8 Alt B: 95.0	696	1,891	76.3	PRMP:84.2 Alt A: 92.3 Alt B: 94.8

Table 4.21.7. Habitat Fragments Created by Roads and Pipelines in the VPA and Road-effects Zones Associated with These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
				Alt C: 83.6 Alt D: 87.6 Alt E: 75.0				Alt C: 82.8 Alt D: 86.5 Alt E: 73.6
Fragments outside the 1,320-foot road effects zone	2,394	477	66.1	PRMP:84.1 Alt A: 92.3 Alt B: 94.8 Alt C: 82.6 Alt D: 87.6 Alt E: 73.2	593	1,803	62.0	PRMP:82.7 Alt A: 91.7 Alt B: 94.4 Alt C: 81.6 Alt D: 86.5 Alt E: 71.6
Fragments outside the 2,640-foot road effects zone	1,510	505	44.2	PRMP:81.3 Alt A: 90.9 Alt B: 94.1 Alt C: 80.3 Alt D: 85.5 Alt E: 69.6	413	1,728	41.4	PRMP:79.6 Alt A: 90.2 Alt B: 93.7 Alt C: 79.0 Alt D: 84.3 Alt E: 67.9

As shown in the above table, Alternative B would have the greatest amount of impact on large habitat fragments, followed by Alternatives A and D, the Proposed RMP, and Alternatives C and E. In comparison with Alternative D (No Action), Alternative B would have a 7% to 11% higher acreage of large habitat fragments open to development, Alternative A would have a 5% to 7% higher acreage, Alternative C would have 4% to 6% lower acreage, Alternative E would have 15% to 19% lower acreage, and the Proposed RMP would have 3% to 6% lower acreage of large habitat fragments open to mineral development.

The sections below describe the amount of habitat for specific wildlife groups that would be in areas open to mineral development or in areas open to mineral development but subject to controlled surface use. Typically those areas designated as controlled surface use for mineral development are subject to minor constraints and seasonal restrictions to reduce impacts to wildlife or other resources. Conversely, areas open to mineral development are subject only to standard stipulations and may not cater to specific on-site wildlife concerns. Accordingly, mineral development in areas open to mineral development would typically have a greater impact on wildlife than areas designated for controlled surface use.

4.21.2.6.2.1. Big Game Species

Big game populations in the VPA include populations of mule deer, Rocky Mountain elk, pronghorn, Rocky Mountain bighorn sheep, moose, black bear, and mountain lion. The UDWR has prepared a GIS database that includes habitat coverages for each of these species, and for mule deer and Rocky Mountain elk, and has further subdivided these habitat coverages into seasonal use areas (crucial winter range, migration corridor, and fawning/calving habitat). These habitat coverages were compared to the land categorization for minerals development provided by BLM to determine potential impacts to the big game populations occurring in the VPA. The minerals development land categorization in the Proposed RMP and under all alternatives would have long-term and short-term, direct and indirect adverse impacts on these big game populations when compared to the existing levels of minerals development in the VPA.

Irby et al. (1987) were unable to detect a response by mule deer to low intensity oil and gas exploration and drilling activities along the east slope of the Rocky Mountains in north-central Montana. However, they did identify that high intensity hydrocarbon development had the potential to make wintering areas in that area unsuitable for mule deer and that strategies for oil and gas development in individual units should be decided prior to development. In the Book Cliffs, Karpowitz (1984) investigated the impacts of energy development on mule deer and found it difficult to assess. He could not quantify the effects of drilling on mule deer, but speculated that there was avoidance of active drilling sites. He observed mule deer returning to those sites after drilling ceased, but noted that habitat loss occurred as a result of drilling operations due to the construction of roads and drill pads.

Van Dyke and Klein (1996) found that elk subjected to oil well drilling in Wyoming maintained their fidelity to seasonal and annual ranges, but were observed making use of habitat and topographic features to minimize visual contact with the disturbance and avoiding direct contact with the site of disturbance that slightly reduced the total area of range that was used. Ward and Brock (1995) monitored a hunted elk population on winter range by visual observation and telemetry during short-term seismographic activity, including above ground explosions, truck vibrations, and drill and shoot activities. He observed that elk were displaced to areas beyond visual contact by all three forms of seismograph activities, with the most extreme response resulting from people walking through the project area. However, he observed that elk returned to the seismograph use areas within a few days after human activity stopped. Lyon (1997) and Lyon et al. (1985) documented a shift in elk distribution away from areas with roads or other long-term disturbances.

Compared to Alternative D (No Action), the Proposed RMP would decrease the proportion of big game habitat open to surface occupying oil and gas development by as much as 100% for some species' habitats (crucial winter mule deer, mule deer migration corridors, and crucial winter rocky mountain elk) while increasing it by as much as 33% for other species (pronghorn). Areas subject to timing and controlled surface use stipulations under the Proposed RMP would increase by as much as 194% (for bighorn sheep) and decrease by as much as 31% (for pronghorn) compared to Alternative D (No Action). Alternatives A and B would increase the proportion of big game habitat open to surface occupying oil and gas development by up to 62% and 107% respectively, when compared to Alternative D (No Action). There would also be decreases of as much as 100% for each of these alternatives. These alternatives would increase

the proportion of big game habitats in areas subject to controlled surface use by up to 170% and 171%, respectively, when compared to Alternative D (No Action), but there would also be decreases of as much as 67% under Alternative A and 70% under Alternative B. Alternatives C and E would decrease the proportion of most big game habitats open to surface occupying oil and gas development by at least 15% and 3%, respectively (and as much as 100%) when compared to Alternative D (No Action). An exception is an increase in pronghorn habitat open to surface occupying oil and gas development by approximately 36% and 24%, respectively (Alternatives C and E). Alternatives C and E would also increase the proportion of big game habitat subject to controlled surface use by up to 145% (Alternative C - crucial mule deer winter habitat) and 148% (Alternative E: crucial winter rocky mountain elk habitat) when compared to Alternative D, No Action: Pronghorn and black bear habitat would have approximately 35% and 6% less acreage, respectively, subject to controlled surface use under Alternative C and 32% and 9% less acreage, respectively, subject to controlled surface use under Alternative E (see Tables 1 to 19 in Appendix H).

4.21.2.6.2.2. Upland Bird Species

The minerals development land categorization proposed under the Proposed RMP and all alternatives would have long-term and short-term, direct and indirect adverse impacts on upland bird populations in the VPA. The analysis in this section covers pheasant, Rio Grand Turkey, Blue Grouse, and Chukar habitat managed by BLM in the VPA. A discussion of impacts to Greater Sage-grouse is given in the Special Status Species section. The UDWR has prepared GIS database habitat coverages for each of these species, and these habitat coverages were compared to the land categorization for minerals development provided by BLM to determine potential mineral development impacts to the upland bird populations occurring in the VPA.

The Proposed RMP would increase the proportion of upland bird habitat open to surface occupying oil and gas development by up to 150% compared to Alternative D (No Action). Under the Proposed RMP, the proportion of upland bird habitat open to surface occupying oil and gas development would decrease for some species (Blue Grouse and Chukar) by as much as 69% compared to Alternative D (No Action). The Proposed RMP would increase the proportion of Blue Grouse habitat subject to controlled surface use by up to 73% while decreasing the proportion of upland bird habitat subject to controlled surface use by as much as 28% for other upland bird species. Alternatives A and B would increase the proportion of upland bird habitat open to surface occupying oil and gas development by as much as 223% and 222% respectively, when compared to Alternative D (No Action). These alternatives would also decrease the proportion of upland bird habitat subject to controlled surface use by as much as 72% and 47% respectively, when compared to Alternative D (No Action). On the other hand, Alternative A would also increase the proportion of upland bird habitat subject to controlled surface use by up to 48% (Blue Grouse). Alternatives C and E would increase the proportion of upland bird habitat open to surface occupying oil and gas development by up to 199% and 138%, respectively when compared to Alternative D (No Action). These alternatives would generally decrease the proportion of upland bird habitat subject to controlled surface use by as much as 61% and 28%, respectively, when compared to Alternative D (No Action). However, under Alternatives C and E the proportion of Blue Grouse habitat subject to controlled surface use would increase by

approximately 7% and 6%, respectively, compared to Alternative D (No Action) (see Tables 1-19 in Appendix H).

None of the alternatives presented or the Proposed RMP contained stipulations and mitigation measures relative to minerals development meant to protect and/or enhance existing upland bird habitat.

4.21.2.6.2.3. Raptors

The Proposed RMP and all alternatives would apply spatial and temporal buffers to minimize disturbances near nesting raptors. The buffers were tailored to the individual raptor species involved, and were based on factors such as line of sight distance between nest and disturbance, type and duration of disturbance, nest structure security, sensitivity of the species to disturbance, observed responses to related disturbances, and the amount of existing disturbances near the nest. Under the Proposed RMP and all alternatives, BLM would also pursue a partnership between industries, local governments, USFWS, UDWR, USFW, NRCS and others to establish a raptor management fund to be utilized for raptor population monitoring and habitat enhancement. BLM would also cooperate with utility companies, UDWR, and USFWS to prevent electrocution of raptors. A detailed description of the effects of resource decisions on special status raptor species can be found in the Special Status Species section.

4.21.2.6.2.4. Neotropical Migrants, Small Mammals, and Amphibians

Lowland riparian and cottonwood forest areas have been identified as areas typically associated with high concentrations of biodiversity and include wildlife such as neotropical migrants, small mammals, amphibians, and other wildlife species. A stipulation for mineral development common to all alternatives and the Proposed RMP is that surface mineral developments cannot be placed in wetlands or riparian zones, and must occur outside the 100-year floodplain. This stipulation would protect these lowland riparian and cottonwood forest habitats from minerals development. Therefore, minerals development would not directly impact these habitat types and those wildlife species that use them. Additionally, all alternatives and the Proposed RMP would incorporate conservation measures in accordance with Executive Order 13186 for the protection of migratory birds, as outlined in the Utah Partners-In-Flight Avian Conservation Strategy, and other scientific information into all surface-disturbing activities.

4.21.2.6.2.5. Fisheries and Riparian/Aquatic Species

Riparian areas, wetlands, and marsh areas are typically areas associated with high concentrations of biodiversity and include wildlife such as shorebirds, wading birds, waterfowl, and fish species. A stipulation for mineral development common to the Proposed RMP and all alternatives is that surface mineral developments cannot be placed in wetlands or riparian zones, and must occur outside the 100-year floodplain. This stipulation would protect these wetland and riparian zone habitats from minerals development. Therefore, minerals development would not directly impact these habitat types and those wildlife species that use them.

The VFO would also assist in implementing the strategic plan for Utah's Initiative on Blue Ribbon Fisheries by managing aquatic and riparian habitats to maintain a quality cold-water sport fishery along the Green River from the Ashley National Forest border to the Colorado/Utah border. Additionally, the VFO would assist in managing Pelican Lake as a quality warm-water sport fishery. Any other aquatic and riparian habitats associated with identified Blue Ribbon Fisheries would be managed by BLM for quality sport fisheries. The VFO would implement this initiative to the extent consistent and appropriate with the Vernal RMP and other land use authorizations.

Although the restrictions on mineral development in wetlands, riparian zones, and floodplains protect aquatic resources from direct impacts, it would not protect them from indirect impacts. The Water Quality section of this EIS identifies that although stipulations would mitigate the negative impacts of minerals development on water quality, the mineral development outlined for each alternative and the Proposed RMP would result in increased risk of indirect, long-term, adverse impacts to water quality through soil erosion, sedimentation, and the potential for petroleum discharges to surface water. These impacts would have a correspondingly increased risk of adverse impacts to fisheries associated with these areas. In general, the level of risk of impacts would be commensurate with the level of mineral development under the Proposed RMP and each alternative. Accordingly, Alternative B would have the greatest potential of impacts to aquatic habitat, followed by Alternatives A and D, the Proposed RMP, and Alternatives C and E.

Mineral development under the Proposed RMP and each alternative has the risk of increasing surface disturbance in selenium rich soils, and consequently impacting aquatic organisms. However, at this programmatic level, it is not known where specific developments would occur. Accordingly, the impacts of actual implementation phase of mineral development on selenium rich soils and associated aquatic resources would be analyzed on a site-specific basis at the project level under NEPA.

4.21.2.7. Impacts of Non-WSA lands with Wilderness Characteristics Decisions on Wildlife and Fisheries Resources

4.21.2.7.1. Proposed RMP

Under the Proposed RMP, approximately 106,178 acres of non-WSA lands with wilderness characteristics would be managed with special protections to maintain their wilderness characteristics. This area would be managed as VRM Class II, OHV use limited to designated routes, closed to oil and gas leasing, and closed to woodland product harvest. This management would result in less surface disturbance than under Alternatives A, B, C, or D (No Action) and would have greater beneficial impacts to wildlife and fisheries, as described elsewhere in this section (4.13), than these alternatives. Compared to Alternatives A, B, C and D (No Action), the Proposed RMP would have indirect, long-term benefits to wildlife and fisheries in the form of reduced soil erosion and sedimentation and salinity in streams, reduced human disturbance of wildlife, and reduced surface disturbance and fragmentation of wildlife habitat.

4.21.2.7.2. ALTERNATIVES A, B, C, AND D (NO ACTION)

Under these alternatives, lands with wilderness characteristics outside of designated WSAs would not be subject to protective management to maintain those characteristics. Depending on management decisions for other resources, there would be varying levels of development and surface disturbance within these areas, which would have indirect, long-term, adverse impacts to wildlife and fisheries.

4.21.2.7.3. ALTERNATIVE E

Under Alternative E, 277,596 acres of non-WSA lands with wilderness characteristics would be managed with special protections to maintain their wilderness characteristics. This area would be managed as VRM Class I, closed to OHV use, closed to mineral disposal, excluded from new ROWs, closed to road construction, closed to wood cutting and seed collecting, and retained for federal ownership. This management would result in less surface disturbance than under any other alternative and would therefore have the greatest beneficial impacts to wildlife and fisheries, as described elsewhere in this section (4.13). Compared to Alternatives A, B, C, and D, Alternative E would have greater indirect, long-term benefits to wildlife and fisheries in the form of reduced soil erosion and sedimentation and salinity in streams, reduced human disturbance of wildlife, and reduced surface disturbance and fragmentation of wildlife habitat.

4.21.2.8. IMPACTS OF RANGELAND IMPROVEMENTS ON WILDLIFE AND FISHERIES RESOURCES

Wildlife and fish populations would directly benefit over the long-term from rangeland improvements proposed under the Proposed RMP and all alternatives. These rangeland improvements would include conducting vegetation treatments aimed at improving forage composition, installing additional fencing, constructing guzzlers or other reservoirs, constructing wells or improving springs, and installing additional water pipeline. These improvements would improve existing wildlife habitat and provide water during high-stress drought periods. It can be assumed that the level of relative positive impacts for the Proposed RMP and of each alternative would be directly related to their respective level of rangeland improvements. The amount of each of these rangeland improvements under the Proposed RMP and each alternative is described in Table 4.21.8 below.

Table 4.21. 8. Rangeland Improvements Proposed under the Proposed RMP and Alternatives[1]

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Vegetation treatment (acres)	34,640	34,640	50,900	45,860	40,390	45,860
Fencing (miles)	68.5	68.5	368.5	129	65	129
Guzzlers/reservoirs	812	812	1,165	811	775	811
Wells/springs	51	51	78	87	74	87
Water pipeline (miles)	37.5	37.5	51	29.5	35	29.5

[1] These range improvements acres are projected and are not an upper limit.

The Proposed RMP and Alternative A would increase the miles of fencing and water pipelines over Alternative D (No Action). The Proposed RMP and Alternative A would decrease the amount of vegetation treatment and the number of wells/springs that would be developed area.

Alternative B would propose more vegetation treatments, more miles of fencing and water pipelines, as well as additional guzzlers/reservoirs and wells/springs than Alternative D (No Action).

Alternatives C and E would propose more vegetation treatments and more miles of fencing as well as additional guzzlers/reservoirs and wells/springs than Alternative D (No Action). However, they would propose fewer miles of water pipelines.

4.21.2.9. Impacts of Recreation and Travel on Wildlife and Fisheries Resources

4.21.2.9.1. Recreation

The Proposed RMP and Alternatives A and B would designate Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads as BLM Back Country Byways. Alternatives C and E would not designate these roads as BLM Back Country Byways. This action is not specified under Alternative D (No Action). All alternatives would manage Pelican Lake (1,020 acres) and Red Mountain – Dry Fork (24,259 acres) as SRMAs. Lands in Browns Park and Nine Mile Canyon would also be managed as SRMAs under all alternatives but the acreage would differ between some alternatives and the Proposed RMP (Browns Park: 18,490 acres under the Proposed RMP; 18,474 acres under Alternatives B and D (No Action); 52,720 acres under Alternatives A, C and E; Nine Mile Canyon: 44,168 acres under the Proposed RMP; 44,181 acres under Alternatives B, and D; 81,168 acres under Alternatives A, C and E). Lands in Blue Mountain, the Book Cliffs, Fantasy Canyon, and the White River would be managed as SRMAs under some alternatives and not under others. Acreages would differ as well. Lands in Blue Mountain (42,758 acres), Fantasy Canyon (69 acres), and the White River (2,831 acres under the Proposed RMP and 47,130 acres under Alternatives C and E) would be managed as SRMAs under the Proposed RMP and Alternatives C and E. Alternative A would managed all of these lands as SRMAs except Fantasy Canyon and the White River would consist of 24,183 acres. Under Alternatives B and D (No Action), these lands would not be managed as SRMAs. Lands in the Book Cliffs (273,486 acres) would be managed as SRMA under Alternatives A, C and E but not under the Proposed RMP and Alternatives B and D (No Action). The Proposed RMP and Alternatives A, C, and E would SRMAs improve, develop, and/or sign up to 400 miles of non-motorized trails. Up to 800 miles of motorized routes would be improved, developed, and/or signed under the Proposed RMP and Alternatives A, B, and D (No Action).

These designations and improvements would have both long-term beneficial and adverse impacts on wildlife and fish populations in these areas. Beneficial impacts SRMAs would stem largely from the fact that managed and focused recreation, such as in SRMAs, tends to result in fewer adverse impacts to wildlife and associated resources than dispersed recreation with minimal management. However, because increased visitor use would be projected under SRMA management and with the addition of BLM Back Country Byways, some adverse impacts on

wildlife and fish populations SRMAs would occur. Both long-term beneficial and adverse impacts on wildlife and fish populations in these areas would be much the same between alternatives, except that they would be proportional to the acreage of land proposed for management as SRMAs.

Alternative D (No Action) would not designate any BLM Back Country Byways. BLM would continue to provide minimal management oversight for recreational use of the White River. No specific management plans would be made for Blue Mountain or Fantasy Canyon. The Book Cliffs would continue to provide for unlimited and unconfined recreation. Browns Park (18,474 acres), Red-Mountain Dry Fork (24,285 acres), Pelican Lake (1,020 acres), and Nine Mile Canyon (44,181 acres) would continue to be managed as SRMAs that would include providing important habitat for fisheries and wildlife. Roughly 55 miles of hiking and/or horseback trails along the Green River and on Dry Fork, Ashley Creek, Beaver, Willow, Nine Mile, and other places in the resource area would be developed. Two miles of mountain bike trails using existing rural road and trails would be established. A non-motorized trail along Sears Canyon would be developed, and the Red Mountain trail would be managed as a motorized trail. The recreation decisions would continue a relatively hands-off approach to managing recreational areas associated with the VPA. This approach has historically allowed for relatively little disturbance to wildlife and fish populations in the area. However, this approach could lead to declines to wildlife and fish populations and habitats as areas in the VPA become more popular recreational destinations and other uses increase without additional protective measures placed on critical areas.

4.21.2.9.2. TRAVEL

With respect to travel management, the main difference between the action alternatives and Alternative D (No Action) is in the amount of land available for Open and Limited OHV use. Total acreages available for OHV Open use under the Proposed RMP and Alternatives A, B, C, and E are similar, ranging from 6,202 acres under the Proposed RMP and Alternative A to 5,434 acres under Alternatives B, C, and E. In comparison, Alternative D (No Action) would allow 787,859 acres to be Open to unrestricted OHV use. Under the Proposed RMP and Alternatives A, B, C, and E, the number of acres designated as the more restrictive Limited category of OHV use are roughly similar, ranging from 1,326,024 under Alternative E to 1,659,901 under Alternative E. The Proposed RMP and Alternative A would designate 1,643,475 acres as Limited to designated routes while Alternative C would designate 1,353,529 acres as Limited to designated routes. In comparison, Alternative D (No Action) would designate 887,275 acres as Limited OHV use. Generally adverse OHV effects, such as trampling of either occupied or potential wildlife habitat, noise, habitat fragmentation, increased wind erosion in sensitive habitats would still occur but the risks of these impacts on wildlife would be substantially reduced under the Proposed RMP and Alternatives A, B, C, and E, when compared to Alternative D (No Action). The minimal management of OHV use would lead to declines of wildlife and wildlife habitats as areas in the VPA become more popular for OHV recreation.

4.21.3. IMPACTS OF RIPARIAN ON WILDLIFE AND FISHERIES RESOURCES

4.21.3.1. PROPOSED RMP AND ALTERNATIVES A, B, C, AND E

Under the Proposed RMP and Alternatives A, B, C, and E, key streamside herbaceous riparian vegetation, where stream bank stability is dependant upon it, would have a minimum stubble height capable of trapping and assuring retention of sediment during high flows at the end of the growing season. Management actions would be based on residual stubble height or utilization of current year's growth at the end of the growing season. To maintain riparian conditions, stubble height on key riparian plant species would be set at four inches or 30% utilization. If riparian conditions need improvement, stubble height on key riparian plant species would be set at six inches or less than 20% utilization. Key riparian woody vegetation would not be browsed at a level that precludes adequate recruitment to maintain or recover the woody component. Woody vegetation would be managed for the sprouting and young categories rather than in the mature and dead categories. Woody vegetation utilization would be set at 30%. Alternative B varies from the other action alternatives in that key herbaceous riparian vegetation in riparian areas, other than the stream banks, would not be grazed more than 50% during the growing season, or 60% during the dormant season. Likewise, under Alternative B, key riparian woody vegetation would not be used more than 50% of the current annual twig growth that is within reach of the animals.

This would help maintain or improve riparian areas in the VPA more effectively than Alternative D (No Action). Improvements in the riparian area have the potential to directly benefit fish and wildlife species associated with these riparian areas by providing improved habitat and resources.

4.21.3.1.1. ALTERNATIVE D (NO ACTION)

Under this Alternative, the objective would be to maintain an average minimum herbage stubble height of three inches after livestock grazing where grazing is allowed on riparian areas within the Diamond Mountain portion of the VPA. Within the Book Cliffs portion of the VPA there would be no management prescriptions for average minimum herbage stubble height. Efforts would be made to provide sufficient herbaceous biomass to meet requirements of plant, vigor, maintenance, bank protection, and sediment entrapment. However, this alternative would not provide the level of protection to riparian habitat and associated wildlife species that the action alternatives would provide.

4.21.3.2. IMPACTS OF SPECIAL DESIGNATIONS ON WILDLIFE AND FISHERIES RESOURCES

4.21.3.2.1. PROPOSED RMP AND ALTERNATIVES A, B, C, D (NO ACTION), AND E

Special Designation areas ACECs would generally have a long-term beneficial impact on the wildlife and fisheries known to occur within their boundaries. Normally, only activities that would maintain or enhance habitat used by wildlife and fisheries would be permitted in these areas, although some of these areas would remain open to minerals development. In areas where minerals development may impact wildlife and fisheries, restrictive lease stipulations would be required to minimize these impacts. The designation of these areas, or lack thereof, would have

similar impacts between alternatives and the Proposed RMP. Alternatives C and E propose the most ACECs (647,063 acres and 533,885 acres respectively for Alternative C and Alternative E) and the greatest quantity of river segments as suitable for Wild and Scenic River designation (164 miles in addition to segments of the Upper and Lower Green River that would continue to be suitable). The Proposed RMP proposes the fewest ACECs (131,700 acres) and river segments as suitable for Wild and Scenic River designation (two segments, the Upper and Lower Green River that would continue to be suitable). Alternatives B and D (No Action) propose about the same number and acreage of ACECs (179,356 acres and 165,944 acres respectively for Alternative B and Alternative D, No Action) and river segments as suitable for Wild and Scenic River designation (those segments of the Upper and Lower Green River that would continue to be suitable). Alternative A proposes approximately 345,850 acres of ACECs and 57 miles of river segments as suitable for Wild and Scenic River designation. A summary of the total ACECs by alternative and the Proposed RMP is given below in Table 4.21.9. The acreage of WSAs is the same under the Proposed RMP and each alternative.

Table 4.21.9. ACEC Designations for the Proposed RMP and Alternatives

ACECs	Acres					
	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Bitter Creek/P.R. Spring	0	0	0	78,591	0	0
Coyote Basin	0	87,743	47,659	0	0	0
Coyote Basin – Coyote Basin	0	0	0	26,590	0	26,590
Coyote Basin – Kennedy Wash	0	0	0	10,670	0	10,670
Coyote Basin – Myton Bench	0	0	0	36,670	0	36,670
Coyote Basin–Shiner	0	0	0	21,957	0	21,957
Coyote Basin–Snake John	0	0	0	28,274	0	28,274
Four Mile Wash	0	0	0	50,280	0	50,280
Lears Canyon	1,375	1,375	1,375	1,375	1,375	1,375
Middle Green River	0	0	0	6,768	0	6,768
Lower Green River (Corridor and Expansion)	8,470	10,170	8,470	10,170	8,470	10,170
White River	0	17,810	0	47,130	0	47,130
Browns Park	18,490	52,721	18,474	18,474	52,721	52,721
Red Mountain – Dry Fork	24,285	24,285	24,285	24,285	24,285	24,285
Nine Mile Canyon	44,168	48,000	44,181	81,168	44,181	81,168
Pariette	10,437	10,437	10,437	10,437	10,437	10,437
Red Creek	24,475	24,475	24,475	24,475	24,475	24,475
Main Canyon	0	0	0	100,915	0	100,915
Total Acreage	**131,700**	**345,850**	**179,357**	**647,063**	**165,944**	**533,885**

4.21.3.3. Impacts of Special Status Species Decisions on Wildlife and Fisheries Resources

Alternatives that incorporate decisions to protect special status plant and animal species would also likely benefit general wildlife and fish populations. The Proposed RMP and Alternatives A and B would provide more protection than Alternative D (No Action), but less protection than Alternatives C and E for special status species, and indirectly other wildlife and fish populations.

4.21.3.4. Impacts of Soils and Watersheds on Wildlife and Fisheries Resources

The Proposed RMP and Alternatives A, B, C, and E would use oil and gas industry slope disturbance guidelines (Gold Book) to limit surface disturbances from oil and gas activities, which would provide indirect, long-term beneficial impacts to wildlife and fisheries by reducing soil erosion on steep hillsides.

4.21.3.4.1. Proposed RMP and Alternative A

Under the Proposed RMP and Alternative A, surface disturbances on slopes between 21–40% would require erosion control, GIS modeling, and surveying, and slopes greater than 40% would not be disturbed unless other proposed construction alternatives would cause unnecessary degradation. These actions would also provide indirect, long-term beneficial impacts to wildland and fisheries by reducing soil erosion and subsequent stream sedimentation.

4.21.3.4.2. Alternative B

Alternative B would require erosion control, GIS modeling, and surveying on slopes greater than 20% for unavoidable surface disturbances, with similar indirect beneficial impacts to wildlife and fisheries as described for the Proposed RMP and Alternative A, but without the restrictions to disturbances to slopes greater than 40% as described under the Proposed RMP and Alternative A.

4.21.3.4.3. Alternatives C and E

Alternatives C and E would have greater indirect beneficial impacts on wildlife and fisheries than the other alternatives by applying the same management actions on 21–40% slopes as the Proposed RMP and Alternative A and by prohibiting surface disturbances (and thus reducing the risk of increased stream sedimentation) on slopes greater than 40%.

4.21.3.4.4. Alternative D (No Action)

Alternative D (No Action) restricts surface disturbance only for mineral activities on slopes greater than 40% and does not specifying slope restrictions on slopes less than 40%. The reductions in stream sedimentation imposed by management actions that limit surface disturbances would improve water quality and reduce stream embeddedness, which, in turn, would improve macroinvertebrate habitat and increase fish spawning success.

The Proposed RMP and Alternatives A and B would provide more protection to aquatic resources than Alternative D (No Action), but less protection than Alternatives C and E. Alternative E would provide the most restrictions on surface disturbance, and would, consequently, provide the greatest protection for water quality and aquatic habitat.

4.21.3.5. Impacts of Wildlife and Fisheries Management Decisions on Wildlife and Fisheries Resources

4.21.3.5.1. Proposed RMP

This Proposed RMP would not allow surface disturbance activities within McCook and Monument Ridge mule deer migration corridors from April 15 through May 31. This would result in an extension of the dates in the Monument Ridge area but a reduction of dates in the McCook area when compared with Alternative D (No Action). Activities would not be allowed that would result in adverse impacts to mule deer and elk within crucial winter range from December 1 through April 30. This restriction would not apply if deer and elk are not present, or impacts could be mitigated through other management actions. New surface disturbance within crucial mule deer winter range would be limited to no more than 10% that would remain un-reclaimed at any given time. This 10% surface disturbance threshold in crucial deer winter range would only apply to new disturbances. All compensatory mitigation would be approached on an as appropriate basis where it can be performed on-site, and on a voluntary basis where it is performed offsite, or, in accordance with current guidance. New surface disturbance or restoration in crucial mule deer winter range is not specified in Alternative D (No Action). These actions would have an overall benefit to mule deer and elk populations when compared to Alternative D (No Action).

Under the Proposed RMP (as well as Alternatives A, C and E) the BLM would provide habitat and forage for the emigration and/or reintroduction of Rocky Mountain bighorn sheep in the following areas: Upper Book Cliffs including the Willow Creek drainage upstream from Wood Canyon and the Bitter Creek drainage upstream from the Sweetwater confluence; the White River corridor; the Browns Park/Green River corridor including Red Creek Canyon; Sears Creek Canyon; Crouse Canyon; Toliver's Creek; Beaver Creek/Willow Creek area; Goslin Mountain and Teepee Mountain; Big Brush Creek; Little Brush Creek; and Ashley Gorge; and ridge tops on Diamond Mountain, Richard's Mountain, the Island Park/Dry Fork area, and Nine Mile Canyon. This would expand the reintroduction effort for bighorn sheep in the VPA and would benefit bighorn sheep populations when compared with Alternative D (No Action).

The BLM would continue to work cooperatively with UDWR and other entities on the Book Cliffs Bison Management Plan, with long-term, beneficial impacts on this species within the VPA. Further, habitat and forage would be provided for the emigration and/or reintroduction of moose, which would benefit moose populations in the VPA when compared with Alternative D (No Action).

4.21.3.5.2. ALTERNATIVE A

This alternative would not allow surface disturbance activities within McCook and Monument Ridge mule deer migration corridors from April 15 through May 31. This would result in an extension of the dates in the Monument Ridge area but a reduction of dates in the McCook area when compared with Alternative D (No Action). Activities would not be allowed that would result in adverse impacts to mule deer and elk within crucial winter range from November 15 through April 30. This restriction would not apply if it is determined through analysis and coordination with UDWR that impacts could be mitigated. New surface disturbance within crucial mule deer winter range would be limited to 560 acres per township, or 2.4% of the township, and prorated based on the percentage of the crucial mule deer winter range within the township. All surface disturbances within sagebrush habitat on crucial mule deer winter range would be reclaimed or enhanced at a ratio of 1.5 to 1. New surface disturbance or restoration in crucial mule deer winter range is not specified in Alternative D (No Action). These actions would have an overall benefit to mule deer and elk populations when compared to Alternative D (No Action).

Under this alternative the BLM would provide habitat and forage for the emigration and/or reintroduction of Rocky Mountain bighorn sheep as described under the Proposed RMP above.

Habitat and forage would be provided for the emigration and/or reintroduction of bison in the southern Book Cliffs, with long-term, beneficial impacts on this species within the VPA.

Habitat and forage would be provided for the emigration and/or reintroduction of moose, which would benefit moose populations in the VPA when compared with Alternative D (No Action).

4.21.3.5.3. ALTERNATIVE B

This alternative would not allow surface disturbance activities within McCook and Monument Ridge mule deer migration corridors from April 15 through May 31 and September 1 through October 15. This would result in an extension of the dates in the Monument Ridge area but a reduction of dates in the McCook area when compared with Alternative D (No Action). Disturbance activities would not be allowed from December 15 through March 15 that would displace mule deer and elk from more than 10% of their total winter habitat at any time. Waivers would be granted if deer and elk are not present, topography or other attributes screen the activity sufficiently so that the proposed activity would not displace the subject species, or disturbance resulting from the proposed activity could be mitigated. This would be a reduction of the dates when compared to Alternative D (No Action). This alternative would not provide UDWR an opportunity to be involved in analyzing exceptions to these dates as with the Proposed RMP and Alternatives A, C, and E. Within crucial deer winter range, no more then 10% of such habitat would be subject to surface disturbance and remain un-claimed at any given time. This 10% surface disturbance threshold in crucial deer winter range would only apply to new disturbances (same as the Proposed RMP). Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed at or enhanced at a ratio of 1 to 1. New surface disturbance or restoration in crucial mule deer winter range is not specified in Alternative D (No Action). These actions would have an overall benefit to mule deer and elk populations when compared to

Alternative D (No Action), but these benefits would not be as great as those outlined for the Proposed RMP and Alternatives A, C, and E.

Under Alternative B, BLM would only support Rocky Mountain bighorn sheep if natural emigration occurs in the same areas as described under the Proposed RMP above This would expand the reintroduction effort for bighorn sheep in the VPA and would benefit bighorn sheep populations when compared with Alternative D (No Action). However, this alternative limits the establishment efforts for Rocky Mountain bighorn sheep to emigration versus reintroduction; therefore, benefits of this alternative to bighorn sheep are not as great as those outlined for The Proposed RMP and Alternatives A, C, and E.

This alternative would have adverse impacts to moose and bison, as the BLM would not support them (i.e., habitat and forage would not be provided) in the Book Cliffs.

4.21.3.5.4. ALTERNATIVES C AND E

These alternatives would not allow surface disturbance activities within McCook and Monument Ridge mule deer migration corridors from April 15 through May 31 and September 1 through October 15. This would result in an extension of the dates in the Monument Ridge area but a reduction of dates in the McCook area when compared with Alternative D (No Action). Activities would not be allowed that would result in adverse impacts to mule deer and elk within crucial winter range from November 15 through April 30. This restriction would not apply if it is determined through analysis and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance. This would be an extension of the dates and provide UDWR an opportunity to be involved in analyzing impacts when compared to Alternative D (No Action). Total new surface disturbance within crucial mule deer winter range would be limited to 560 acres per township, or 2.4% of the township, and prorated based on the percentage of the crucial mule deer winter range within the township on BLM-managed lands. All disturbances within sagebrush habitat on crucial mule deer winter range would be reclaimed or enhanced at a ratio of 3 to 1. New surface disturbance or restoration in crucial mule deer winter range is not specified in Alternative D (No Action). These actions would have an overall benefit to mule deer and elk populations when compared to Alternative D (No Action).

Under Alternatives C and E, management actions for bighorn sheep would be the same as the Proposed RMP and Alternative A. This would expand the reintroduction effort for bighorn sheep in the VPA and would benefit bighorn sheep populations when compared with Alternative D (No Action).

Habitat and forage would be provided for the emigration and/or re-introduction of bison in the Book Cliffs, which would have long-term, beneficial impacts on this species within the VPA. The impacts on moose would be the same as discussed under Alternative A.

4.21.3.5.5. ALTERNATIVE D (NO ACTION)

This alternative would not allow surface disturbance activities within mule deer migration corridors on Monument Ridge from May 11 to May 31 or on McCook Ridge from October 2 to May 31. The allowable amount of new disturbance in crucial deer winter range and the reclamation of sagebrush habitat on crucial deer winter range would remain unspecified. Surface-disturbing activities would not be allowed in crucial winter elk habitat in the Book Cliffs from November 1 to March 31 and in Diamond Mountain from December 1 to April 30, with exceptions if deer and/or elk are not present or if impacts could be mitigated through other management actions. These actions would benefit mule deer and elk populations in the VPA.

This alternative would allow for the reestablishment of bighorn sheep in Browns Park and provide forage and cover to support an average annual population of about 300 to 400 animals on public lands in the Browns Park Habitat Management Plan (HMP) area. This would benefit bighorn sheep in this area of the VPA.

The reintroduction of bison into the Southern Book Cliffs and moose throughout the VPA would remain unspecified. Therefore, this alternative would not benefit moose or potential bison populations in the VPA.

4.21.3.6. IMPACTS OF WILD HORSE DECISIONS ON WILDLIFE AND FISHERIES RESOURCES

The alternatives would maintain wild horse herds as outlined in Table 4.21.10 below. In those areas and under those alternatives where wild horse herds would be maintained, there is the potential for wild horses to compete directly and indirectly with wildlife with respect to forage and habitat. However, efforts have also been made to allocate forage and habitat to wildlife and to wild horses to reduce the potential adverse impacts to wildlife populations from this competition (See Chapter 2). The Proposed RMP and Alternative B would offer the greatest benefits to wildlife in terms of reduced competition with wild horses because the Proposed RMP and Alternative B would either gather and remove wild horses from the planning area or not manage for them (therefore not allocating AUMs for wild horse use). The other alternatives would maintain wild horse populations on some level resulting in potential conflicts with wildlife for forage and habitat resources.

Table 4.21.10. Maintaining Wild Horse Herds by the Proposed RMP and Alternatives

	Bonanza HA	Winter Ridge HA	Hill Creek HA
Proposed RMP	No	No	No
Alternative A	No	Yes	Yes
Alternative B	No	No	No
Alternative C	Yes	Yes	Yes
Alternative D (No Action)	No	No	Yes
Alternative E	Yes	Yes	Yes

4.21.3.7. Impacts of Woodlands and Forest Management Decisions on Wildlife and Fisheries Resources

4.21.3.7.1. Proposed RMP and Alternatives A, B, C, and E

The Proposed RMP and Alternatives A, B, C, and E would allow public utilization of forest and woodland products as one tool for conducting vegetative treatments to achieve desired future conditions in these forest and woodland habitats. These alternatives would treat/harvest up to as much as 554,108 acres (under Alternative B) of forest and woodland habitat and as little as 421,133 acres (under Alternative E).

The Proposed RMP and Alternatives A, C, and E would manage forests and woodlands to maintain and restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, disease, and other disturbances do not exceed levels normally expected in healthy forests and woodlands. These alternatives and the Proposed RMP would maintain relict stands of vegetation for biological and genetic diversity. Forests and woodlands would be managed under the principles of multiple use and sustained yield without permanent impairment of the productivity of the land and the quality of the environment; and allow use of forest, woodland products, biomass, and certain vegetation products in areas specified for this use to meet RMP goals. Each of these alternatives and the Proposed RMP would implement the National Healthy Forest Initiative and the National Fire Plan by conducting treatments to reduce fuel loadings, fire severity, and restoring historical disturbance regimes.

The Proposed RMP and Alternatives A and B would initiate a proactive program of woodland management implemented for the salvage of forest and woodland products that are dead and/or dying due to fire, disease, insect-kill or other disturbance with the management intent of promoting healthy forest and woodlands. Alternatives C and E would allow for the salvage of forest and woodland products within proposed ACECs (242,760 acres) only when there is a threat to forest and woodlands or other resources in the ACEC. Alternative C would also allow for salvage of forest and woodland for other resources on up to 343,110 acres outside of proposed ACECs. However, under Alternative E salvaging of woodland and forest species would not be allowed in areas proposed for protection of wilderness characteristics, which would result in fewer indirect long-term adverse impacts to wildlife and fisheries resources through reduced surface disturbance. Alternative B would allow harvesting forest and woodland stands that have reached culmination of mean annual increment (growth begins to decrease). Stands would thereafter be grown and thinned to approximately 80 to 90% of "normal (maximum) basal area" until the culmination of mean annual increment, at which time the stand(s) would be cut again.

In summary, all Action Alternatives (Alternatives A, B, C, and E) and the Proposed RMP would have some short-term impacts on wildlife habitat associated with cavity-nesters and other wildlife associated with woodland habitat, including snags. However, woodland harvest would also provide edge habitat that would benefit several big-game species, including deer, elk, and black bear. It would also likely improve long-term habitat by eliminating fuel loading, thereby reducing the risk of habitat loss from catastrophic wildland fire.

4.21.3.7.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would allow up to 88,200 acres of forest and 200,100 acres of woodlands to have treatments or be harvested. Accordingly, Alternative D (No Action) would have similar impacts to those described for the action alternatives, but to a lesser degree due to the lower treatment acreage.

4.21.4. SUMMARY

In general, the greatest impacts to wildlife habitat would be fragmentation of essential wildlife and fisheries habitat due to continued minerals development. In this respect, Alternative B would have the greatest impact, followed by Alternatives A and D, the Proposed RMP, and Alternatives C and E. However, it should be noted that the difference in fragmentation impacts between these alternatives is proportionally less than 10% between the alternative with the least impacts (Alternative E) and the most impacts (Alternative B). The impacts of other resource management decisions on wildlife would be similarly ranked with Alternative B having the greatest adverse impact, followed by Alternatives A and D (No Action), the Proposed RMP, and Alternatives C and E.

4.21.5. MITIGATION MEASURES

The mitigation measures developed to reduce impacts to wildlife and fisheries as a result of the implementation of management decisions have already been incorporated into the Management Common to the Proposed RMP and All Alternatives (See Chapter 2). These mitigation measures would likely reduce significant impacts to wildlife and fishery population viability in the VPA, but would not completely avoid adverse impacts to wildlife habitat.

4.21.6. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable Adverse Impacts to fishery and wildlife populations due to management of other resources would occur due to habitat loss, degradation, and fragmentation; population isolation and reduction; loss of prey base; and ecosystem function. While mitigation measures described under Management Common to the Proposed RMP and all Alternatives (See Chapter 2) would reduce these impacts to the extent possible, they would still occur to a varying degree under the Proposed RMP and alternatives, with the greatest unavoidable impact occurring under Alternative B, followed by Alternatives A and D, the Proposed RMP, and Alternatives C and E. These unavoidable impacts could limit future expansion of wildlife and fishery populations in the VPA, particularly into current suitable habitat that may be unoccupied.

4.21.7. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Construction of roads and well pads associated with mineral development would provide a short-term resource use in terms of mineral extraction. However, that use could eventually result in long-term fragmentation of wildlife and fisheries habitat. These activities would also increase the occurrence of noxious weed infestations competing for water and space with native plants, which would likely reduce the long-term habitat productivity of the area. Other competing resource

uses, such as off-highway vehicle (OHV) use and livestock grazing, provide a short-term resource use that would also result in long-term adverse impacts to wildlife and fishery populations through disturbance, habitat degradation, and spread of noxious weeds.

4.21.8. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Land categorization for minerals development in the VPA proposes to open, to minerals development, approximately 80% to 100% of available habitat for most wildlife and fisheries on BLM managed lands in the VPA. The habitat fragmentation associated with this development would create an irretrievable impact to wildlife populations by potentially breaking up wildlife populations into smaller populations more susceptible to population declines and possible extinction from random events. Additionally, this fragmentation would make wildlife movement between fragments difficult, as well as decreasing the habitat suitability for large mobile wildlife species that may require large habitat areas. This shift to smaller populations and smaller discrete habitats would create an irretrievable loss in wildlife productivity until the areas used as access roads and for other developments associated with minerals activities were reclaimed. Eventually those areas could be restored, so this impact would not necessarily be irreversible. However, there is the possibility of an irreversible loss of small isolated wildlife populations due to this fragmentation, particularly if reclamation of cleared well pads and roads does not occur within 20 to 30 years.

4.22. WOODLANDS AND FOREST RESOURCES

4.22.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

The Proposed RMP and all of the alternatives would allow open and/or limited OHV use areas. In general, OHV effects would have short-term and long-term adverse and beneficial impacts on woodland resources. Adverse impacts would be created by trails leading into formerly inaccessible woodland resource areas if the trails were unmanaged and unmonitored: these OHV trails would create opportunities for unmanaged and unmonitored woodcutting and/or harvesting of woodland products. The indirect adverse effects of open OHV use would be the ruts and gullies on steep slopes that would contribute to soil erosion. Long-term beneficial impacts, created by increasing managed OHV access to the resource, would tend to improve woodland resource management, and allow controlled woodland products harvesting to meet resource objectives.

Mineral and hydrocarbon leasing for oil, natural gas, Gilsonite, and phosphate would be allowed under all of the alternatives and the Proposed RMP. These activities would have direct short-term and long-term adverse effects on woodland resources by removing the resource from production and use during the construction and maintenance of well pads, access roads, processing facilities, pipelines, or support facilities, until reclamation and re-growth, or for the lifetime of a project.

Woodland resources would be treated or harvested under the Proposed RMP and all of the alternatives; however, under the Proposed RMP and Alternative E, non-WSA lands with wilderness characteristics would be managed with prohibitions on woodland and timber harvesting and salvage. These prohibitions would have adverse impacts on harvesting opportunities in the long term. Prescriptive fire treatments would be applied under all of the alternatives and the Proposed RMP. These activities would tend to be adverse in the short term and beneficial in the long term. Short-term adverse impacts would result from surface disturbance caused by harvesting, chemical and mechanical treatments, reseeding, fire suppression, and/or burned areas temporarily denuded of vegetation that would tend to increase soil erosion and increase the potential for noxious weed infestation in treated areas. Vehicles and equipment used in vegetation and woodland treatments would have short-term adverse ground-disturbing impacts on woodland resources. Long-term beneficial impacts would result from the reduction of excessive fuel loads within the treated areas, which would reduce the potential for stand-replacing wildland fire; allow public use of woodland products; make improvements to woodland habitat; and make improvements in woodland productivity by restoring woodland and forest health. Prescriptive fire or other treatments that reduce the number of diseased and/or insect-infested trees in the resource area would also have long-term beneficial impacts to woodland health.

Locatable mineral withdrawals would be considered for all of the alternatives, for the Green River Scenic Corridor in Browns Park (8,208 acres) and in the Lears Canyon relic vegetation area (1,375 acres) for the Proposed RMP, and Alternatives A, B, C, and E. Under Alternative D (No Action), the designated acres for these areas would be different than the action alternatives:

Green River Scenic Corridor in Browns Park would encompass 19,400 acres) and the relict vegetations areas in Lears Canyon would include 3,600 acres. These protective measures would have direct long-term protection-related beneficial impacts on woodland and forest resources.

The Proposed RMP and all of the alternatives designate some acreage within the VPA as VRM Class I and VRM Class II (as well as VRM Class III and Class IV). The resource-protective visual quality objectives of VRM I and VRM II would have direct and indirect beneficial impacts on woodland resources by preventing the degradation of the resource from unmanaged OHV use which would otherwise potentially lead to noxious weed and invasive species spread, and soil erosion.

Socioeconomically, the impacts of the Proposed RMP and alternatives would have the greatest economic benefits under Alternative B because harvesting would be managed to achieve the greatest output of forest and woodland products. The Proposed RMP and Alternative D (No Action) would have the next highest level of socioeconomic benefit, with the least economic benefit under Alternatives C and E. Under the Proposed RMP and each alternative the resource would remain available to the public for fuel, timber, Christmas tree cutting, biomass, fence posts, pinyon nut gathering, landscaping, and special forest products. The restrictions and/or land use designations described under the Proposed RMP, and Alternatives, C and E, and to a lesser extent under Alternative D (No Action), would impair woodcutting harvesting.

The impacts of grazing would have similar impacts for the Proposed RMP and all of the alternatives. The impacts would be minor or negligible on woodland resources except along the Green and White River riparian corridors where aging, over-mature cottonwood stands are not regenerating due to a combination of grazing and lack of flooding conditions. Grazing impacts on cottonwoods would be direct and adverse in the short-term and long-term.

Special Designation Areas are proposed under the Proposed RMP and all of the alternatives. These areas include SRMAs, ACECs, and the identification of stretches along rivers recommended for designation into the National Wild and Scenic River System. Where riparian resources are to be protected, these designations would have direct short-term and long-term beneficial, protection-related impacts on woodland resources within the designated areas by requiring all surface-disturbing activities to conform to the goals and objectives of a particular Special Designation Area. Each ACEC and proposed Wild and Scenic River segment would have a management plan created, which would protect specific resources within the area. Generally, Wild or Scenic River suitability designation would have long-term beneficial protection-related impacts on riparian woodlands.

Abandoned Mine Lands, Air Quality, Cultural, Wildlife, Paleontology, Wild Horses, and Hazardous Materials management actions for the Proposed RMP and alternatives would have minor or negligible effects on woodland resources and therefore will not be analyzed further.

4.22.2. ALTERNATIVE IMPACTS

4.22.2.1. IMPACTS OF FIRE MANAGEMENT DECISIONS ON WOODLAND RESOURCES

4.22.2.1.1. PROPOSED RMP, AND ALTERNATIVES A, B, C, AND E

The Proposed RMP and all of the action alternatives would have direct beneficial and adverse affects on woodland resources from fire management, as described under Impacts Common to All Alternatives. The beneficial effects of prescribed fire on 156,425 acres of woodlands per decade would be to reduce fuel loads, aid in regeneration of some desirable species such as aspen and ponderosa pine, and other species, create wildlife snags from burned trees, and reduce the level of woodland disease and insect infestation.

Compared to Alternative D (No Action), the Proposed RMP and these alternatives would provide approximately three times the beneficial impacts to woodland resources from prescribed fire, based on the proposed VPA acreage available for fire treatments. Short-term adverse indirect effects from fire treatments would include increased soil erosion and soil loss from steep slopes. Off highway vehicle (OHV) use in these areas would have short-term and long-term adverse impacts on woodland resources by intensifying the adverse fire-related soil erosion impacts.

4.22.2.1.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would use prescriptive fire on up to 27,950 acres within the Book Cliffs RMP area, and manipulate 22,950 acres within the Diamond Mountain RMP area (totaling 50,900 acres). The types of impacts would be similar to those discussed above for the Proposed RMP and the action alternatives, but on a smaller scale.

4.22.2.2. IMPACTS OF LANDS AND REALTY DECISIONS ON WOODLAND RESOURCES

4.22.2.2.1. PROPOSED RMP

The Proposed RMP would have additional long-term beneficial, protection-related impacts on woodland resources by pursuing locatable mineral withdrawals along the White River in non-WSA lands with wilderness characteristics (6,720 acres), the White River SRMA (1,110 acres), Lears Canyon relict vegetation areas (1,375 acres), the Book Cliffs Natural Area (401 acres), and in the Green River Scenic Corridor in Browns Park (8,208 acres), totaling 22,814 acres. This alternative would provide beneficial resource-protection and use impacts for woodland resources, but based on acres of mineral withdrawals pursued under this alternative, the acreages would be less than those under Alternative D (No Action).

4.22.2.2.2. ALTERNATIVE A

The impacts on woodland resources under this alternative would be the same as discussed under Proposed RMP because the management decisions are similar.

4.22.2.2.3. ALTERNATIVE B

The impacts on woodland resources would be the same as discussed under the Proposed RMP because the management decisions are similar.

4.22.2.2.4. ALTERNATIVE C

Alternative C would have the same types of impacts on woodlands from locatable minerals withdrawals as discussed under the Proposed RMP, but to a greater degree. Under Alternative C, a total of 36,265 acres would be withdrawn in the Book Cliffs Natural Area, along the Green River Scenic Corridor, in Lears Canyon, and within the Lower Green River ACEC. Compared to Alternative D (No Action), this alternative would provide more beneficial resource-protection and use impacts for woodlands because more area would be protected from mineral surface disturbances.

4.22.2.2.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would have beneficial protection-related impacts on woodland resources that would include 19,400 acres within the Green River Scenic Corridor, 3,600 acres of relict vegetation, 7,900 acres in the Lower Green River ACEC, and 5,000 acres within developed and potential recreation sites, totaling 35,900 acres.

4.22.2.2.6. ALTERNATIVE E

The impacts of lands and realty decisions would be similar to the discussion under Alternative C, except that approximately 131,809 acres of woodlands within non-WSA lands with wilderness characteristics would be managed as ROW exclusion areas and closed to disposal of mineral materials. This would have long-term, beneficial impacts on woodland resources by prohibiting ROW-related surface disturbances and maintaining woodland productivity within these areas. The alternative would have more beneficial impacts on woodland resources than Alternative D (No Action) because protection would be applied to the resource.

4.22.2.3. IMPACTS OF MINERALS DECISIONS ON WOODLAND RESOURCES

4.22.2.3.1. PROPOSED RMP

The impacts of mineral exploration and development are described under subsection 4.20.1 Impacts Common to All Alternatives. Under the Proposed RMP, approximately 18,860 acres of woodlands could be directly and adversely affected by short-term and long-term minerals impacts from oil and gas development. This alternative would adversely impact approximately 648 more woodland acres than Alternative D (No Action).

4.22.2.3.2. ALTERNATIVE A

Under Alternative A, approximately 18,971 acres of woodlands could be directly and adversely affected within the VPA by short-term and long-term surface disturbance-related impacts from

oil and gas development, with those impacts discussed under subsection 4.20.1 above. This alternative would adversely impact approximately 759 more acres than Alternative D (No Action).

4.22.2.3.3. ALTERNATIVE B

Under Alternative B, approximately 19,033 acres of woodlands could be adversely affected in the short-term and long term by minerals development, with impacts as discussed under subsection 4.20.1. This alternative would adversely impact approximately 821 acres more than Alternative D (No Action).

4.22.2.3.4. ALTERNATIVE C

Under this alternative, approximately 18,757 acres could be adversely affected in the short-term and long-term by minerals development. This alternative would impact approximately 545 acres less than Alternative D (No Action).

4.22.2.3.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) could adversely affect approximate 18,212 acres of woodland resources in the short term and long term from the development of oil and gas resources. The impacts would be caused by surface disturbances discussed above under subsection 4.20.1.

4.22.2.3.6. ALTERNATIVE E

Under this alternative, approximately 17,469 acres could be adversely affected in the short-term and long-term by minerals development. This alternative would impact approximately 743 acres less than Alternative D (No Action).

In summary, and based on the number of acres potentially disturbed by oil and gas minerals activities, and in comparison to Alternative D (No Action), Alternative B would have the most long-term adverse impacts on woodland resources, followed by Alternative A and the Proposed RMP, then Alternative D (No Action). Alternatives E and C would have the least adverse impacts on woodland resources from minerals-related surface disturbances. As discussed under Impacts Common to the Proposed RMP and All Alternatives above, the adverse impacts to woodland resources would be caused primarily by the loss of resource production and availability of woodland products during the lifetime of minerals projects. Direct, long-term adverse impacts to woodlands management would include well pads, support facilities, and access roads created by developing minerals areas in woodlands.

4.22.2.4. IMPACTS OF NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS DECISIONS ON WOODLANDS

Areas with non-WSA wilderness characteristics would be managed under the Proposed RMP and Alternative E, with management decisions that include prohibitions on woodland harvesting and salvage (but allowing vegetation and fuel reduction treatments). Under the Proposed RMP, these

lands would be designated as VRM Class II, closed to oil and gas leasing, and allow OHV travel along designated routes. Under Alternative E, non-WSA lands with wilderness characteristics would be closed to cross-country OHV access, designated as VRM Class I, closed to minerals leasing, and excluded from ROW designation. These decisions would have beneficial and adverse impacts on woodland resources: closing non-WSA lands with wilderness characteristics to woodland harvesting and OHV access would preserve the resource by beneficially reducing direct and indirect impacts from surface disturbances within these areas (e.g., soil compaction and erosion, increased fire risks from motorized OHVs, an increased potential of invasive species invasion and replacement of woodland resources); long-term, adverse impacts would be produced by the reduced opportunities for woodland harvesting within the VPA.

4.22.2.5. Impacts of Recreation Decisions on Woodland Resources

4.22.2.5.1. Proposed RMP

The Proposed RMP would manage 2,831 acres along the White River as an SRMA. Designating and managing other SRMAs areas on Blue Mountain (42,729 acres), Red Mountain-Dry Fork (24,259 acres), Pelican Lake (1,014 acres), Browns Park (18,490 acres), Fantasy Canyon (69 acres), and Nine Mile Canyon (44,168 acres). These management decisions would have direct long-term, beneficial impacts on woodland resources by restricting OHV use to designated trails and managing recreational woodcutting on a total of 133,560 acres of area proposed as SRMAs. This alternative would provide more protection to woodland resources than Alternative D (No Action), which would continue to manage 87,931 acres of SRMAs.

4.22.2.5.2. Alternative A

Alternative A would manage 24,183 acres along the White River as an SRMA. In the proposed White River SRMA, the restriction of surface-disturbing activities would be of up to one mile from the up to ½ mile from center- line of the river corridor and would have direct beneficial impacts to woodland resources by restricting OHV travel in the river corridor. This restriction would reduce recreation-related impacts to cottonwood stands along the river corridor. Under Alternative A, designating and managing portions of the White River, other SRMAs areas on Blue Mountain (42,758 acres), in the Book Cliffs (273,486 acres), Browns Park (52,720 acres), and Nine Mile Canyon (81,168 acres) as SRMAs would have direct long-term beneficial impacts on woodland resources by restricting OHV use to designated trails and managing recreational woodcutting. This alternative would manage and protect a total of 499,620 acres within SRMAs, including woodlands. This alternative would provide more protection for woodland resources than Alternative D (No Action) because of the substantially increased acreage proposed for management under SRMAs (a 568% increase over current management).

4.22.2.5.3. Alternative B

Under Alternative B, unspecified or minimal management oversight of recreational use would have direct, major, adverse impacts on woodland resources caused by unlimited and unconfined recreation within the VPA. Off highway vehicle use, however, would be limited to designated trails, reducing unmanaged access to woodland areas. The White River, Blue Mountain, Fantasy

Canyon, and Book Cliffs SRMAs would not be designated under this alternative. However, Alternative B would continue to manage the existing Browns Park, Nine Mile Canyon, Pelican Lake, and Red Mountain-Dry Fork SRMAs with the same acreages as Alternative D (No Action) (86,454 acres), which would have direct beneficial protection-related impacts on woodland resources. The impacts under this alternative would have the same impacts on woodlands resources as current management under Alternative D (No Action).

4.22.2.5.4. Alternatives C and E

Alternatives C and E would manage 47,130 acres along the White River as an SRMA, 42,729 acres at Blue Mountain, 273,486 acres in the Book Cliffs, 52,720 acres in Browns Park, 81,168 acres in Nine Mile Canyon, and 69 acres in Fantasy Canyon, 1,014 acres at Pelican Lake, and 24,259 acres at Red Mountain-Dry Fork. The impacts would be similar to those discussed under Proposed RMP, but to a greater degree, because more area (a total of 522,604 acres) would be managed as SRMAs that would provide protection to and management of woodland resources. Thus, this alternative would provide more protection for woodland resources than Alternative D (No Action).

4.22.2.5.5. Alternative D (No Action)

Under Alternative D (No Action), unspecified or minimal management oversight of recreational use would have direct, major, adverse impacts on woodland resources. The areas open to cross-country OHV use and limited to designated trails would continue under current conditions, which would have direct, adverse impacts on woodland resources from unmanaged harvesting, unmanaged access to the resource from unmanaged road and trail development, soil erosion, vegetation trampling, and the increased risks of wildland fire. There would be no specified monitoring of dispersed camping-related firewood use or other recreational uses of woodland resources, which would have direct adverse impacts on the resource. The White River, Blue Mountain, and Book Cliffs SRMAs would not be designated under this alternative, but the existing SRMAs (as described under Alternative B) would continue to be managed for the protection of woodland resources, totaling 86,454 acres.

In summary, Alternatives C and E would provide the most protection to woodland resources, followed by the Proposed RMP and Alternative A. Alternatives B and D (No Action) would provide the least protection to woodland resources.

4.22.2.6. Impacts of Soils/Watershed/Riparian Decisions on Woodland Resources

4.22.2.6.1. Proposed RMP, and Alternatives A, B, C and E

Under the Proposed RMP and the action alternatives, managing the browse in riparian areas for woody species would have direct long-term beneficial affects on aging cottonwood stands. Proper grazing use of woody vegetation and allowing the recruitment and recovery of woody species would have a major long-term beneficial impact on restoring healthy cottonwood stands along riparian corridors.

No surface disturbance on slopes greater than 40% (under Alternatives C and E),erosion control measures on 21%–40% percent slopes (under the Proposed RMP and Alternative A) and greater than 20% slope erosion control measures under Alternative B would produce direct long-term beneficial effects on woodland stands by reducing the impacts associated with woodland treatments, particularly prescribed fire treatments. The Proposed RMP and these alternatives would provide more protection of woodland resources than Alternative D (No Action).

4.22.2.6.2. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would allow grazing within riparian areas without regard for woody riparian species, and only prohibit surface disturbances to minerals-related activities on slopes greater than 40%. This would have direct, adverse, long-term impacts on woodland resources where recruitment of riparian woody species is necessary to maintain woodland areas for biological and genetic diversity.

In summary, Alternatives C and E would provide the most protection to woodland resources, followed by the Proposed RMP and Alternatives A, and then Alternative B. Alternative D (No Action) would provide the least riparian and soils-related protection to woodland resources.

4.22.2.7. IMPACTS OF SPECIAL DESIGNATIONS DECISIONS ON WOODLAND RESOURCES

Under management common to the Proposed RMP and all action alternatives, the Pariette Wetlands ACEC (10,437 acres), Red Creek Watershed ACEC (24,475 acres), and Lears Canyon ACEC (1,375 acres) designated under the current RMP would be re-designated. These ACECs would be managed to protect high value wetland and plant habitat, wildlife habitat, and relict vegetation and would have direct, beneficial, long-term protection-related impacts on woodland resources. The proposed Nine Mile Canyon and Lower Green River ACECs would be managed to protect relict vegetation and would be expanded under some alternatives, which would also have direct, long-term protection-related beneficial impacts on woodland resources.

The management of riparian woodlands along river stretches under the National Wild and Scenic River System would have direct, long-term beneficial effects on woodland resources by protecting riparian woodland habitats. Long term, beneficial impacts on riparian woodlands would result from continued protection of the Lower Green River Corridor, and Upper and Lower Green River segments under the Proposed RMP and all alternatives.

A comparison of acreages by alternative is located in the Chapter 4 Special Designations (section 4.16), and a summary of resources to be protected is located in the discussion in Chapter 3 Special Designations (section 3.16).

4.22.2.7.1. PROPOSED RMP

The Proposed RMP would designate Browns Park (18,490 acres), the Lower Green River (8,470 acres), Nine Mile Canyon (44,168 acres), and Red Mountain-Dry Fork complex (24,285 acres) as ACECs (totaling 131,700 acres that includes the ACECs discussed above in subsection 4.20.2.6) with long-term beneficial, protection-related impacts to woodland resource. Lears

Canyon would be managed to protect relict vegetation; and the Lower Green River would be managed to protect riparian habitat, including cottonwood and willow woodlands. All of the proposed ACECs would be managed to protect and prevent damage to important cultural or scenic values, wildlife habitat, or ecosystem processes, which would indirectly protect woodland resources from surface disturbances. Compared to Alternative D (No Action), which would maintain the currently established and designated ACECs within a total of 165,944 acres, the impacts to woodlands would be similar.

With the exception of protected Upper and Lower Green River segments as discussed above, the Proposed RMP would not identify any other river segments as suitable for WSR designation, which would provide less protection to riparian woodlands along White and Green River segments than Alternative D (No Action). Under Alternative D (No Action), suitability findings would not be made on either the White or Green rivers, but would continue protection of eligible segments along the White River, and Upper and Lower Green River.

4.22.2.7.2. ALTERNATIVE A

Alternative A would designate Bitter Creek (68,834 acres), the Lower Green River (10,170 acres), Coyote Basin-Snake John-Kennedy Wash (87,743 acres), Nine Mile Canyon (48,000 acres), Red Mountain-Dry Fork (24,285), Browns Park (52,721 acres), and the White River corridor (17,810) as ACECs and the three ACECs discussed above under current management (Lears, Pariette, and Red Creek). These ACECs would have a total area of 345,850 acres that would have the same impacts to woodlands as discussed under the Proposed RMP, but to a greater degree, because more acreage would be protected within ACECs. Alternative A would have the same impacts on proposed Wild and Scenic River segments as discussed under the Proposed RMP alternative.

This alternative provides more long-term, beneficial protection-related impacts on woodland resources than Alternative D (No Action). Under alternative A, 345,850 acres (179,906 more acres than Alternative D) would be designated or maintained as ACECs when compared to Alternative D (No Action).

4.22.2.7.3. ALTERNATIVE B

This alternative proposes ACEC designation and management of 18,474 acres in Browns Park, 47,659 acres in Coyote Basin, 44,181 acres in Nine Mile Canyon, and 24,285 acres in Red Mountain-Dry Fork ACECs. Including the ACECs carried forward under current management (Pariette, Lears, and Red Creek ACECs, the total acreage within ACECs under this alternative would be 170,886 acres. Alternative B would recommend designation of the Lower and Upper Green River as suitable for consideration as Wild and Scenic (a decision common to all alternatives). Under this alternative, there would be more beneficial impacts to woodlands from ACEC designation because more area (4,942 more acres than under Alternative D) would be designated or maintained as ACECs when compared to Alternative D (No Action).

4.22.2.7.4. ALTERNATIVES C AND E

Alternatives C and E would affect woodland resources by designating Bitter Creek and Bitter Creek/PR Spring (147,425 acres), 52,721 acres in Browns Park, the Coyote Basin Complex (124,161 acres), Four Mile Wash (50,280 acres), the Lower Green River (10,170 acres), Main Canyon (100,915 acres), the Middle Green River (6,768 acres), Nine Mile Canyon (81,168 acres), Red Mountain-Dry Fork (24,285 acres), and the White River corridor (47,130 acres) as ACECs. In addition to the Lear, Pariette, and Red Creek ACECs brought forward under current management, the total acreage of proposed ACECs would be 681,310 acres. The types of impacts to woodlands would be the same as discussed under the Proposed RMP, but to a greater degree, because more acres of riparian and upland woodlands would receive protection within these special designation areas.

Compared to Alternative D (No Action), this alternative would have substantially more beneficial impacts to woodlands because 515,366 more acres would be protected (and the woodlands within them) under these alternatives than under the No Action.

In addition to segments along the Upper and Lower Green Rivers, Alternatives C and E would recommend segments of the White River (approximately 44 miles), Nine Mile Creek (approximately 19 miles), the Middle Green River (36 miles), and Evacuation Creek (21 miles), Bitter Creek (22 miles), and Argyle Creek (22 miles) as suitable for designation into the NWSRS. The designation of these segments would have long-term beneficial impacts on woodland resources by providing more resource protection for woodland riparian resources and biodiversity, as compared to Alternative D (No Action).

Under Alternative E, 197,170 acres of non-WSA lands with wilderness characteristics lie within proposed ACECs. These areas would be managed to prohibit woodland harvesting or salvage, which would have long-term, adverse impacts on harvesting opportunities and long-term, beneficial impacts on resource preservation and productivity. These acreages would be available for fuels reduction treatments, so there would be indirect, long term, beneficial impacts to woodlands from the reduced risks of stand-altering wildland fire.

4.22.2.7.5. ALTERNATIVE D (NO ACTION)

Management actions under Alternative D (No Action) would not designate any new ACECs or recommend new river segments for consideration as Wild and Scenic. Management of current ACECs would continue under existing management actions and goals, which would include 165,944 acres of currently designated ACECs, and continued protection of segments along the White River, and the Upper and Lower Green Rivers.

Special Designation decisions would have the most long-term beneficial impacts under Alternatives E and C, followed by Alternatives A and B, then Alternative D (No Action), based on the number of woodland acres protected under ACEC integrated activity plans, and actions to control and enhance woodland resources. The Proposed RMP would have the least beneficial impacts on woodland resources within proposed ACEC special designation areas.

4.22.2.8. Impacts of Travel/Roads/Trails Decisions on Woodland Resources

4.22.2.8.1. Proposed RMP

The Proposed RMP would allow for the improvement and/or development of up to 800 miles of motorized trails. The impacts would be both adverse and beneficial. Developing 800 miles of motorized trails would have indirect adverse impacts on woodland resources by potentially increasing soil erosion rates along the trail system, introducing noxious weeds, and increasing the potential for unmanaged, unmonitored woodcutting. Expanding the potential access to woodland resources if woodland resources activities are regulated and monitored would produce beneficial impacts. Under the Proposed RMP, 106,178 acres of Non-WSA lands with wilderness characteristics would be closed to woodland harvesting, which would have adverse impacts on harvesting opportunities in the long term.

Developing trails (400 miles of mechanized [non motorized]) along the Green River and in other riparian areas would have direct long-term, adverse impacts on cottonwood habitat and the relict stands in the riparian corridor. Assuming that campers would use riparian cottonwood as firewood, and considering that riparian cottonwood stands are relict, aging, and without recruitment, this would have a major adverse impact on riparian woodland species.

New, permitted roads and trails would be obliterated and/or reclaimed after serving their useful purposes. This would have direct and indirect beneficial impacts on woodland resources by recreating woodlands habitat and reducing adverse impacts caused by potential soil erosion conditions. The Proposed RMP (also Alternatives A, C, and E) would prohibit OHV use for off-trail big game retrieval (Alternative D, No Action, is unspecified). The impacts of this management decision would be beneficial and long-term for woodland resources by reducing the unmanaged extension of OHV trails and reducing the potential for soil erosion and noxious weed spread from these trails.

Compared to Alternative D (No Action), the Proposed RMP provides more protection for woodland resources because opportunities for open, cross-country OHV surface disturbances within woodlands would be greatly reduced; however, opportunities for woodland harvesting would be reduced, in comparison to Proposed, because of harvesting prohibitions in non-WSA lands with wilderness characteristics.

4.22.2.8.2. Alternative A

The impacts of travel decisions under this alternative would be the same as discussed above under the Proposed RMP because the management decisions would be the same.

4.22.2.8.3. Alternative B

Alternative B proposes OHV use for big game retrieval off of designated routes (the only alternative that proposes this management decision), which would have short-term and long-term direct and indirect adverse impacts on woodland resources as described under Impacts Common to All Alternatives.

Alternative B would not propose obliteration or reclamation of permitted roads and trails, and 800 miles of motorized trails would be developed or improved. This management action would have long-term direct and adverse impacts on woodland resources by potentially creating opportunities for unmanaged, unregulated woodcutting and woodland products harvesting. Indirect, adverse impacts would be created by increasing soil erosion rates along these roads and trails, as they are widened and expanded by OHV use. Compared to Alternative D (No Action), these alternatives would have similar impacts to woodland resources.

4.22.2.8.4. ALTERNATIVE C

Alternative C would not allow for improvement or development of up to 800 miles of motorized trails within the VPA. Indirect long-term beneficial and adverse impacts would be the reverse of those described for the Proposed RMP: there would be less potential for soil erosion caused by trails, but the ability to access woodland resources for resource management and/or harvesting of woodland products also would be reduced, which would have long-term adverse access-related impacts on woodland resource management.

Developing trails (400 miles of mechanized [non motorized]) along the Green River and other riparian areas, under Alternative C, would have direct adverse impacts on cottonwood habitat and the relict stands, as described under the Proposed RMP.

Under Alternative C, new, permitted roads and trails would be obliterated and/or reclaimed after serving their useful purposes. The impacts would be similar to those described under the Proposed RMP and therefore would provide more beneficial impacts to woodland resources than Alternative D (No Action).

4.22.2.8.5. ALTERNATIVE D (NO ACTION)

This alternative would develop approximately 55 miles of trails along riparian corridors, with adverse impacts to woodland resources similar to those described for Alternatives A and C, but on a smaller scale.

Alternatives D (No Action) would not propose obliteration or reclamation of permitted roads and trails. The impacts would be similar to those described for Alternative B.

4.22.2.8.6. ALTERNATIVE E

Alternative E would have similar impacts as Alternative C, except there would be less potential for adverse soil erosion impacts to woodland resources caused by trails because 57 miles of OHV travel routes would be closed to protect non-WSA lands with wilderness characteristics. These travel route closures would also adversely reduce woodland harvesting and salvage opportunities in the long term because these closures could potentially restrict or prevent access to areas where harvesting would be permitted.

In summary, the Proposed RMP and Alternative A would have the greatest beneficial protection-related impacts on woodland resources, followed by Alternatives C and E. Alternatives B and D would have the least beneficial impacts on the resource.

4.22.2.9. Impacts of Vegetation Decisions on Woodland Resources

4.22.2.9.1. Proposed RMP, and Alternatives A, B, C and E

Vegetation decisions to use prescribed fire treatments on 156,425 acres per decade for the Proposed RMP and all of the action alternatives would have impacts similar to those described under Fire Management and in subsection 4.20.1. The Proposed RMP and these alternatives would provide approximately three times the beneficial impacts to woodland resources, through fire treatments and vegetation manipulation, when compared to Alternative D (No Action).

4.22.2.9.2. Alternative D (No Action)

The impacts of prescribed burning and vegetation manipulation (described in subsection 4.20.1) for Alternative D (No Action) would be similar to the action alternatives, but less in scope than the other alternatives.

4.22.2.10. Impacts of Visual Decisions on Woodland Resources

4.22.2.10.1. Proposed RMP

Under the Proposed RMP, the impacts of VRM Class I and Class II designations in the VPA on woodland resources would be both adverse and beneficial. Direct, long-term beneficial impacts would result from the preservation of biodiversity in woodland areas; direct, long-term adverse impacts would result from the limitations on woodland treatments for disease, infestations, and excessive fuel loading in designated VRM Class I and VRM Class II areas so that scenic quality is preserved and the VRM class objectives are met. In particular, the limitation would be on prescribed burning or other fire management treatments in these areas where burning or other treatment impacts would exceed surface disturbance-caused visual contrast limits for the VRM class objectives. The VRM Class III and Class IV designations would impose fewer restrictions on woodland resources, which would be beneficial in reducing fuel loads and subsequently reducing the risks of wildland fire. The impacts from the Proposed RMP would be the same as Alternative D (No Action), but greater in scope, as 122,915 more acres within the VPA would be designated at VRM Classes I and II under Proposed RMP when compared to Alternative D (No Action).

4.22.2.10.2. Alternative A

The impacts on woodlands from Alternative A visual resource decisions would be the same as discussed above under the Proposed RMP, but increased in scope. This is because more area would be protected from long term scenic quality degradation: a total of 357,909 acres would be designated for scenic protection as VRM Class I and II under this alternative.

4.22.2.10.3. ALTERNATIVE B

The impacts of Alternative B would be similar to Proposed RMP, but to a lesser degree, as fewer acres would be managed under VRM I and VRM II surface disturbance and visual contrast restrictions (a total of 166,794 acres), which is approximately the number of acres designated under Alternative D (No Action).

4.22.2.10.4. ALTERNATIVE C

The impacts would be the same as discussed under the Proposed RMP, except that Alternative C would designate more acres as VRM I and VRM II, which would have greater protection-related direct and indirect effects on woodland resources than the other alternatives, and larger-scale, long-term restrictions on woodland resource access than the other alternatives (except for Alternative E) (see Table 4.19.3 in Visual Resources). This alternative would designate 508,441 acres for scenic quality protection under VRM Classes I and II. This alternative would have more adverse impacts on woodland resources, by restricting woodland fire treatments, than Alternative D (No Action). Alternative D (No Action) would designate 166,772 acres under VRM Class I and II (a difference of 341,669 acres).

4.22.2.10.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), the impacts of VRM Class I and Class II designations in the VPA on woodland resources would be both adverse and beneficial, with the same impacts as described under the Proposed RMP. This alternative would designate the least number of acres under VRM I and II (166,772 acres), thereby providing the least visual resource protection to woodland resources, but also having the least number of acres restricted by VRM surface disturbance limitations under VRM Class I and II objectives. More acres within the VPA could be treated for fire and fuel load reductions, which would have beneficial impacts on woodland resources by reducing wildland fire risks.

4.22.2.10.6. ALTERNATIVE E

The impacts would be the same as Proposed RMP, except that Alternative E would designate more acres as VRM Classes I and II than the Proposed RMP and the other action alternatives. This would have greater beneficial, protection-related direct and indirect effects on woodland resources than the Proposed RMP and the other alternatives, and larger-scale, long-term, adverse restrictions on woodland resource access and harvesting opportunities. This alternative would also have more adverse impacts on woodland resources, by prohibiting woodland harvesting in non-WSA lands with wilderness characteristics (managed as VRM I, with prohibitions on OHV travel within these areas). Compared to Alternative D (No Action), Alternative E would have more beneficial and more adverse impacts on woodland resources, as discussed above, because Alternative E would designate a combined 594,210 acres as VRM Class I and Class II, 427,438 more acres than the Alternative D (No Action).

In summary, Alternative E would have the highest number of VPA woodland acres designated for protection under VRM Classes I and II objectives, followed by Alternative C, then

Alternative A and the Proposed RMP. Alternatives B and D (No Action) would provide the least VRM protection to woodland resources.

4.22.2.11. Impacts of Woodlands Decisions on Woodland Resources

4.22.2.11.1. Proposed RMP

Under the Proposed RMP, 546,152 acres within the VPA would be open to treatments or be available for harvesting. The purpose would be to maintain and restore woodlands and forest ecosystems to a condition in which biodiversity is preserved, insects and diseases are controlled to normal levels, relict stands are maintained, fuel loading is reduced, historical fire regimes are restored, and multiple use and sustained yield are allowed through treatments. Approximately 13,606 acres (within WSAs) and 67,559 acres of woodlands within non-WSA lands with wilderness characteristics would be off-limits to woodland harvesting; however, the 13,606 acres of WSAs and the proposed 106,178 acres of non-WSA lands with wilderness characteristics would still be available for fuels reduction treatments. The impacts on woodland resources from these management decisions would be both directly and indirectly adverse and beneficial: OHV use during treatments and woodcutting to access treatment areas and to remove cut wood would cause direct short-term surface disturbances, indirectly cause soil erosion, and indirectly create conditions that support the introduction and spread of noxious weeds. Beneficial long-term impacts would result from these management decisions and are described in subsection 4.20.1. The Proposed RMP would have more beneficial impacts to woodland resources than Alternative D (No Action) because 257,852 more acres of forest and woodlands within the VPA would be available for harvesting or treatments than under Alternative D (No Action).

4.22.2.11.2. Alternative A

Under Alternative A, management actions on up to 552,152 acres of BLM administered land within the VPA would have the same impacts as discussed under the Proposed RMP because the management decisions are similar.

4.22.2.11.3. Alternative B

The beneficial and adverse impacts of woodland and forest treatment and non-removal of WSA vegetation would be similar to those described for Proposed RMP. Up to 554,108 acres of forest and woodlands would have treatments or be harvested, and approximately 13,606 acres (within WSAs) would not have vegetation removal, but would still be available for fuels reduction treatments. Compared to Alternative D, this alternative would have more beneficial impacts because 265,808 more acres of forest and woodlands would be available for treatments or harvesting under Alternative D (No Action).

4.22.2.11.4. Alternative C

Alternative C would have the same impacts as discussed under the Proposed RMP, with the same number of acres open to forest and woodland management as Alternative A (552,152 acres) to achieve various management goals, and 13,606 acres (within WSAs) off-limits to vegetation

removal. This alternative would provide more benefits to woodland resources than Alternative D (No Action), with the same impacts as the Proposed RMP because the acreages of affected woodlands are similar.

4.22.2.11.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would allow up to 288,300 acres of woodlands and forest to be treated or harvested. Approximately 13,606 acres (within WSAs) would be off-limits to vegetation removal, but would still be available for fuels reduction treatments. The impacts to the resource would be similar to those described for the Proposed RMP, but on a smaller scale. Woodland product salvaging, ecosystem restoration, disease control, fuel load reductions, and relict stand preservation management actions are unspecified under this alternative.

4.22.2.11.6. ALTERNATIVE E

Alternative E would manage approximately 131,809 acres of woodlands (within the 277,596 acres of non-WSA lands with wilderness characteristics) with private and commercial harvesting and salvage prohibitions that would have long term, adverse impacts on woodland harvesting and gathering opportunities. Under this alternative, up to 421,133 acres would be available for harvesting or treatments. The impacts on woodland resources would be beneficial in the long term from maintenance of woodland productivity and preservation of the resource through harvesting and/or treatments. This alternative would have more benefits to woodland resources than Alternative D (No Action), with similar impacts as discussed under the Proposed RMP.

4.22.2.12. SUMMARY

4.22.2.12.1. PROPOSED RMP

The Proposed RMP would have a highly beneficial impact to woodland resources (more than Alternatives B and E, and the No Action) by:

- Allowing up to 546,152 acres of forest and woodland harvesting or treatments
- Maintaining and restoring woodlands biodiversity, forest and land health, historical fire regimes, and multiple use and sustained yield
- Allowing prescribed burning on 156,425 acres per decade
- Closing 106,178 acres of non-WSA lands with wilderness characteristics to woodland harvesting, while allowing vegetation treatments and fuel load reductions to reduce wildland fire risks.

4.22.2.12.2. ALTERNATIVE A

Alternative A would provide the second highest level of benefit to woodland resources by:

- Allowing forest and woodland harvesting or treatments on 552,152 acres (but less than Alternative C)

- Allowing prescribed burning on 156,425 acres per decade
- Maintaining and restoring woodlands biodiversity, forest and land health, historical fire regimes, and multiple use and sustained yield

4.22.2.12.3. ALTERNATIVE B

This alternative would provide more beneficial impacts to woodland resources than Alternative D (No Action), but less than the other action alternatives, by:

- Allowing forest and woodland harvesting and treatments on 554,108 acres (the largest area of all alternatives)
- Allowing prescribed burning on 156,425 acres per decade
- Managing forest and woodland resources for the greatest output of forest and woodland products through public harvesting

4.22.2.12.4. ALTERNATIVE C

This alternative would have the highest level of woodlands resource protection and benefits, as compared to Alternative D (No Action) and the other alternatives, by:

- Allowing forest and woodland harvesting and treatments on same acreage as Alternative A (522,152 acres)
- Allowing prescribed burning on 156,425 acres per decade
- Maintaining and restoring woodlands biodiversity, forest and land health, historical fire regimes, and multiple use and sustained yield
- Maintaining relict stands for biological and genetic diversity
- Providing the highest protection for steep slope disturbances

4.22.2.12.5. ALTERNATIVE D (NO ACTION)

This alternative would provide the least level of protection for and the least beneficial impacts to woodland resources by:

- Providing the least level of fire management or treatments for woodland resources (50,900 acres)
- Allowing forest and woodland harvesting and treatments within the smallest area (288,200 acres)
- Providing the least protection for riparian areas and steep slopes
- Providing the least protection or treatment to develop healthy, sustainable woodland and forest resources

4.22.2.12.6. ALTERNATIVE E

This alternative would provide a high level of woodlands resource protection and beneficial impacts by:

- Allowing forest and woodland harvesting and treatments on 421,133 acres (the least of the action alternatives)
- Allowing prescribed burning on 156,425 acres per decade
- Providing the highest protection for steep slope disturbances (the same as Alternative C)
- Closing 277,596 acres of non-WSA lands with wilderness characteristics to woodland harvesting while allowing fuel load reductions and prescribed burning to reduce wildland fire risks

4.22.2.13. MITIGATION MEASURES

After forest and woodland treatments (including prescribed fire, chemical and/or mechanical treatments, and fire suppression), noxious weed infestations would be treated and controlled to prevent their spread.

After forest and woodland treatments, disturbed areas would be reseeded, or replanted, where needed if natural regeneration or reestablishment of targeted species is difficult or time sensitive.

Off highway vehicle use disturbances after firewood sales and/or salvage would be mitigated to prevent soil erosion and additional surface disturbances from recreational OHV use, through road or trail closing. Off highway vehicle use would be monitored for compliance with OHV access and travel restrictions.

Avoiding unauthorized surface-disturbing activities within delineated riparian areas would mitigate impacts to woody riparian species from recreational activity within river corridors. Monitoring soil erosion and applying standard erosion control techniques to the area would mitigate impacts to soils after treatments.

4.22.3. UNAVOIDABLE ADVERSE IMPACTS

If the mitigation measures described were implemented, minerals exploration and development, trail construction, and woodland and vegetation treatments for fire management would cause short-term unavoidable adverse impacts on woodland resources, but no long-term unavoidable adverse impacts.

4.22.4. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Short-term uses that would produce long-term losses of resource productivity would include failing to prevent noxious weed invasion after disturbances, which could alter successional patterns and fire regimes. This type of short-term disturbance would inhibit re-establishment of woodland resources in the long-term.

4.22.5. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

There are no management actions that would irreversibly remove woodland resources and prevent their possible restoration. However, noxious weed infestations indirectly resulting from fire treatments or wildfire would potentially become irretrievable impacts. Other irretrievable impacts would include: 1) prescribed fire, other fire treatments, and vegetation treatments that remove the resource until re-growth; 2) harvesting, thinning, or construction-related impacts that temporarily remove the resource during the life of a project; 3) uncontrolled wildfire-caused loss of woodland resources; and 4) OHV-caused disturbances that inhibit re-growth.

4.23. CUMULATIVE IMPACTS

Cumulative impacts are the effects on the environment from all past, present, and reasonably foreseeable future actions outside of the scope or not associated with the proposed project. These impacts are discussed because the quality of the human environment is the result of many actions or factors working together to produce a cumulative effect. The effect of any single action cannot be determined by considering that action in isolation. The cumulative impacts discussion that follows considers the Proposed RMP and all alternatives in the context of the broader human environment, outside the scope and geographic area described in the subsections below. Planning projects within the following areas that could contribute to cumulative impacts include Ashley National Forest, Dinosaur National Monument, Uintah and Ouray Reservation, Browns Park and Ouray National Wildlife Refuges and the Kemmerer, Rock Springs, White River, Little Snake, Grand Junction, Price, Salt Lake, and Moab BLM Field Offices.

4.23.1. CUMULATIVE IMPACTS ON AIR QUALITY

The cumulative effects on air quality discussed here should be considered in addition to those discussed in previous chapters and under the related resource sections. No past projects or actions are anticipated to add to the impacts of any of the management decisions currently being considered.

Present projects or actions are anticipated to add to the impacts of the management decisions currently being considered only to the extent that the background concentration of xylene utilized for modeling of air quality impacts is 189.48 μg/m³, well above the 100 μg/m³ threshold identified by EPA's IRIS as an RfC for the 24-hour average (EPA 1997). However, this background concentration is based on data collected in Glenwood Springs, Colorado (the closest available monitoring point appropriate to the project area) and most likely represents an overestimation of the actual concentrations of xylene within the project area.

Reasonably foreseeable future projects or actions have the potential to add to the impacts of any of the management decisions currently being considered as follows. The primary source of air quality impacts from mineral resource development decisions in the VPA is the production of oil and gas. The magnitude of air quality impact associated with these activities is directly related to the density and intensity with which extraction proceeds. Therefore, air quality impacts associated with the Proposed RMP and proposed management alternatives are expected to be related to worldwide oil and natural gas production.

It is reasonable to assume that oil, natural gas, and CBNG exploration and development would continue within the project area over the next 15 years. However, if alternative energy sources are developed within the VPA and successfully compete on a scale sufficient with traditional fossil fuel resources, the demand for fossil fuels may decrease. A decrease in, thereby decreasing the demand for oil, natural gas, and CBNG exploration and development would and, proportionately, decreasing air quality impacts. Similar decreases would be expected to occur in other mineral resource extraction activities and the associated air quality impacts with development of alternative energy sources.

Other cumulative air quality impacts would be due to continued increases in prescribed fire use for fuels management by both the BLM and other federal agencies. Additionally, human population is expected to continue to grow in and around the planning area, with attendant increases in pollutants from vehicle emissions as well as from other sources not directly related to oil and gas development.

The air quality modeling performed as part of this analysis considered the air quality impacts of both proposed (near-field and far-field) and existing emission sources within the project area. As discussed in the specific air quality modeling section and the TSD (Trinity 2003), background data in most cases represented an overestimation of existing concentrations, which adds an additional margin of safety to the other conservative assumptions discussed previously. It is possible, however, that the development proposed by Alternative A, combined with increased population growth and usage of the project area, could result in increased pollutant levels above those projected by the model.

The air quality modeling projected an increase in PM_{10} concentrations within the VPA and specific PSD Class II sensitive areas related to management decisions specific to mineral extraction. Future, non-project sources of airborne particulate and NO_x emissions associated with increased traffic in the area could produce potentially substantial cumulative impacts to these areas.

Air quality modeling also projected an increase in ambient 24-hour xylene concentrations associated with management decisions specific to mineral extraction. As the existing background concentrations exceeded the ambient air quality threshold of 100 $\mu g/m^3$, the potential exists that future, non-project sources of xylene (such as compressors or glycol dehydrators associated with non-BLM gas extraction activities) could result in cumulative impacts to air quality in the VPA.

Air quality modeling for the VPA showed that particulate emissions represent the most probable mechanism for visibility impacts. Therefore, an increase in future, non-project sources of PM_{10}, and $PM_{2.5}$, especially if combined with increased SO_2 and NO_2 emissions, could produce potentially substantial cumulative impacts to visibility in the VPA and surrounding areas.

4.23.2. Cumulative Impacts on Cultural Resources

Resource decisions from this RMP could combine with other past, present, and reasonably foreseeable actions to produce cumulative impacts to cultural resources and resources of religious or traditional importance to Native American tribes associated with the VPA. Resource decisions for the areas noted above, which are either adjacent to or within the VPA would likely result in few cumulative effects to cultural resources as cultural resources are stationary entities. Surface disturbance associated with consumptive uses such as oil, gas, and other minerals development, and forage use could result in cumulative effects over a larger landscape scale than what is analyzed in this RMP. However, planning decisions in other areas are also subject to federal cultural resource laws and application of the Section 106 process of the NHPA. Further, general planning decisions of these two entities in relation to land uses and management that has the potential to impact cultural resources on adjacent lands within the VPA (i.e., fire fuels

reduction, erosion reduction through effective vegetation management, etc.) would generally have a positive effect on cultural resources within the VPA.

Oil and gas development has occurred across this region in the past and would continue into the future. Seismic exploration for oil and gas resources is also ongoing. Several environmental impact statements (EISs) and environmental assessments (EAs) have been prepared to assess these impacts.

The spatial layout of oil and gas facilities disturbs a large proportion of the ground surface when considered across the landscape. Each disturbed area for a well pad or road increases the opportunity for both direct and indirect impacts to cultural resource sites. All such development is, however, subject to Section 106 of the NHPA, which is used to identify important cultural resources within the area of potential effects for these undertakings and consider alternatives to avoid or mitigate these impacts. In this manner, the potential for direct and indirect impacts to cultural resources can be reduced.

Many decisions related to visual resource management, special designations, and restrictions on surface disturbance in crucial deer winter range have the potential to provide a net positive benefit to cultural resources within the VPA. These decisions would reduce or control the frequency and extent of ground disturbing activities that present the greatest threat to maintaining the use values of cultural resources. In general, all minerals and recreation decisions under the Proposed RMP and all alternatives have the potential to increase or at least maintain current levels of adverse impacts to cultural resources. Decisions for minerals and recreation generally increase or maintain current levels of surface and subsurface disturbance and have as an indirect effect an increase in human activity within those areas of minerals development and recreational use. Increased human activity tends to equate with increased adverse impacts to cultural resources.

In general, implementation of the array of resource decisions under Alternatives C and E would have the lowest degree of potential negative cumulative impact on cultural resources within the VPA, and in many cases Alternatives C and E have the highest overall benefit for cultural resources. Overall, fewer acres of land would be open for ground disturbing activities under this alternative than under any other alternative. Although no direct correlation exists between acres of surface and subsurface disturbance and numbers of cultural resources impact, this general trend holds true. By comparison, the Proposed RMP, Alternative A, and Alternative D (No Action) have the potential for roughly comparable levels of potential cumulative adverse impact to cultural resources.

Decisions under Alternative B have the greatest potential for adverse cumulative impacts. It should always be remembered that under the Proposed RMP and all alternatives, specific undertakings that could result in surface and subsurface disturbance and have the potential to impact cultural resources are subject to the Section 106 process of the NHPA which calls for the identification of historic properties (i.e., National Register listed sites or sites determined eligible for listing on the National Register) within the area of potential effects and the consideration of alternatives to the planned undertaking that could avoid impacts to said properties. In the event that avoidance is not possible, mitigation of the impacts is to be considered.

4.23.3. CUMULATIVE IMPACTS ON FIRE MANAGEMENT

Cumulative effects are a combination of impacts from the Proposed RMP and each alternative with the past, present, and reasonably foreseeable future actions associated with the project and surrounding area.

Revisions are being made to the Ashley Forest Resource Management Plan and The Price Field Office RMP. Depending upon on those decisions, various actions could affect fire management within the VPA. Based on the impetus that the federal fire management agencies are placing on implementing the Federal Wildland Fire Policy, it is likely that these revisions would include vegetation management to decrease fuel loading, and consequently, decreased fire risk.

Most foreseeable future development within the VPA consists of oil and gas well exploration and development. Environmental Impact Statements are being written for field development projects in and around the VPA. Depending upon the decisions, various actions could affect fire management within the VPA. Most of gas and oil pipelines in and around the VPA are located within the desert shrub vegetation community and, hence, do not produce high fire risk. Surface gathering lines (3-4" diameter) in these areas are occasionally made of plastic. Service lines up to 10" in diameter may be placed on the surface. As a Best Management Practice (BMP), water lines and service lines greater than 10" diameter are buried.

4.23.4. CUMULATIVE IMPACTS ON HAZARDOUS MATERIALS

Cumulative impacts would be the same for the Proposed RMP and all of the alternatives. Minerals development within surrounding areas would increase the use, generation, and transportation of hazardous materials. City and County use plans for surrounding communities could have cumulative effects, whereby mineral resources are developed adjacent to BLM lands. State lands that are surrounded by BLM land could have impacts from inholding development.

Hazardous materials are regulated by the EPA and administrated by state agencies regardless of land status. If all applicable laws, regulations, safeguards, and procedures were followed, there would be no cumulative impacts caused by hazardous materials.

4.23.5. CUMULATIVE IMPACTS ON LANDS AND REALTY

Cumulative impacts would be the same from the Proposed RMP and all alternatives. City and County use plans for surrounding communities could have cumulative impacts where land is developed adjacent to BLM lands. Management of existing ROWs not owned by the BLM could also have cumulative impacts. Generally, cumulative impacts of lands and realty decisions would include an increased potential for development in localized areas adjacent to communities. Such developments could alter the open space nature of public lands by having additional visual impacts and transforming limited areas into more urbanized settings. The potential for increased recreational use in currently unused areas could occur if additional easements are pursued that alter the pristine character of some areas. Potential corridor developments in support of energy-related uses could create large-scale linear visual impacts. State lands that are surrounded by BLM land could have impacts from development if these inholdings are improved. The potential

for consolidating land ownership patterns could also have impacts in terms of development in more remote areas. Impacts could include changes in visual quality, impacts on watersheds, and impacts on wildlife habitats. Transportation improvements could also have cumulative impacts.

4.23.6. CUMULATIVE IMPACTS ON LIVESTOCK AND GRAZING

Cumulative effects to livestock and grazing could result from activities on adjacent private lands, activities scheduled for State and Institutional Trust Land Administration lands, surrounding BLM Field Offices, and administrative actions on the Ashley National Forest. Surface-disturbing activities such as mineral development can reduce the amount of vegetation available for livestock grazing. However, these disturbances have resulted in minor impacts to livestock grazing in the past and up to the present. These disturbances are also projected to be minor in the future. Activities such as vegetation treatments and fire rehabilitation projects can provide additional forage for livestock grazing. Cumulative Impacts on Mineral Resources

Other reasonable foreseeable actions that impose restrictions on mineral development within the VPA boundaries could produce long-term cumulative impacts on mineral resources. Most foreseeable future development within the VPA consists of oil and gas well exploration and development. These restrictions would reduce the total baseline number of wells that were projected in the Reasonably Foreseeable Development scenario for oil and gas. An average of 6530 wells is projected on all lands (State, Forest Service, private) within the VPA over the next 15-20 years if no restrictions are applied. The restrictions are no applied to non-federal (state and private) wells. While other restrictions may be applied to non-federal wells, the impacts of such restrictions cannot be quantified for this analysis.

4.23.7. CUMULATIVE IMPACTS ON MINERAL RESOURCES

Other reasonable foreseeable actions that impose restrictions on mineral development within the VPA boundaries could produce long-term cumulative impacts on mineral resources. Most foreseeable future development within the VPA consists of oil and gas well exploration and development. These restrictions would reduce the total baseline number of wells that were projected in the reasonably foreseeable development scenario for oil and gas. An average of 6530 wells is projected on all lands (state, Forest Service, private) within the VPA over the next 15-20 years if no restrictions are applied. The restrictions are not applied to non-federal (state and private) wells. While other restrictions may be applied to non-federal wells, the impacts of such restrictions cannot be quantified for this analysis.

4.23.8. CUMULATIVE IMPACTS OF NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

The analysis of cumulative impacts for areas with wilderness characteristics (designated wilderness, WSAs, and areas identified with wilderness characteristics) includes all federal lands with wilderness characteristics in Utah that are currently being managed for management of wilderness characteristics to protect those values. Under Alternative E, wilderness characteristics would be maintained on 277,596 acres. This would make the statewide total of federal lands where wilderness characteristics are protected by law or administrative decision to 6,043,632 acres or about 4.6% of the statewide total. Under the Proposed RMP wilderness characteristics

would be maintained on 106,178 acres. This would make the statewide total of federal lands where wilderness characteristics are protected by law or administrative decision to 5,772,214 or about 1.8% of the statewide total. Alternatives A, B, C, and D would contribute to the loss of areas with wilderness characteristics in the region.

4.23.9. Cumulative Impacts on Paleontological Resources

The cumulative effects of the Proposed RMP and all alternatives that include surface-disturbing activities within areas containing significant fossils have the potential to damage this fragile, nonrenewable resource. However, existing laws, regulations and policies provide ample opportunity to mitigate adverse effects through avoidance or collections of specimens and data. While it is expected that some fossils will be destroyed in the course of other legitimate uses of public lands, mitigation measures will bring consultant paleontologists to areas in the VPA where no researchers are currently studying fossils. Thus fossils that would otherwise have disintegrated over time due to weathering and erosion will be collected, placed in repositories, and preserved in perpetuity.

4.23.10. Cumulative Impacts on Recreation

The Ashley National Forest is currently undergoing a Forest Management Plan that will establish policy for recreation use. Because recreation areas in the VPA are adjacent to areas in the Ashley National Forest, plans for recreation could have a cumulative impact on the availability of recreational opportunities in the region. Management actions in the Uinta National Forest could also affect the availability and quality of recreation in the region.

The Price Field Office is currently undergoing a Resource Management Plan process. In particular, plans for Nine Mile Canyon would affect management in the VPA.

Dinosaur National Monument draws nationwide visitation for paleontological resources. Many of these visitors stay in the area and recreate within the VPA. Plans for Dinosaur National Monument to draw visitors could also increase visitation to the VPA.

Four state parks in the VPA host approximately 260,000 visitors per year, which could contribute to both the economic activity attributable to recreation, as well as the potential effects of recreation stated above.

4.23.11. Cumulative Impacts on Riparian Resources

Past and present actions within the VPA and on adjacent USFS-administered lands, state lands, and private lands that affect and have affected riparian areas include livestock grazing, recreational uses (including OHVs, non-motorized recreation, etc), mineral exploration and development, and upstream water withdrawals and impoundments. In general, these actions have all had cumulatively adverse impacts on riparian health. Livestock grazing, recreation, and mineral-related activities have led to surface disturbance, soil compaction, removal of riparian vegetation, bank trampling, and alteration of riparian areas' physical structure. They have also resulting in the widespread introduction of invasive weeds. Water withdrawals and

impoundments have limited the health and extent of riparian zones by decreasing water availability, and encouraged the introduction of invasive plants through the stabilization of formerly dynamic sediment deposits, such as bars and banks.

Reasonably foreseeable future actions that would affect riparian areas include an expansion of recreational use and ongoing mineral exploration, development, and extraction. All of these actions could have a potential adverse effect on riparian areas. Beneficial impacts would result from other BLM, Park Service and Forest Service planning efforts that target riparian restoration. Future impacts on private lands may include both positive and negative impacts as described above.

4.23.12. CUMULATIVE IMPACTS ON SOCIOECONOMICS

The mission of the State of Utah Travel Council is to promote tourism throughout the State of Utah. The Travel Council currently promotes the VPA as "Dinosaurland," where visitors can explore paleontological resources while enjoying the outdoors. The visitation resulting from this marketing, when considered together with recreational activities that would occur on federal lands, could create a beneficial cumulative impact to the regional tourism industry.

Dinosaur National Monument draws approximately 300,000 visitors each year. Continued visitation will bring additional visitors to the VPA and create a beneficial effect on the tourism economy of the area.

Economic plans completed by Uintah, Daggett and Duchesne Counties set forth a desired direction for the local economy of each county. These plans, when taken together with the allowable activities on federal lands, could cumulatively affect the economic condition of the region by increasing jobs and population.

The Forest Management Plan for the Ashley National Forest could have a cumulative impact with respect to social and economic conditions by either increasing or decreasing tourism visitation based on allowable activities. Additionally, if drilling for oil and gas is allowed on the forest, it could affect the regional economy by potentially reducing tourism and increasing the oil and gas sector of the economy.

The pace of drilling has risen dramatically in the VPA. From 2003 to 2007 the amount of drilling in the area has nearly doubled from just under 300 wells in 2003 to approximately 550 wells estimated in 2007 (BLM 2008). Within in VPA, 27 percent of new wells drilled have been in Duchesne County (up 17 percent five years previously). One sizeable natural gas project occurring within the boundaries of the Price and Vernal BLM planning areas is the West Tavaputs Plateau Full Field Development Project. This project proposes 807 natural gas wells to be drilled over an 8 year period with the projected life of each well to be 20 years. The development of the wells and the long term operation of the wells could lead to increases in employment and labor opportunities in Duchesne County. These potential new jobs could "pull" people from Vernal, Utah, which is currently the dominant industry depot. With an increase in producing wells, Duchesne County could see a rise in production-related revenues, including an

increase in property taxes based on the value of production from the West Tavaputs project occurring out of the Price Field Office.

4.23.13. CUMULATIVE IMPACTS ON SOIL AND WATER RESOURCES

Reasonably foreseeable actions affecting soil and water resources include increased oil and gas development on and off of federal lands, road building on and off of federal lands associated with increased oil and gas development and mineral exploration, and increased need for water supply to support mineral extraction, new road construction, and new recreation facilities. The cumulative impacts from these activities would be greater with more surface disturbance and with full resource development could be severe.

Soil productivity would be primarily impacted by surface disturbance and vegetation loss associated with these activities, increasing soil erosion and loss, landslides and flooding. Surface water quality would primarily be impacted by increased soil erosion, increased salinity, and sedimentation of streams. Changes in the timing and magnitude of surface water flows would also reasonably be expected depending on the magnitude of the actions.

Groundwater quality may be affected through the discharge of saline, or hydrocarbon-impacted waters, during drilling and development of oil and gas wells. Utilization of groundwater as a water supply to support resource development may result in decreased aquifer storage and lower water levels. Shallow alluvial aquifers may be negatively impacted due to development as well. The vertical movement of groundwater along fractures and faults induced by production of hydrocarbons and water from oil and gas wells could change salinity concentrations over a short or long period of time, dependent upon structural controls and rock types. These effects may have an impact on surface water features, such as springs and perennial flows, and may have an economic impact on domestic wells through increased pumping costs.

The Proposed RMP and Alternative A would present a level of soils and water protection balanced between Alternatives B and C/E. Alternative B would favor resource development, and more surface-disturbing activities would occur than in the other action alternatives and therefore have greater cumulative effects. Alternatives C and E would favor resource protection, and less surface-disturbing activities would occur than in the other action alternatives and therefore have fewer cumulative effects. Alternative D is the No Action Alternative, and many of the management guidelines are unspecified with respect to water, soils, and other resources.

Cultural, forage, fire management, lands and realty, rangeland improvement, riparian, soil and water, special designations, special status species, paleontology, travel, visual resource, wild horses, wildlife, and woodlands decisions would cause beneficial or minimal cumulative effects to soil and water resources from the Proposed RMP and all alternatives as compared to the Alternative D (No Action). Mineral resource decisions would cause adverse cumulative effects to soil and water resources. Livestock and recreation resource decisions would cause both beneficial and adverse cumulative effects to soil resources. With respect to livestock, trampling would be adverse to soils, but proper grazing management would enhance vegetation cover, thereby reducing soil erosion. With respect to recreation, open OHV use would be adverse to

soils. Expanding SRMAs would be adverse by causing increased traffic and recreational pressures.

Outside of BLM lands, resource decisions occurring on other lands managed by state and federal agencies (USFS) would have cumulative effects similar to the BLM. Private lands present a full spectrum of resource development from full resource development/use (adverse) to resource preservation (beneficial).

4.23.14. Cumulative Impacts on Special Status Species

Resource decisions from this RMP could combine with other past, present, and reasonably foreseeable actions to produce cumulative impacts to special status species associated with the VPA. Surface disturbance associated with consumptive uses such as oil and gas, and minerals development, and forage use would result in cumulative effects over a larger landscape scale than what is analyzed in this VPA RMP.

Oil and gas development has occurred across this region in the past and will continue into the future. The seismic exploration is also ongoing. Several EISs and EAs have been prepared to assess these impacts. The combined amount of surface disturbance of these past, present, and future actions would be detrimental to special status plants. The spatial layout of oil and gas facilities disturbs a large proportion of vegetation when considered across the landscape. Each disturbed area for a well pad or road increases the opportunity for weed invasions and disrupts the spatial continuity of vegetation communities.

Other activities such as road building will increase access to sensitive areas Special Status Species are dependent upon for survival.

The overall cumulative impact of activities proposed for all resource decisions on special status plants is projected to be moderate to detrimental at localized areas within the short-term. Major contributors include OHV activities throughout most of the area; increased livestock grazing; habitat destruction from mineral development related activities; some vegetation treatments such as sagebrush removal, and possible project developments, such as livestock water developments resulting in redistribution of livestock into previously unused areas that are sensitive to disturbance. Direct impacts would be due to loss of individual plants from mineral, oil and gas related development. Indirect impacts from habitat fragmentation due to development, changes in OHV use due to increased roads, and rock collection would also occur. These activities would concentrate grazing pressures and recreation use on habitat sites for some species. The cumulative impacts of all these uses could lead to lower populations of Special Status plants and animals in the future. In addition, some sensitive species may be pushed closer to listing or extinction from the cumulative degradation of BLM lands in the long term. Beneficial impacts would be obtained with designation of the proposed ACECs, because numerous plant populations would be given special management protection within the boundaries of those designated areas.

4.23.15. CUMULATIVE IMPACTS ON SPECIAL DESIGNATIONS

4.23.15.1. ACECS

Adverse impacts would occur mainly from surface-disturbing activities. Impacts could include the loss of vegetation resulting in impacts to soils, wildlife habitat, and visual resources. Co-occurring planning projects in the region include the Price FO RMP, and the Ashley National Forest Management Plan. Resource decisions for the Price Field Office, which is adjacent to the VPA, could also result in cumulative effects.

4.23.15.2. WILD AND SCENIC RIVERS

Should Congress designate eligible/suitable river segments into the NWSRS, protection of the outstandingly remarkable values, tentative classifications, and free-flowing nature of these rivers would continue to be protected, but to a greater extent than under the proposed management actions. In addition to the BLM protecting wild and scenic values to the extent of its authority, the Federal Energy Regulatory Commission (FERC) would not be able to license any hydropower projects within any designated segments. This would preclude any future construction of a dam involving Segment A of the White River under Alternatives A, C and E. Also, if Congress were to designate Segment B of the White River into the NWSRS with a tentative classification of Wild, as proposed under Alternatives A, C and E, all public lands within the river corridor would automatically be withdrawn from mineral location and the public land laws. In addition, Congress may choose to provide a federal reserved water right for in-stream flow purposes for any rivers that it designates into the national system, but it would be junior to any existing water rights.

Alternatives C and E favor WSR protection and would recommend the most designated miles of river than the other action alternatives and therefore have the fewest adverse cumulative effects when considered with other past, present and reasonably foreseeable actions. Alternative B and D (No Action) would recommend fewer designated miles of river than the Proposed RMP and other alternatives and therefore have greater adverse cumulative effects. The Proposed RMP and Alternative A would present a level of WSR protection balanced between Alternatives B and C/E.

4.23.15.3. WILDERNESS

The Proposed RMP and the alternatives would contribute no adverse cumulative impacts to Wilderness Study Areas because they are protected by law, regulation and policy.

4.23.16. CUMULATIVE IMPACTS ON VEGETATION

Resource decisions from this RMP could, combined with other past, present, and reasonably foreseeable actions, produce cumulative impacts to the vegetation of the VPA. Co-occurring planning projects in the region include other Field Office RMPs, and the Ashley National Forest Management Plan. Resource decisions for the Price Field Office, which is adjacent to the VPA, would likely result in cumulative effects. The same management direction and resource uses

occur in both planning areas. The Ashley National Forest management decisions would also overlap regarding several of the same resources. Surface disturbance associated with consumptive uses such as oil and gas, and minerals development, and forage use would result in cumulative effects over a larger landscape scale than what is analyzed in this RMP.

Oil and gas development has occurred across this region in the past and will continue into the future. Several EISs and EAs have been prepared to assess these impacts. The combined amount of surface disturbance of these past, present, and future actions would be adverse to vegetation. The spatial layout of oil and gas facilities disturbs a large proportion of vegetation when considered across the landscape. Each disturbed area for a well pad or road increases the opportunity for weed invasions and disrupts the spatial continuity of vegetation communities.

4.23.17. Cumulative Impacts on Visual Resources

Other management efforts within and outside the VPA boundaries could produce long-term cumulative impacts on visual resources. Reasonably foreseeable future actions, including planning efforts to locate and develop mineral and hydrocarbon resources within the VPA could have adverse impacts on visual resources. Impacts would be caused by surface disturbance from production, exploration, and construction of drilling and mining facilities, and OHV use.

Specific actions would be required to conform to an area's VRM Class objectives through design, camouflage, and/or topographic screening, which would prevent their cumulative impacts on visual resources from becoming significant.

The impacts on visual resources would be cumulatively beneficial if these administrative areas coordinate their planning efforts to preserve scenic quality along their boundaries with the VPA. Conversely, if planning efforts are not coordinated, scenic quality along the VPA boundary could be adversely affected.

4.23.18. Cumulative Impacts on Wildlife and Fisheries

Resource decisions from this RMP could combine with other past, present, and reasonably foreseeable actions to produce cumulative impacts to wildlife and fisheries populations associated with the VPA. Co-occurring planning projects in the region include other BLM Field Office RMPs, National Forest and Park Service Plans. The same management direction and resource uses occur in both planning areas. Surface disturbance associated with consumptive uses such as oil, gas, and other minerals development, and forage use would result in cumulative effects over a larger landscape scale than what is analyzed in this RMP.

Oil and gas development has occurred across this region in the past and will continue into the future. Seismic exploration for oil and gas resources is also ongoing. Several EISs and EAs have been prepared to assess these impacts. The combined amount of surface disturbance of these past, present, and future actions would be detrimental to vegetation. The spatial layout of oil and gas facilities disturbs a large proportion of vegetation when considered across the landscape. Each disturbed area for a well pad or road increases the opportunity for weed invasions and disrupts the spatial continuity of vegetation communities.

4.23.19. CUMULATIVE IMPACTS ON WOODLANDS

Other management efforts within the VPA boundaries could produce long-term cumulative impacts on woodland resources. Reasonably foreseeable future actions, including planning efforts to locate and develop mineral and hydrocarbon resources within the VPA would potentially have adverse impacts on woodland resources by removing the resource from production and use in construction and support facility areas. Most foreseeable future development within the VPA consists of oil and gas well exploration and development. Areas within the VPA where these activities are being considered include:

- Altamont–Bluebell
- the East and West Tavaputs Plateaus
- Manila–Clay Basin.
- Monument Butte–Red Wash
- Tabiona–Ashley Valley

Other planning efforts in the surrounding areas could have cumulative beneficial impacts on woodland resource if inter- and intra-agency coordination were included. Coordination would be useful in managing prescribed burns, and wildfires. Cumulatively, these planning efforts would create greater woodland diversity and health through fire and vegetation treatments. Conversely, if planning coordination were not included in these management plans, the potential for the loss and/or degradation of woodland resources would be increased.

4.23.20. CUMULATIVE IMPACTS ON WILD HORSES

Disease transmission to and from domestic horses on Tribal and private land surrounding the HA will likely continue to be an issue with the wild horse herds in the VPA until the movement and intermingling of wild horses and Tribal horses is reduced. Trespass of wild horses on Tribal lands along the unfenced and partially fenced northern boundary of the Hill Creek HA (Wild Horse Bench) and private and state lands in Agency Draw will likely continue. However, the areas wild horses are currently using in Wild Horse Bench and Agency Draw were not considered crucial to the long-term survival of the herd nor was it included in the original delineation of the HA. Wild horses in the southern part of the HA move seasonally between public and Tribal lands. During the winter, horses tend to move onto public lands, as Tribal lands are higher in elevation. As a result of this seasonal migration, winter census counts for the HMA are typically two to three times higher than late summer counts (150–170 horses in winter compared 40–50 in summer). Water is also limited on public lands in the summer, and so the majority of the horses move back to the Tribal land at that time. Limiting the movement of wild horses in this area could reduce or eliminate the portion of the wild horse herd using this area of the HA.

4.3. CULTURAL RESOURCES

Impacts to the cultural resources of the VPA would primarily result from activities associated with surface and subsurface disturbance such as development projects, recreational use/OHV travel, and fire management. Impacts may, however, result from specific cultural resource management decisions and from non-surface-disturbing activities that create visual and/or auditory effects. These latter impacts would apply primarily to sites or locations deemed sacred or traditionally important by Native American tribes and used by these groups in such a manner that visual obstructions and/or noise levels impinge upon that use.

Because the majority of cultural resources that have been identified in scoping consist of archaeological sites, the primary concern for negative impacts relates to disturbance of the artifacts, features, architecture of sites in ways that reduces their integrity, alters their association with traditional values, and reduces the potential to recover data. Archaeological data consist of both "objects" (in the broad sense of artifacts, architecture, features, etc.), and the horizontal and vertical relationships between these objects. Our ability to interpret and understand the past is based on recovering not only the material culture of the past in the form of artifacts, buildings, and the built environment but the spatial relationships between different aspects of material culture. Thus, surface and subsurface disturbances, which not only destroy material culture but also destroy the spatial relationships that are key to interpreting that culture, have the greatest potential for negative impacts on cultural resources. Impacts can include elimination or reduction of the setting and physical integrity of a sacred or other site, including National Register-eligible sites, landscapes and cultural theme areas, disruption or reduction of the religious values of sites and areas, reduction in the data potential of a site, and damage to traditional collection areas or resource sites. In general, impacts on cultural resources from surface disturbance are long-term in nature; once an archaeological site has been impacted, the affect typically cannot be reversed. Short-term effects from visual or auditory impacts may occur, however, and can often be ameliorated or accommodated.

Potential impacts to cultural resources from the Proposed RMP and the various proposed management alternatives are difficult to quantify precisely. The management plan neither stipulates precise areas for surface-disturbing activities nor are the precise locations of all resources in the zone known. However, it is possible to estimate impacts based on the proposed general locations of activities and the relationships of these planning areas to zones of higher and lower probability for cultural resources. As discussed in Chapter 3, a geographical model of high and low cultural resource site probability has been built utilizing proximity to water, sand dunes, pinyon-juniper zones, historical mining districts, and slope. All areas within approximately 1 km of permanent water, or within pinyon-juniper vegetation zones, or within areas of sand dunes, or within the general area of historical mining districts were considered high site probability zones (encompassing approximately 2.7 million acres over the entire region, with about 708,000 acres within BLM lands). Areas with greater than 30% slope, or not having any of the high site probability factors were considered low site probability zones (encompassing approximately 2.8 million acres, with about 1.2 million acres within BLM lands). Planning areas and actions in the following sections are therefore assessed with regard to how much of the Proposed RMP is likely to result in surface-disturbing activities within these zones. While not precise, this method enables a quantifiable assessment of probable relative effect(s) of planning actions.

Furthermore, in a number of cases, it is also possible to estimate the number of sites that would become either identified or involved in particular types of proposed actions. Class II cultural resource inventories in the Vernal area during the 1970s identified the average number of sites per square mile in zones of high and low cultural resource sites (see Spangler 1995:228-240). These ranged from estimates of 0.13 sites/square mile in low site occurrence zones in the Red Wash II survey area (Spangler 1995:233) to 6.5 sites/square mile in high site probability areas in the Seep Ridge survey area (Spangler 1995:236). A conservative average of these surveys results in an estimation of 4.87 sites/square mile in high site probability zones and 0.93 sites/square mile in low site probability areas. For estimating sites along linear projects crossing small portions of these zones, the midpoint between these ranges of 2.9 sites/square mile is used. It must be stressed that the estimates are based on averages of results from different surveys, are based on a number of assumptions, and are therefore best considered a means of gauging relative impacts under the Proposed RMP and each alternative. They should be considered a means of determining the order of magnitude for numbers of sites involved, rather than precise estimates of known numbers of sites.

Impacts on cultural resources may be indirect and negligible from the Proposed RMP or alternative decisions related to forage management, air quality, hazardous materials, livestock grazing, riparian area management, soils and watershed management, special status species management, visual resource management, and wild horse and wildlife management as they do not prescribe specific actions that increase or decrease conditions that directly affect ground disturbance—a key consideration in impacts on cultural resources—or secondary affects from increased human presence. As such, those actions, determined by the BLM IDT through best professional judgment as having little or no potential for impacts on cultural resources, will not be considered further in this analysis. All other alternative and the Proposed RMP decisions with the potential to impact cultural resources either positively or negatively in a significant way are discussed below.

4.3.1. Impacts Common to the Proposed RMP and All Alternatives

The Proposed RMP and all alternatives will comply with federal laws and agency guidelines governing the identification, evaluation, and protection of cultural resources and Native American sacred/traditional sites and trust assets, including, but not limited to, the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA), and Executive Orders 13175 and 13007. All undertakings under the Proposed RMP and all alternatives are subject to compliance with Section 106 of the NHPA, which mandates the consideration of avoidance or mitigation of adverse impacts on cultural resources or traditional cultural places that are either listed on or have been determined eligible for the National Register of Historic Places (NRHP). The BLM has forwarded to the Utah State Historic Preservation Office (SHPO) a determination that, although in some cases, management actions in this plan may have a potential to affect historic properties, there would be no adverse affect to these historic properties. Appendix P is SHPO's concurrence with the BLM's determination of no adverse affect to historic properties.

Additionally, under the Proposed RMP and all alternatives, the BLM will monitor overall environmental and resource health and will adjust land uses according to the prescriptions set forth in the RMP to provide for healthy and stable resource conditions.

In general, actions common to the Proposed RMP and all alternatives are philosophical or procedural in nature and do not include specific actions for which impacts on cultural resources can be assessed. However, some decisions crossing the Proposed RMP and all alternatives are specific enough to identify potential impacts from them on cultural resources. The effect of non-cultural resource related management decisions common to the Proposed RMP and all action alternatives on cultural resources can be categorized as those having a potential direct effect and those having a potential indirect effect. Management decisions common to the Proposed RMP and all alternatives that allow for surface and subsurface disturbance, such as securing abandoned mines (many of which are historic), and using chemical, mechanical, and prescription fire treatments to manage the effects of wildland fire. Owing to insufficient data related to the very small percentage of the VPA that has been inventoried for cultural resources, the exact impact of such decisions on specific cultural resources cannot be quantified. Adverse impacts from such activities can be avoided or mitigated through adherence to the Section 106 process of the NHPA.

Although it is not possible to precisely estimate the impacts of the decision, motorized camping vehicles would be allowed to travel off designated routes on a single path up to 300 feet to access an existing disturbed dispersed camp site, except in non-WSA lands with wilderness characteristics and WSA lands. In designated travel route areas, an activity level plan would be used to identify areas suitable for camping that would allow motorized vehicles to travel from those designated routes. The BLM would monitor dispersed camping activities and would work with user groups to address adverse environmental conditions if warranted. If use is such that undue environmental impacts are taking place, the BLM would close and rehabilitate damaged areas. If monitoring indicates that developed camping is needed, the BLM would evaluate the viability of developed campsites.

The results of this analysis are provided in detail in Section 4.3.2.8, as they are directly related to travel decisions along these routes. In summary, the analysis suggests that although the action would leave an indeterminate number of cultural resource sites potentially subject to continued impacts or new impacts, because the number of open routes would be reduced under the Proposed RMP and all alternatives except Alternative D (No Action) (i.e., Proposed RMP and Alternatives A, B, C, and E), the number of sites potentially subject to continued or new impacts would be reduced unless the no-action alternative is selected. Because a large number of routes are open at the present time, and therefore impacts may be presently occurring, reducing the number of open routes reduces the potential for new or ongoing disturbance to cultural resource sites, and therefore this prescription is generally beneficial to cultural resources. Monitoring of impacts from the guideline should help to reduce continuing or new impacts further.

Conversely, many common management decisions have direct positive impacts on cultural resources. In particular, the decision to treat vegetation around important archaeological sites so as to reduce the probability and severity of wildland fire impacts on sites provides a direct positive benefit to the subject archaeological sites by helping to protect those values that render

them significant. Other types of management decisions have potential indirect impacts on cultural resources. For example, management decisions that call for enforcing land use permits to insure no incidental surface and subsurface disturbance, maintaining appropriate grazing/forage AUMs to insure stable vegetation cover thereby reducing erosion, requiring dispersed camping, or limiting activities in areas of biological soil crusts or special designations, provides an indirect benefit to cultural resources by reducing surface and subsurface disturbance and placing tighter controls on some land uses.

Understandably, the actions common to the Proposed RMP and all alternatives that have the greatest direct impact on cultural resources are those related specifically to said resources. The cultural resource decisions common to the Proposed RMP and all alternatives are designed to follow federal law and agency guidelines and to protect the values of cultural resources that make them important, whether these are public values, scientific values, conservation values, experimental values, or traditional values. As such, these decisions common to the Proposed RMP and all alternatives would be made within a decision-making environment that requires balanced stewardship of cultural resources within the VPA. In particular, these decisions must consider human burials and associated burial goods under both the NAGPRA and the ARPA. The decisions also insure adherence to the Section 106 process of the NHPA for all BLM authorizations of land and resource use and codify the importance of appropriate levels of consultation and interaction with Native American tribal groups to assure that the concerns of indigenous peoples are addressed and their rights protected as the BLM makes management decisions.

Special designations, such as ACECs, WSAs, and Wild and Scenic Rivers, common to the Proposed RMP and all alternatives should also afford indirect benefit to cultural resources through the restriction, in some cases, of surface disturbances as part of the designation. Seven existing ACECs in the region, Browns Park, Nine Mile Canyon, Red Mountain-Dry Fork, Red Creek Watershed, Pariette Wetlands, the Lower Green River Corridor, and Lears Canyon, would be maintained under the Proposed RMP and all alternatives. Some of the alternatives have expanded ACECs, however the Proposed RMP does not. The ACEC designation will provide some protection through additional management prescriptions. Furthermore, the Pariette Wetlands and Lears Canyon ACECs will be managed as NSO and closed to mineral material disposal, which should also reduce potential impacts to cultural resources. The Pelican Lake SRMA is designated NSO under the Proposed RMP and all alternatives, which should afford protection to cultural resources. Wild and Scenic River designations, such as the existing Upper and Lower Green River designations, also offer indirect benefit as these areas are managed as NSO 0.25 mile from the high water line of the river as per the Wild and Scenic Rivers Act.

4.3.2. PROPOSED RMP AND ALTERNATIVE IMPACTS

Proposed actions under the Proposed RMP and each alternative have the potential for different degrees and kinds of impacts on cultural resources within the VPA. It must be remembered, however, that regardless of the level of potential impacts under a given alternative or the Proposed RMP, decisions with the potential to impact cultural resources that would require further permitting or analysis, such as permitting particular oil and gas operations, developing rangeland improvements such as guzzlers or fences, conducting a prescribed burn, or developing

a campground are subject to the Section 106 process of the NHPA before they can be authorized. As part of this process, if it is determined that there are any known or potential impacts to cultural resources that are either listed on or have been determined eligible for listing on the NRHP, alternatives must be developed that would avoid, minimize, or mitigate adverse effects on historic properties. Because of these protective measures, over management of the area in the past there have been minimal negative impacts to cultural resources. It is frequently possible to identify resources in advance and either avoid these resources or develop mitigation strategies to reduce the negative impact to the resource.

4.3.2.1. Impacts of Cultural Resource Decisions on Cultural Resources

Cultural resource decisions under the Proposed RMP and the various alternatives include direct site protection and interpretation measures. Cultural resource decisions include provisions for establishing on- and off-site interpretive facilities at appropriate cultural resource sites in a manner that does not adversely impact the resource. Sites selected for interpretation would be ranked higher in public use values than in other site values such a scientific, conservation, or experimental values. Sites with high traditional values to Native American tribes would not be designated for interpretation unless tribal approval was granted. Decisions to provide interpretive facilities both on- and off-site have generally positive short-term effects on cultural resources within the VPA. Through interpretation, the public can be educated about the value of cultural resource sites and the necessity to refrain from damaging them.

Indirect effects to cultural resources from cultural resource decisions under many alternatives are limited. In the short-term, limiting OHV travel to designated routes in areas of high site density may encourage OHV users to move their activities to other areas. Additionally, limiting OHV travel to designated routes may increase traffic along the designated routes and indirectly impact resources. As such a small percentage of the VPA has been inventoried for cultural resource sites, it may not be possible to proactively assess the potential impact on cultural resources resulting from shifts in location of OHV activity in light of travel restrictions in some areas.

Indirect impacts may also result from decisions to provide on- and off-site interpretive facilities. Increasing the awareness of the public that cultural resources are present in a given area would encourage some land users to intentionally seek out cultural resource sites for exploration and looting. Such incidental impacts are, however, expected to be quite limited.

4.3.2.1.1. Proposed RMP

Cultural resource decisions under the Proposed RMP would limit OHV travel to designated routes in areas of high cultural resource site density such as the Uinta Foothills (33,059 acres), Little/Devils Hole (10,878 acres), Upper Willow Creek (4,304 acres), and Four Mile Wash (ca. 560 acres). Such OHV travel prescriptions would reduce potential impacts to cultural resources as compared to the current management situation by reducing the frequency of OHV use as well as the intensity of surface disturbance related to OHV use. Additionally, OHV travel prescriptions should reduce the number of cultural resource sites that are exposed to OHV use overall. Oil and gas leasing would still be allowable in these areas under the Proposed RMP.

Other cultural resource decisions under the Proposed RMP include provisions for establishing on- and off-site interpretive facilities at appropriate cultural resource sites in a manner that does not adversely impact the resource.

4.3.2.1.2. ALTERNATIVE A

Cultural resource decisions under Alternative A would limit OHV travel to designated routes in areas of high cultural resource site density such as the Uinta Foothills (33,059 acres), Little/Devils Hole (10,878 acres), Upper Willow Creek (4,304 acres), and Four Mile Wash (ca. 560 acres). Such OHV travel prescriptions would reduce potential impacts to cultural resources as compared to the current management situation by reducing the frequency of OHV use as well as the intensity of surface disturbance related to OHV use. Additionally, OHV travel prescriptions should reduce the number of cultural resource sites that are exposed to OHV use overall. Oil and gas leasing would still be allowable in these areas under Alternative A.

Other cultural resource decisions under Alternative A include provisions for establishing on- and off-site interpretive facilities at appropriate cultural resource sites in a manner that does not adversely impact the resource.

4.3.2.1.3. ALTERNATIVE B

Direct positive impacts to cultural resources resulting from cultural resource decisions under Alternative B are similar to those described for the Proposed RMP, however, the magnitude of their impact is reduced for some decisions. Under Alternative B, on- and off-site interpretive facilities would still be developed, but they would only be established as part of mitigation of impacts for authorized or permitted activities; implementation of interpretive programs would not be proactive or independent of mitigation.

Decisions on the restriction of OHV travel to designated routes in areas of high cultural resource site density are identical to those described for the Proposed RMP.

4.3.2.1.4. ALTERNATIVE C

Cultural resource decisions under Alternative C are similar to those under the Proposed RMP and would have a higher direct positive impact on cultural resources within the VPA than under any alternative. Cultural resource decisions under Alternative C would eliminate both oil and gas leasing and OHV travel in the areas of high cultural resource site density noted previously. The other action alternatives permit oil and gas leasing in these areas but restrict OHV travel to designated routes. The closure of these areas would significantly reduce potential and ongoing impacts to cultural resources as compared to the current management situation and other action alternatives by substantially reducing levels and frequencies of surface disturbance.

Under Alternative C, on- and off-site interpretive facilities would be established at all appropriate cultural resource sites in a manner that does not adversely impact the resource. Such interpretive facilities would be established proactively and independent of mitigation for authorized or permitted undertakings. Sites with high traditional values to Native American tribes still would not be designated for interpretation unless tribal approval was granted.

4.3.2.1.5. ALTERNATIVE D (NO ACTION)

Under the current management situation, the four identified high cultural resource site density areas (Uinta Foothills, Little/Devils Hole, Upper Willow Creek, and Four Mile Wash) would be open to oil and gas leasing with standard lease stipulations and OHV travel. Such a situation increases the possibility, over other alternatives, that important cultural resource sites would be damaged or destroyed by surface disturbance.

Under the current management situation, interpretive facilities would be developed at the Old Rock Saloon site and Nine Mile Canyon area. Further, a self-guided tour of important structures and locations in the Browns Park area would be implemented. The direct impact of such interpretive facilities on educating the public about good site stewardship would be similar to that described under the Proposed RMP but would be somewhat reduced in scope as fewer facilities would be developed.

4.3.2.1.6. ALTERNATIVE E

The impacts on cultural resources would be similar to those discussed under Alternative C because the proposed decisions are the same.

4.3.2.1.7. SUMMARY OF CULTURAL RESOURCE DECISIONS

Overall, Alternatives C and E would provide the greatest benefit to cultural resources by eliminating oil and gas development and OHV travel in specific areas of high site density, and by establishing interpretive facilities at the greatest number of locales. The Proposed RMP would provide less benefit because oil and gas development would continue to be allowed in areas of high site density. Alternatives B and D would provide the least benefit to cultural resources because fewer restrictions would be placed on minerals development and OHV travel.

4.3.2.2. IMPACTS OF FIRE MANAGEMENT DECISIONS ON CULTURAL RESOURCES

Fire management decisions would primarily have direct and indirect effects that vary in kind over the short- and long-term. Depending on the flame height, temperature, and duration of fires, prescribed burns as well as associated pre-burn vegetation treatments and post-burn rehabilitation activities can have a negative impact on cultural resources by damaging or destroying combustible artifacts and features, damaging artifacts, features, rock art, aspen art, and sites through surface disturbance, altering the provenience of artifacts through surface disturbance, and altering the accuracy of scientific tests (e.g., radiocarbon, obsidian hydration, and residue analysis). These direct effects are the same over both the short- and long-terms. Furthermore, once denuded by prescribed fire, there may be additional negative impacts to cultural resources in the short-term due to increased erosion on archaeological sites, which can displace artifacts and reduce their interpretive value. Increased visibility of archaeological sites can also result in increased looting or artifact collection, which reduces the scientific value of the resource.

However, because prescribed fires often occur at a lower temperature than wildfires, prescribed fires are likely to result in less damage to cultural resources than would wildfires over the same area. Furthermore, all prescribed fire and associated activities with the potential to negatively impact cultural resources are also, subject to review and approval under Section 106 of the NHPA prior to implementation. Such review and approval requires the identification of NRHP listed and eligible cultural resources within the treatment area, evaluation of those resources for the NRHP, development of avoidance and/or mitigation protocols to ameliorate potential adverse impacts, and consultation with potentially effected Native American tribes. Such protections are not in place in the case of wildfires. Thus, overall, prescribed fires tend to have a greater positive benefit to cultural resources than wildfires, though they do involve limited negative impacts.

Reduction of surface cover through prescribed fire can also have a positive impact on knowledge of cultural resources within a given area by exposing previously unidentified cultural resource sites that were obscured by vegetation. The exposure of such sites allows for increased knowledge regarding the overall archaeological record of the VPA and the more thorough identification of prehistoric and historic land-use patterns. Thus, over the short-term, direct, and indirect effects can include destruction of artifacts and other cultural resources by fire, and erosion can also occur. However, over the long-term, the reduction in intensity of fires combined with the increased knowledge of cultural resources that would occur as a result of surveys conducted prior to fires and increasing site visibility after fires would result in an increased benefit to cultural resources.

Under the current management situation, Alternative D (No Action), 27,950 acres in the Book Cliffs RMP and 22,950 acres in the Diamond Mountain RMP would be treated with prescribed fire and related activities for a total of 50,900 acres. Under the Proposed RMP and Alternatives A, B, C, and E prescribed fire would be allowed on approximately 156,425 acres per decade. Because a far greater number of acres are proposed for prescribed fire under the Proposed RMP and Alternatives A, B, C, and E relative to Alternative D (No Action), all of these alternatives are likely to have greater positive direct impacts on cultural resources and reduced negative direct impacts relative to the current management situation.

4.3.2.3. Impacts of Lands and Realty Decisions on Cultural Resources

Land and realty decisions involve decisions to acquire and manage various lands and resources. For the most part, the lands and resources involved are currently managed under the same federal laws that apply to the BLM and effects are likely to be minimal. Variations between the alternatives primarily relate to the specific aspects of the proposed actions, and impacts are likely to be indirect and long-term rather than direct or short-term.

4.3.2.3.1. Proposed RMP

Under the Proposed RMP, the BLM could pursue an easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Wash. The old Uintah Railroad bed is a known and documented historical cultural site. There are likely to be long-term beneficial indirect impacts, as withdrawing lands from mineral development would reduce negative impacts over the area. Furthermore, the acquisition of the Uintah Railroad corridor by the BLM and the

management of this historical site in accordance with federal law and agency guidelines would afford some protection to this specific site by reducing potential negative impacts to it from private actions not subject to the same laws and guidelines. The BLM would pursue the acquisition of Indian trust lands near the confluence of South and Sweetwater Canyons and in the Bitter Creek area and would pursue public access at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. Because these lands are currently managed under the same federal laws that apply to the BLM, there are likely to be minimal changes from the current action in how cultural resource sites are protected or impacted.

Additionally, under the Proposed RMP, the BLM would pursue a locatable mineral withdrawal or other protective measures that would preclude mineral entry in the Green River Scenic Corridor in Browns Park (8,208 acres), the Lears Canyon relict vegetation area (1,375 acres), the White River area non-WSA lands with wilderness characteristics (6,720 acres), the White River SRMA (1,110 acres), developed and potential recreation sites (5,000 acres), and the Book Cliffs Natural Area (401 acres). These actions would have a long-term indirect positive impact on cultural resources within the VPA by reducing the number of cultural resource sites that are subject to mineral development. The effect of withdrawal of lands from mineral entry under the 1872 mining law as amended is a decrease in overall surface and subsurface disturbance within the withdrawn area. As the extent of surface and subsurface disturbance is the single greatest factor in predicting the potential for adverse impacts to cultural resources, an overall reduction in surface and subsurface disturbance through a mineral entry withdrawal would presumably reduce the overall potential negative impact to cultural resources. Compared to Alternative D (No Action), this would provide less protection because fewer acres would be withdrawn and because Alternative D (No Action) would withdraw lands for both agricultural and mineral entry.

4.3.2.3.2. ALTERNATIVE A

Under Alternative A, the BLM would pursue the acquisition of Indian trust lands near the confluence of South and Sweetwater Canyons and in the Bitter Creek area and would pursue public access at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. Because these lands are currently managed under the same federal laws that apply to the BLM, there are likely to be minimal changes from the current action in how cultural resource sites are protected or impacted.

Additionally, under Alternative A, the BLM would pursue a locatable mineral withdrawal or other protective measures that would preclude mineral entry in the same areas as described for the Proposed RMP. As such, the impacts under Alternative A from these decisions would be the same as those described for the Proposed RMP.

4.3.2.3.3. ALTERNATIVE B

Under Alternative B, the BLM would pursue only administrative access to Indian trust lands and would not pursue public access to the White River at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. Any administrative actions that would be considered federal actions would be subject to NHPA and other laws. Furthermore, land use decisions would have

to be coordinated with the Bureau of Indian Affairs, Native American tribes, and other landowners.

Additionally, under Alternative B, the BLM would pursue a locatable mineral withdrawal or other protective measures that would preclude mineral entry in the same areas as listed under the Proposed RMP. Impacts of these actions would be the same as the Proposed RMP.

4.3.2.3.4. ALTERNATIVE C

Lands and realty decisions under Alternative C are identical to the Proposed RMP, with impacts similar to those discussed under the Proposed RMP, except that the BLM would pursue an easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Wash and locatable mineral withdrawals would be pursued in the proposed Lower Green River ACEC (17,063 acres) and White River ACEC (9,218 acres).

The impacts would be the same as described under the Proposed RMP, except that an additional 13,500 acres would be subject to locatable mineral withdrawal or other protective measures that would preclude mineral entry. Compared to Alternative D (No Action), this would provide similar protection because only 365 more acres would be withdrawn.

4.3.2.3.5. ALTERNATIVE D (NO ACTION)

Lands and realty decisions under Alternative D (No Action) include locatable mineral withdrawal or other protective measures that would preclude mineral and agricultural entry on the Green River Scenic Corridor in Browns Park (19,400 acres), the relict vegetation areas (3,600 acres), the lower Green River ACEC (7,900 acres), and developed and potential recreation sites (5,000 acres). These withdrawals would afford protection to cultural resources in these areas by limiting surface disturbance. Overall, this alternative provides for approximately 13,000 more acres of land withdrawal than the Proposed RMP and Alternatives A and B, and 365 fewer acres than Alternatives C and E.

4.3.2.3.6. ALTERNATIVE E

The impacts would be similar to those discussed under Alternative C because the decisions are the same, except that approximately 277,596 acres of non-WSA lands with wilderness characteristics would be excluded from rights-of-way (ROW) designation. This decision would have long-term, beneficial impacts on cultural resources because these areas would be protected from the surface disturbances associated with ROWs (e.g., utility, oil, and gas transmission line corridors).

4.3.2.3.7. SUMMARY OF LAND AND REALTY DECISIONS

In summary, relative to unspecified decisions under the current management situation, the Proposed RMP and Alternatives A, B, C and E are all likely to provide long-term, indirect, and beneficial impacts to cultural resources in the Vernal area. The Proposed RMP and Alternatives

A, C and E are likely to have the greatest beneficial impacts, as all involve withdrawing lands from mineral developments in certain areas.

4.3.2.4. IMPACTS OF MINERAL DECISIONS ON CULTURAL RESOURCES

Under the Proposed RMP and all alternatives, all undertakings related to minerals development would be in compliance with all federal cultural resource laws, including Section 106 of the NHPA, as well as agency guidance. Furthermore, the SHPO consultation concluded that no minerals decisions under the Proposed RMP or any alternatives would adversely impact cultural resources within the VPA.

The difference in effects on cultural resources between the alternatives is in the numbers of acres open to minerals development. Because the precise location of any minerals development activity is not stipulated in this planning document, the assessment of potential affects is based on the overall potential acreage open for development with respect to high and low site probability zones. Table 4.3.1 provides the acreage for each type of development under each alternative with respect to probability of involvement within high and low site probability zones.

Table 4.3.1. Summary of Minerals Development Relative to High and Low Cultural Resource-site Probability Zones

Oil and Gas Leases	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Acres within High Site Probability Zones						
Standard Lease Terms	265,0502	265,792	305,080	229,366	276,436	222,728
Timing and Controlled Surface Use	366,625	366,243	342,067	340,310	257,470	305,677
Total Open	634,678	632,035	647,147	569,676	533,906	528,405
No Surface Occupancy	35,598	32,787	27,808	34,063	65,671	27,298
Closed	38,415	43,878	33,745	104,961	33,735	153,049
Percent Change Relative to Alternative D (No Action)	18.9%	18.4%	21.2%	6.7%	0.0%	-1.0%
Acres within Low Site Probability Zones						
Standard Lease Terms	718,874	718,845	808,035	629,242	641,891	596,163
Timing and Controlled Surface Use	427,327	427,327	364,214	428,167	360,244	374,893
Total Open	1,146,201	1,146,172	1,172,249	1,057,409	1,002,135	971,056
No Surface Occupancy	33,704	33,704	14,245	24,606	71,259	20,331
Closed	25,424	25,424	18,806	123,285	18,806	213,987
Percent Change Relative to Alternative D (No Action)	12.6%	14.4%	17.0%	5.5%	0.0%	-3.1%
Other Minerals (Open)	**Proposed RMP**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D (No Action)**	**Alternative E**
Acres within High Site Probability Zones						
Mineral Materials	169,476	173,050	173,050	154,096	157,137	142,469
Percent Change Relative to Alternative D (No Action)	7.9%	10.1%	10.1%	-1.9%	0.0%	-9.3%
Phosphate	51,679	52,343	52,343	37,714	50,038	32,591
Percent Change Relative to Alternative D (No Action)	3.3%	4.6%	4.6%	-24.6%	0.0%	-34.1%
Gilsonite (40' width)	226	453	453	226	217	223

Table 4.3.1. Summary of Minerals Development Relative to High and Low Cultural Resource-site Probability Zones

Oil and Gas Leases	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Percent Change Relative to Alternative D (No Action)	4.1%	108.8%	108.8%	4.1%	0.0%	2.8%
Acres within Low Site Probability Zones						
Mineral Materials	245,907	257,108	257,108	224,683	230,563	202,205
Percent Change Relative to Alternative D (No Action)	6.7%	11.5%	11.5%	-2.6%	0.0%	-12.3%
Phosphate	36,044	36,044	36,044	26,517	37,508	19,472
Percent Change Relative to Alternative D (No Action)	-3.9%	-3.9%	-3.9%	-29.3%	0.0%	-48.1%
Gilsonite (40' width)	611	1,224	1,224	608	601	567
Percent Change Relative to Alternative D (No Action)	1.7%	103.7%	103.7%	1.2%	0.0%	-5.7

Note: Acreages were calculated using GIS technology and there may be slight variations in total acres between disciplines. These variations are negligible and will not affect analysis.

It is important to note that not all minerals development activities would have the same impact on the landscape. Differing extraction processes would result in different surface-disturbances. In some cases, it is possible to provide additional analysis beyond simply estimating acres disturbed. For oil and gas and CBNG development, it is possible to project the estimated number of wells within each RFD area over the zones of high and low cultural resource site probability in order to estimate the likely disturbance within each cultural resource site probability zone of each RFD area (Table 4.3.2 and Table 4.3.3). This analysis results in a slightly more precise estimation of disturbance because it takes into account the differences in the distribution of projected development and the distribution of high and low cultural resource site probability zones. In essence, the analysis takes the percent of disturbance by wells relative to the total area open for development, applies that percentage to the acreages within high and low cultural resource site probability zones, and assumes that the disturbance within these zones is likely to be equal to the overall disturbance. In other words, the analysis assumes that disturbance is equally likely to occur in any zone. It is then possible to estimate the probable disturbance in each area and assess this disturbance. Furthermore, it is also possible to estimate the total number of sites that would become either identified or exposed to potential disturbance under oil, gas, and coal bed natural gas (CBNG) development. As described in the introduction to this section, a conservative average of measures of archaeological site density results in an estimation of 4.87 sites/square mile in high site probability zones and 0.93 sites/square mile in low site probability areas. While it must be understood that these averages are nothing more than conservative estimates, they provide a means of assessing the probable numbers of cultural resource sites that may be involved during oil, gas, and CBNG well development (Table 4.3.4).

Table 4.3.2. Estimated Disturbance in High Cultural Resource-site Probability Zones by Oil, Gas, and Coal Bed Natural Gas (CBNG) Development by RFD Area and Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Open Acres within High Probability Zones for Cultural Sites*						
Monument Butte	189,911	187,085	190,624	187,235	155,475	183,232
East Tavaputs	227,627	227,627	228,189	193,791	173,014	191,251
West Tavaputs	41,590	41,590	48,962	42,157	42,427	41,429
Altamont	1,963	1,963	1,963	1,963	1,963	1,963
Tabiona	146,843	146,843	150,553	117,914	136,330	88,959
Manila	26,679	26,679	26,851	26,660	24,695	21,571
Total	634,679	631,787	647,142	569,720	533,904	528,405
Percent Potential Disturbance (Projected Total Disturbance Based on Wells/Total Open Area)						
Monument Butte	2.4%	2.3%	2.3%	2.6%	2.7%	2.7%
East Tavaputs	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%
West Tavaputs	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Altamont	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Tabiona	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Manila	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total*	3.1%	3.0%	3.0%	3.3%	3.4%	3.3%

Table 4.3.2. Estimated Disturbance in High Cultural Resource-site Probability Zones by Oil, Gas, and Coal Bed Natural Gas (CBNG) Development by RFD Area and Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Estimated Disturbance in High Probability Zones (Percent Disturbance* Acres in Zone)						
Monument Butte	4,558	4,303	4,384	4,868	4,198	4,920
Percent Difference from Alternative D (No Action)	8.6%	2.5%	4.4%	16.0%	0.0%	17.2%
East Tavaputs	911	911	913	775	692	574
Percent Difference from Alternative D (No Action)	31.6%	31.6%	31.9%	12.0%	0.0%	-17.1%
West Tavaputs	83	83	98	84	85	83
Percent Difference from Alternative D (No Action)	-2.4%	-2.4%	15.3%	-1.2%	0.0%	-2.4%
Altamont	3	3	3	3	2	3
Percent Difference from Alternative D (No Action)	50.0%	50.0%	50.0%	50.0%	0.0%	50.0%
Tabiona	29	29	30	35	41	27
Percent Difference from Alternative D (No Action)	-29.3%	-29.3%	-26.8%	-14.6%	0.0%	-34.1%
Manila	3	3	3	3	2	2
Percent Difference from Alternative D (No Action)	50.0%	50.0%	50.0%	50.0%	0.0%	0.0%
Total	**5,587**	**5,332**	**5,431**	**5,768**	**5,020**	**5,609**
Percent Difference from Alternative D (No Action)	11.3%	6.2%	8.2%	14.9%	0.0%	11.7%

*Across all RFD areas

Note: Because the number of acres of surface disturbance by RFD does not decrease proportionately with the number of acres open in the RFD alternatives that have less proposed development may show a higher percentage of estimated disturbance.

Table 4.3.3. Estimated Disturbance in Low Cultural Resource-site Probability Zones by Oil, Gas, and Coal-bed Natural Gas Development by RFD Area and Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Open Acres within Low Probability Zones for Cultural Sites*						
Monument Butte	482,389	481,521	487,902	475,855	432,826	468,709
East Tavaputs	322,506	322,506	324,087	263,161	173,014	250,332
West Tavaputs	116,392	116,392	129,748	42,153	42,427	93,795

Table 4.3.3. Estimated Disturbance in Low Cultural Resource-site Probability Zones by Oil, Gas, and Coal-bed Natural Gas Development by RFD Area and Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Altamont	12,218	12,218	12,218	12,218	12,004	12,215
Tabiona	191,172	191,172	196,727	170,697	181,311	130,546
Manila	21,523	21,523	21,604	21,517	17,818	15,458
Total	***1,146,200***	***1,145,332***	***1,172,286***	***985,601***	***859,400***	***971,055***
Percent Potential Disturbance (Projected Total Disturbance based on Wells/Total Open Area)						
Monument Butte	1.3%	1.3%	1.3%	1.5%	1.7%	1.5%
East Tavaputs	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
West Tavaputs	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Altamont	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tabiona	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Manila	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	***1.6%***	***1.6%***	***1.6%***	***1.8%***	***2.0%***	***1.8%***
Estimated Disturbance in Low Probability Zones (Percent Disturbance* Acres in Zone)						
Monument Butte	6,271	6,260	6,343	7,138	7,358	7,031
Percent Difference from Alternative D (No Action)	*-14.8%*	*14.9%*	*13.8%*	*3.0%*	*0.0%*	*-4.4%*
East Tavaputs	645	645	648	526	346	501
Percent Difference from Alternative D (No Action)	*86.4%*	*86.4%*	*87.3%*	*52.0%*	*0.0%*	*44.8%*
West Tavaputs	116	116	130	42	42	94
Percent Difference from Alternative D (No Action)	*176.2%*	*176.2%*	*209.5%*	*0.0%*	*0.0%*	*123.8%*
Altamont	4	4	4	5	5	5
Percent Difference from Alternative D (No Action)	*-20.0%*	*-20.0%*	*-20.0%*	*0.0%*	*0.0%*	*0.0%*
Tabiona	19	19	20	34	36	26
Percent Difference from Alternative D (No Action)	*-47.2%*	*-47.2%*	*-44.4%*	*-5.6%*	*0.0%*	*-27.8%*
Manila	1	1	1	2	1	1
Percent Difference from Alternative D (No Action)	*0.0%*	*0.0%*	*0.0%*	*100%*	*0.0%*	*0.0%*
Total	***7,056***	***7,045***	***7,146***	***7,747***	***7,788***	***7,658***
Percent Difference from Alternative D (No Action)	*-9.4%*	*-9.5%*	*8.2%*	*-0.53%*	*0.0%*	*-1.7%*

Table 4.3.4. Estimated Numbers of Cultural Resource Sites Potentially Involved in Oil, Gas, and Coal-bed Natural Gas Development by RFD Area and Alternative

Estimated Number of Sites Potentially Encountered by Development						
	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
High Site Probability Zones*						
Monument Butte	35	33	33	37	32	37
East Tavaputs	7	7	7	6	5	4
West Tavaputs	1	1	1	1	1	1
Altamont	0	0	0	0	0	0
Tabiona	0	0	0	0	0	0
Manila	0	0	0	0	0	0
Subtotal	43	41	41	44	38	42
Low Site Probability Zones**						
Monument Butte	9	9	9	10	11	10
East Tavaputs	1	1	1	1	1	1
West Tavaputs	0	0	0	0	0	0
Altamont	0	0	0	0	0	0
Tabiona	0	0	0	0	0	0
Manila	0	0	0	0	0	0
Subtotal	10	10	10	11	12	11
Grand Total	53	51	51	55	50	53

(Number of acres of potential disturbance/640 acres per square mile) 4.87 sites/square mile

**(Number of acres of potential disturbance/640 acres per square mile)* 0.93 sites/square mile

Throughout this analysis, however, it is important to note that these numbers are produced through reasonable estimates of development and estimates of site density and location deriving from currently available data. Specific development or site location is unknown at this time. Therefore, the assessment of effects here will be considered a relative assessment; in other words, more acres open to development within high site probability zones will be considered to provide a greater likelihood for some type of effect on cultural resources, even if the actual effect is small or negligible. It should be understood that, strictly in terms of the minerals decisions alone, no alternative benefits cultural resources.

Mineral decisions would involve direct and indirect effects on cultural resources. Direct effects to cultural resources resulting from mineral decisions under the alternatives are related to the level of surface and subsurface disturbance permitted under the decisions. The greater the level of permitted surface and subsurface disturbance, the greater the potential for encountering cultural resources. Direct effects could entail: surface disturbance and even destruction of archaeological sites and features if unauthorized activities take place or if errors occur during the development process; physical alteration or elimination of archaeological sites as they are mitigated through data recovery or other on-site means when avoidance of the sites is not possible, as determined through the Section 106 process (see Appendix P for SHPO consultation); and long-term changes in overall site settings as the number of wells and

associated facilities increase. Avoidance of cultural resource sites is the preferred alternative under all scenarios. Although it is not possible to avoid the potential for irresolvable conflicts between any given specific proposed development in the future and archaeological sites, and although there is always potential for inadvertent discovery, historically, the ability to identify sites during the planning phase, and standard development stipulations that enable and promote site avoidance, has resulted in a relatively low rate of sites requiring mitigation and a very low rate of negative impacts to sites. According to the field office archaeologist, approximately 1% of the total cultural resource sites involved in oil and gas development have been negatively impacted by development (Blaine Phillips, personal communication 2004).

While sites within the area of potential direct effects will have been identified and either avoided or mitigated as part of the specific mineral development projects, sites not located within the footprints of undertakings are also vulnerable to negative impacts as human traffic in the general area increases. Potential indirect effects on cultural resources include vandalism and looting of cultural resource sites related to increased human activity within areas of mineral development. Other indirect negative impacts related to increased human activity in given areas include trampling of sites simply through the shear volume of individuals visiting sites. Additional potential indirect effects include increased erosion on cultural resource sites located near well pads, pipelines, and other minerals related facilities where vegetation cover has been reduced or eliminated.

4.3.2.4.1. PROPOSED RMP

Under the Proposed RMP, oil and gas leasing would be open under standard lease terms or with timing and controlled surface use conditions on approximately 635,000 acres within the high site probability areas and approximately 1,146,000 acres within the low site probability areas (see Table 4.3.1). Based on projections of the numbers of wells, the size of each well and disturbance by associated facilities, approximately 19,000 acres would be subject to surface and subsurface disturbance. The majority of this disturbance (approximately 15,000 acres) would be within the Monument Butte RFD area, with approximately 3,500 acres in the East and West Tavaputs and Altamont-Bluebell areas, and small acreages in the remaining Tabiona and Manila areas. Assuming that disturbance is equally likely in high and low site probability areas, and that disturbance in these areas would be related to the overall disturbance relative to total land area, under the Proposed RMP the estimated acreage of disturbance in the high site probability zones is approximately 5,600 acres, with more than two-thirds of this disturbance in the Monument Butte RFD area (see Table 4.3.2). Estimated acreage of disturbance in the low site probability zones is approximately 7,000 acres under the Proposed RMP (see Table 4.3.3).

The Proposed RMP reflects a 11.3% overall increase in oil and gas (including CBNG) surface-disturbing activities in the high cultural resource site probability zones relative to Alternative D (No Action) (see Table 4.3.2). Relative to Alternative D (No Action), disturbance within high site probability zones would increase by 8.6-50% in several RFD areas, although it would decrease by 2.4% in the West Tavaputs area (see Table 4.3.2). The greatest percent increases are in the Altamont and Manila areas, though the actual acreage increase is only 1 acre in each area. The East Tavaputs area would experience a 31.6% increase in disturbance, which equates to a net increase in acres disturbed of 219 acres. The Proposed RMP is likely to result in

encountering approximately 43 sites within high site probability zones and 10 sites in low site probability zones, or approximately 53 sites total (see Table 4.3.4). This is an estimated increase of about 6% more sites over the estimated 50 sites that may be exposed to analysis under the Alternative D (No Action). It is important to note that these are the numbers of sites that are likely to be potentially encountered by development projects, and that they would not necessarily be disturbed. Given that only an estimated 1% of sites involved in minerals development are inadvertently disturbed, this alternative is likely to not result in significant disturbance to archaeological sites.

Impacts from projected development for oil shale, mineral materials, phosphate, and Gilsonite are much more difficult to quantify given that these projects have not been determined or set and are dependent on future technological advances and market needs, and that these developments involve different types of disturbances, and the disturbances are frequently more localized. Thus, assessment is best developed in terms of relative acres open to development. Based on the numbers of acres potentially open to development, the Proposed RMP results in increases of between 3 and 8% in development in high cultural resource site probability zones relative to the Alternative D (No Action) (see Tables 4.3.2 and 4.3.3). Projected impacts relative to phosphate development in low site probability areas actually drops by almost 4% under the Proposed RMP.

4.3.2.4.2. ALTERNATIVE A

Under Alternative A, oil and gas leasing would be open under standard lease terms or with timing and controlled surface use conditions on approximately 632,000 acres within the high site probability areas and approximately 1,145,000 acres within the low site probability areas (see Table 4.3.2). Based on projections of the numbers of wells, the size of each well and disturbance by associated facilities, approximately 19,000 acres would be subject to surface and subsurface disturbance. The majority of this disturbance (approximately 15,000 acres) would be within the Monument Butte RFD area. An additional 3,500-3,700 acres of disturbance would occur in the East and West Tavaputs and Altamont-Bluebell areas, and small acreages in the remaining Tabiona and Manila areas. Under Alternative A the estimated acreage of disturbance in the high site probability zones is approximately 4,300 acres, with more than two-thirds of this disturbance in the Monument Butte RFD area (see Table 4.3.2). Estimated acreage of disturbance in the low site probability zones is approximately 7,000 acres under Alternative A (see Table 4.3.3).

Alternative A reflects a 6.2% overall increase in oil and gas (including CBNG) surface-disturbing activities in the high cultural resource site probability zones relative to Alternative D (No Action) (see Table 4.3.2). Relative to Alternative D-No Action, disturbance within high site probability zones would increase by 2.5%–50% in several RFD areas, although it would decrease by 2.4%–29.3% in the West Tavaputs and Tabiona areas (see Table 4.3.2). The greatest percent increases (50%) are in the Altamont and Manila areas, though the actual acreage increased is only 1 acre in each area. The East Tavaputs area would experience a 31.6% increase in disturbance, which equates to a net increase in acres disturbed of 219 acres. Alternative A is likely to result in encountering approximately 41 sites within high site probability zones and 10 sites in low site probability zones, or approximately 51 sites total (see Table 4.3.4). This is an estimated increase of about 2% more sites over the estimated 50 sites that may be exposed to analysis under Alternative D (No Action). It is important to note that these are the numbers of

sites that are likely to be potentially encountered by development projects, and that they would not necessarily be disturbed. Given that only an estimated 1% of sites involved in minerals development are inadvertently disturbed, this alternative is likely to not result in significant disturbance to archaeological sites.

Under Alternative A, impacts from projected development for special tar sands, oil shale, mineral materials, phosphate, and Gilsonite would increase between 4 and 10% in development in high cultural resource site probability zones relative to Alternative D (No Action) (see Table 4.3.2). The greatest potential increase is in Gilsonite development. Projected impacts relative to phosphate development in low site probability areas actually drops by almost 4% under Alternative A.

4.3.2.4.3. ALTERNATIVE B

Under Alternative B, oil and gas leasing would be open under standard lease terms or with timing and controlled surface use conditions on approximately 647,000 acres within the high site probability areas and approximately 1,172,000 acres within the low site probability areas (see Table 4.3.1). Based on projections of the numbers of wells and the size of each well, approximately 19,000 acres would be subject to surface and subsurface disturbance. The majority of this disturbance (approximately 15,100 acres) would be within the Monument Butte RFD area, with approximately 3,600 acres in the East and West Tavaputs and Altamont areas, and small acreages in the remaining Tabiona and Manila areas. Assuming that disturbance is equally likely in high and low site probability areas, and that disturbance in these areas would be related to the overall disturbance relative to total land area, under Alternative B the estimated acreage of disturbance in the high site probability zones is approximately 54,600 acres, with more than two-thirds of this disturbance in the Monument Butte RFD area (see Table 4.3.2). The greatest increase in acreage of potential disturbance relative to Alternative D (No Action) is in the Monument Butte and East Tavaputs RFD areas, involving an additional 200 acres potentially subject to disturbance in each area. Estimated acreage of disturbance in the low site probability zones is approximately 7,100 acres under Alternative B (see Table 4.3.3).

Alternative B reflects an approximately 8% overall increase in oil and gas (including CBNG) surface-disturbing activities in the high cultural resource site probability zones relative to Alternative D (No Action). Relative to Alternative D (No Action), disturbance within high site probability zones would increase by 4-50% in several RFD areas (see Table 4.3.2). The greatest percent increases (50%) are in the Altamont and Manila areas, though the actual acreage increased is only 1 acre in each area. Based on an estimation of site counts, Alternative B is likely to result in encountering approximately 41 sites within high site probability zones and 10 sites in low site probability zones, or approximately 51 sites total, an increase of only 1 site over Alternative D (No Action) (see Table 4.3.4). It is important to note that these are the numbers of sites that are likely to be potentially encountered by development projects, and that they would not necessarily be disturbed.

In terms of development for oil shale, mineral materials, phosphate, and Gilsonite, Alternative B results in the same potential impacts as Alternative A (see Table 4.3.1). However, potential development by phosphate exploration and recovery decreases by approximately 4% relative to

the Alternative D (No Action). The greatest potential increase in high site probability areas is in Gilsonite development.

4.3.2.4.4. ALTERNATIVE C

Under Alternative C, oil and gas leasing would be open under standard lease terms or with timing and controlled surface use conditions on approximately 570,000 acres within the high site probability areas and approximately 986,000 acres within the low site probability areas (see Tables 4.3.2 and 4.3.3). Based on projections of the numbers of wells and the size of each well, approximately 18,800 acres would be subject to surface and subsurface disturbance. The majority of this disturbance (approximately 15,000 acres) would be within the Monument Butte RFD area, with approximately 3,500 acres in the East and West Tavaputs and Altamont areas, and small acreages in the remaining Tabiona and Manila areas. Assuming that disturbance is equally likely in high and low site probability areas, and that disturbance in these areas would be related to the overall disturbance relative to total land area, under Alternative C the estimated acreage of disturbance in the high site probability zones is approximately 5,768 acres, with more than two-thirds of this disturbance in the Monument Butte RFD area (see Table 4.3.2). Estimated acreage of disturbance in the low site probability zones is approximately 7,750 acres under Alternative B (see Table 4.3.3).

Alternative C reflects an approximately 15% overall increase in oil and gas (including CBNG) surface-disturbing activities in the high cultural resource site probability zones relative to Alternative D (No Action) and an approximately 0.5% decrease in disturbance in low cultural resource site probability zones. Relative to Alternative D (No Action), disturbance in high cultural resource site probability zones would increase by 12%–50% in several RFD areas, but would decrease by approximately 1% in the West Tavaputs RFD area. The greatest percent increases (50%) are in the Altamont and Manila areas, though the actual acreage increase is only 1 acre in each area. Alternative B is likely to result in encountering approximately 44 sites within high site probability zones and 11 sites in low site probability zones, or approximately 55 sites total (see Table 4.3.4).

Based on the numbers of acres potentially open to development for oil shale, mineral materials, phosphate, and Gilsonite, Alternative C results in an increase of 4% in Gilsonite development in high cultural resource site probability zones relative to Alternative D (No Action) and decreases between 2 and 25% for other minerals (particularly phosphate) development (see Table 4.3.1).

4.3.2.4.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), oil and gas leasing would be open under standard lease terms or with timing and controlled surface use conditions on approximately 534,000 acres within the high site probability areas and approximately 859,000 acres within the low site probability areas (see Tables 4.3.2 and 4.3.3). Based on projections of the numbers of wells and the size of each well, approximately 18,212 acres would be subject to surface and subsurface disturbance. The majority of this disturbance (approximately 14,500 acres) would be within the Monument Butte RFD area, with approximately 3,400 acres in the East and West Tavaputs and Altamont areas, and small acreages in the remaining Tabiona and Manila areas. Assuming that disturbance is

equally likely in high and low site probability areas, and that disturbance in these areas would be related to the overall disturbance relative to total land area, under Alternative D (No Action) the estimated acreage of disturbance in the high site probability zones is approximately 5,100 acres, with more than two-thirds of this disturbance in the Monument Butte RFD area (see Table 4.3.2). Alternative D (No Action) projects the lowest amount of disturbance in high cultural resource site probability zones of any of the alternatives, but the difference between Alternative D (No Action) and Alternative C (which has the highest amount of proposed disturbance) is less than 750 acres. Estimated acreage of disturbance in the low site probability zones is approximately 7,800 acres under Alternative D (No Action) (see Table 4.3.3). Combined, the disturbance is slightly lower than projected under Alternative C. Alternative D (No Action) is likely to result in encountering approximately 38 sites within high site probability zones and 12 sites in low site probability zones, or approximately 50 sites total (see Table 4.3.4).

Based on the numbers of acres potentially open to oil shale, mineral materials, phosphate, and Gilsonite development, Alternative D (No Action) has overall less projected oil shale, phosphate, and Gilsonite development in high cultural resource site probability zones relative to the other alternatives (i.e., the Proposed RMP and Alternatives A and B), and slightly more mineral materials and phosphate development relative to Alternatives C and E (see Table 4.3.1).

4.3.2.4.6. ALTERNATIVE E

Under Alternative E, oil and gas leasing would be open under standard lease terms or with timing and controlled surface use conditions on approximately 528,405 acres within the high site probability areas and approximately 971,000 acres within the low site probability areas (see Tables 4.3.2 and 4.3.3). Based on projections of the numbers of wells and the size of each well, approximately 18,000 acres would be subject to surface and subsurface disturbance over the short-term. The majority of this disturbance (approximately 14,000 acres) would be within the Monument Butte-Red Wash RFD area, with approximately 2,350 acres in the East and West Tavaputs and Altamont-Bluebell areas, and the remainder of disturbances within the Tabiona-Ashley Valley and Manila-Clay Basin areas.

Alternative E reflects an approximately 11.7% overall increase in oil and gas (including CBNG) surface-disturbing activities in the high cultural resource site probability zones relative to Alternative D (No Action) and an approximately 1.7% decrease in disturbance in low cultural resource site probability zones. Relative to Alternative D (No Action), disturbance in high cultural resource site probability zones would increase by 50% in the Altamont-Bluebell and by 17% in the Monument Butte-Red Wash RFD areas. However, in the Altamont-Bluebell area, the actual net increase would only by 1 acre. Alternative E is likely to result in encountering approximately 42 sites within high site probability zones and 11 sites in low site probability zones, or approximately 53 sites total (see Table 4.3.4).

Based on the numbers of acres potentially open to development for oil shale, tar sands, conventional oil and gas, mineral materials, phosphate, and Gilsonite, Alternative E would have decreases in minerals development of between 2% and 34% in high cultural resource site probability zones relative to Alternative D (No Action) (see Table 4.3.1).

4.3.2.4.7. SUMMARY OF MINERALS DECISIONS

Overall, based on the numbers of acres open for development and consideration of the likely lease areas, Alternative E provides the greatest benefit to cultural resources from all action alternatives, followed by Alternative C. Alternatives C and E would result in a lowest increase in potential for conflicts with cultural resource sites. The Proposed RMP and Alternatives A and B have the greatest number of acres subject to potential disturbance of any of the alternatives. Alternative D (No Action) does have the least number of total acres affected, but the Hill Creek Extension (188,500 acres) was not leased in the Book Cliffs RMP and therefore is not included in the total acreage calculations of Alternative D (No Action), which accounts for the difference. Overall, the relative increases to Alternative D (No Action) are generally around 15% (except where RFD acreage areas are small, and net increases of a few acres increases the overall percentages dramatically, such as in the Altamont-Bluebell area, where an increase of 1 acre results in a percent comparable with Alternative D (No Action) with an increase of 50%), and a small additional number of sites are likely to be identified and subject to avoidance, mitigation, or potential impact through inadvertent discovery. It remains important to reiterate that specific minerals development projects will undergo another level of analysis, and will therefore be subject to Section 106 review. Consequently, the potential for actual negative direct impacts to occur to cultural resources is low.

4.3.2.5. IMPACTS OF NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS DECISIONS ON CULTURAL RESOURCES

Management decisions to protect non-WSA wilderness characteristics would reduce the area in the VPA that would otherwise be vulnerable to surface development. Beneficial impacts of surface disturbance prohibitions to cultural resources would include a reduction in the likelihood of surface development, which would reduce the potential for unauthorized collection by exposing the site. Adverse impacts would result from resource protections that would prevent development-related detection of cultural sites. Discovery and pre-construction surveying of sites would increase the likelihood of site protection or scientific excavation, as well as prevent the degradation of sites from natural causes.

4.3.2.5.1. PROPOSED RMP

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would be protected. Management decisions include closing these areas to oil and gas leasing, limiting OHV travel to designated routes, closing to woodland product harvest and salvage, and designating these areas for management under VRM II class objectives. Impacts would include those described above. Compared to Alternatives, A, B, C, and D, this alternative would have greater impacts upon cultural resources, as there would be more restrictions on surface development.

4.3.2.5.2. ALTERNATIVES A–D

Under Alternatives A–D, non-WSA lands with wilderness characteristics would not be protected. Impacts to cultural resources would be dependant upon management prescriptions for other resources.

4.3.2.5.3. ALTERNATIVE E

Under Alternative E, 277,596 acres of non-WSA lands with wilderness characteristics would be protected. Management decisions to protect non-WSA wilderness characteristics would include closing these areas to oil and gas leasing and mineral material disposal, closing the areas to cross-country OHV travel, prohibiting vegetation treatments, prohibiting woodland harvesting and salvage, realty actions that exclude these areas from ROW consideration, and designating these areas for management under VRM I Class objectives. Impacts would be similar to those in the Proposed RMP, except the acreage affected would be greater and Alternative E protections are somewhat more restrictive. Compared to Alternative D (No Action), this alternative would have greater (beneficial) impacts upon cultural resources, as there would be more restrictions on surface development.

4.3.2.6. IMPACTS OF RANGELAND MANAGEMENT DECISIONS ON CULTURAL RESOURCES

Because of existing federal laws protecting cultural resources, the effect of rangeland management decisions on cultural resources within the VPA are likely to be minimal. The primary short- and long-term impacts to cultural resources would occur as result of surface and subsurface disturbance related to mechanical, chemical, and fire-related vegetation treatments, fencing, installation of guzzlers, creation of reservoirs, development of wells and springs, and installation of water pipelines. Although it is not possible to estimate the precise placement of these treatments and constructions, it is possible to estimate potential numbers of cultural resources involved in the treatments and constructions based on the acres associated. In general, increased acres of vegetation treatment would increase the possibility of involving cultural resources and raise the potential for adverse impacts. All rangeland improvements projects would require adherence to Section 106 of the NHPA and agency guidelines for the identification, evaluation, and protection of important cultural resource sites. As such, negative impacts to cultural resources from proposed rangeland improvements can either be avoided or mitigated.

Short and long-term indirect effects on cultural resources from rangeland improvement decisions are limited. It is anticipated that the primary negative indirect impact would be to increase the potential for concentrated trampling of cultural resource sites located in areas adjacent to fencing. As cattle, sheep, or other grazers walk back and forth along fence lines, their repeated footsteps typically wear entrenched trails that may pass through archaeological sites, and denude areas of vegetation thereby increasing erosion that would result in scouring or sheet washing of cultural resource sites in adjacent areas.

Utilizing the acreages for vegetation treatment and the acreages produced by the disturbance assumptions for fencing, pipelines, guzzlers, and wells, estimates of the numbers of acres proposed for the various actions and the probable numbers of cultural resource sites present were

produced for the analysis (Table 4.3.5). Because each type of action has different chances of landing in high, medium, or low cultural resource site probability zones, different estimates for numbers of sites per square mile were used for each proposed action. Vegetation treatments, fences, and pipelines are likely to cross both high and low site probability zones. Thus, for the analysis an average number of 2.9 sites per square mile (midway between the high and the low estimates) were utilized for these types of actions. Guzzlers and wells, while not necessarily directly over natural sources of water, are often located near natural water sources. Cultural resource sites are much more likely to be present near natural water sources, so a high estimate of 4.87 sites per square mile were utilized for these actions. While it must be understood that these averages are nothing more than conservative estimates, they provide a means of assessing the probable numbers of cultural resource sites that may be in an area subject to vegetation treatment, fencing, guzzlers, etc.

Table 4.3.5. Estimated Acres and Potential Cultural Resource Sites Associated with Rangeland Constructions and Vegetation Treatments by Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
From Rangeland Constructions						
Fencing	69.0	69.0	369	129	65	129
Acres	34.25	34.25	184.25	64.5	32.5	64.5
Pipeline	37.5	37.5	51	29.5	35	29.5
Acres	37.5	37.5	51	29.5	35	29.5
Subtotal Acres	71.75	71.75	235.25	94	67.5	94
Estimated Sites*	0	0	1	0	0	0
Guzzlers	812	812	1165	811	775	811
Acres	812	812	1165	811	775	811
Wells	51	51	78	87	74	87
Acres	51	51	78	87	74	87
Subtotal Acres	863	863	1243	898	849	898
Estimated Sites**	7	7	9	7	6	7
Total Acres	934.75	934.75	1478.25	992	916.5	992
Percent Change	2.0%	2.0%	61.3%	8.2%	0.0%	8.2%
Total Estimated Sites	7	7	10	7	6	7
From Vegetation Treatments						
Acres	34,640	34,640	50,900	45,860	40,390	45,860
Percent Change	-14.2%	-14.2%	26.0%	13.5%	0.0%	13.5%
Estimated Sites*	157	157	231	208	183	208

*Utilizes a moderate site density estimate of 2.9 sites/square mile
**Utilizes a high site density estimate of 4.87 sites/square mile

4.3.2.6.1. PROPOSED RMP

The level of potential surface and subsurface disturbance associated with these facilities under the Proposed RMP include 34,640 acres of vegetation treatment, 68.5 miles of fencing, 37.5 miles of water pipeline, 51 well/spring developments, and 812 guzzler or reservoir projects.

Relative to Alternative D (No Action), the current management situation, this action includes minor increases in the acres affected by rangeland constructions, with no significant increase in the numbers of sites potentially involved. Increases from guzzlers and wells are also minor, with only potentially one or a few additional sites involved. Vegetation treatments would decrease by about 14% under this alternative relative to Alternative D (No Action), and would likely involve approximately 157 sites, or slightly fewer than under Alternative D (No Action). Fencing, pipelines, guzzlers, and wells are likely to involve approximately 7 sites, roughly comparable to Alternative D (No Action).

4.3.2.6.2. ALTERNATIVE A

Alternative A would be the same as the Proposed RMP. As such, potential impacts under Alternative A would be the same as those described in Section 4.3.2.5.1.

4.3.2.6.3. ALTERNATIVE B

Under Alternative B 50,900 acres of would be subject to vegetation treatment, 368.5 miles of fencing would be installed, 51 miles of water pipeline would be installed, 78 well/spring developments would be undertaken, and 1,165 guzzler or reservoir projects would be completed. These acreages, miles, and numbers of facilities reflect an approximately 61% increase over the acreages proposed under Alternative D (No Action), the current management situation. Vegetation treatments increase by about 26% and are likely to involve approximately 230 sites, higher than under any alternative. Fencing, pipelines, guzzlers, and wells are likely to involve approximately 10 sites, slightly higher than Alternative D (No Action).

4.3.2.6.4. ALTERNATIVE C

Under Alternative C a total of 45,860 acres of would be subject to vegetation treatment, 129 miles of fencing would be installed, 29.5 miles of water pipeline would be installed, 87 well/spring developments would be undertaken and 811 guzzler or reservoir projects would be completed. These acreages, miles, and numbers of facilities reflect an approximately 8% increase over the acreages proposed under Alternative D (No Action), the current management situation. Vegetation treatments are likely to involve approximately 208 sites, which is less than Alternatives B and E, but higher than the Proposed RMP and Alternatives A and D (No Action). Fencing, pipelines, guzzlers, and wells are likely to involve approximately 7 sites, roughly comparable to Alternative D (No Action).

4.3.2.6.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action) a total of 40,390 acres of would be subject to vegetation treatment, 65 miles of fencing would be installed, 35 miles of water pipeline would be installed, 74 well/spring developments would be undertaken and 775 guzzler or reservoir projects would be completed. Vegetation treatments are likely to involve approximately 180 sites, the second-fewest of any alternative. Fencing, pipelines, guzzlers, and wells are likely to involve approximately 6 sites, roughly comparable to the other alternatives.

4.3.2.6.6. ALTERNATIVE E

Alternative E would proposed the same management decisions as those under Alternative C, with similar impacts as discussed under that alternative.

4.3.2.6.7. SUMMARY OF RANGELAND MANAGEMENT DECISIONS

Overall, the Proposed RMP and Alternatives A and D (No Action) are likely to have the lowest potential for negative impacts to cultural resources under any alternative. The Proposed RMP and Alternative A would have the lowest number of potential acres of vegetation treatment, and second lowest disturbance for fencing and pipelines. Alternative D (No Action) has the lowest number of sites potentially involved in guzzler or spring developments. The Proposed RMP and Alternative A have the lowest number of sites potentially involved in vegetation treatments, and an overall decrease of almost 26 sites potentially involved in such treatments relative to Alternative D (No Action). Thus, direct and indirect effects are likely to be lowest for these alternatives. Alternatives C and E would have a slightly greater increase in acreages and sites involved. Alternative B would have the greatest increase in numbers of sites involved and is the alternative most likely to pose the greatest potential for direct and indirect negative impacts to cultural resources. However, due to the additional level of analysis required for compliance with Section 106 of the NHPA and agency regulations, the potential for adverse impacts to cultural resources would be low

4.3.2.7. IMPACTS OF RECREATION DECISIONS ON CULTURAL RESOURCES

Direct effects to cultural resources resulting from recreation decisions are related to the level of surface and subsurface disturbance associated with recreational development and use and with the degree of increased human activity associated with said development and use. Increased human activity in areas where cultural resources are present also tends to correspond with increased levels of vandalism and looting of said resources. In both the short- and the long-term, the greater the level of surface and subsurface disturbance associated with recreational development and use, the greater is the potential that cultural resources would be adversely impacted. Concomitantly, the greater the level of human activity, the greater is the potential for cultural resources within a recreational area to be adversely impacted by the shear volume of individuals walking over or visiting sites. Human activity, however, can occur in a managed setting, where recreational areas are developed and in an unmanaged setting where recreational use occurs as a result of other management decisions.

Additional long-term direct effects on cultural resources include the physical alteration or elimination of archaeological sites as they are mitigated through data recovery or other on-site means when avoidance of the sites is not possible for recreational development and use, as determined through the Section 106 process. The net effect of mitigating multiple sites in a given area when avoidance is not possible is the gradual alteration, and eventual elimination, of the overall archaeological record within the developed area. It should be noted, however, that mitigation of archaeological sites does have a limited positive effect in that new scientific knowledge of prehistoric and historic land uses within an area may be obtained in this manner. Other long-term direct impacts may include increases in levels of trampling and vandalism associated with increased human activity in given recreational areas. It should be noted,

however, that regulated recreational use of areas tends to provide better protection to cultural resources than does unregulated use.

While sites within the area of potential direct effects would have been identified and either avoided or mitigated as part of specific development projects, sites not located within the footprints of undertakings are also vulnerable to negative impacts as human traffic in the general area increases. Potential indirect effects on cultural resources under all recreation alternatives include vandalism and looting of cultural resource sites related to increased human activity within areas of recreational development. Other indirect negative impacts related to increased human activity in given areas include trampling of sites simply through the shear volume of individuals visiting sites. Additional potential indirect effects include increased erosion on cultural resource sites located in the vicinity of trails, campgrounds, and other recreational facilities where vegetation cover has been reduced or eliminated and/or water runoff is not appropriately controlled.

4.3.2.7.1. PROPOSED RMP

Under the Proposed RMP, 133,560 acres would be specifically managed as SRMAs in the following areas: Blue Mountain (42,729 acres); Browns Park (18,490 acres); Red Mountain-Dry Fork (24,259 acres); Nine Mile Canyon (44,168 acres); Pelican Lake (1,014 acres); Fantasy Canyon (69 acres) and White River (2,831 acres). These areas contain large numbers of acres within high cultural resource site probability zones (Blue Mountain-approximately 26,000 acres; Browns Park-approximately 18,490 acres; Nine Mile Canyon-approximately 32,000 acres; White River-approximately 2,831). Consequently, there is very good potential for cultural resource sites to occur in these zones, and negative impacts would continue to occur. However, the designation of a SRMA allows for the potential to manage these impacts, in contrast to the no-action alternative where for the most part these areas are used for recreation with little or no management. The proposed designations reflect a substantial increase of 45,657 acres beyond the current SRMA management (87,928 acres).

All SRMAs would be managed according to the philosophy of multiple-use. Additionally, 400 miles of non-motorized trails would be improved and/or developed, and restrictions would be placed on the use of OHVs for retrieval of big game off designated routes. A total of 800 miles of motorized OHV trails would be developed under this alternative. Also under the Proposed RMP, a management plan would be prepared for the Fantasy Canyon SRMA, and this plan would include prescriptions for the protection of cultural resources with high scientific, experimental, conservation, and traditional values, and the interpretation of cultural resources with high public use values. Under the Proposed RMP, new cabin construction would be allowed within the VPA. The Proposed RMP incorporates substantially greater numbers of acres into SRMAs than does Alternative D (No Action). Alternative D (No Action) generally allows for unrestricted and unconfined use of BLM lands for recreation. While the designation of SRMAs generally includes surface and subsurface disturbance related to recreational development and does increase human activity in given areas, such designations and associated development are subject to compliance with cultural resource laws, as noted previously. These designations also require the preparation of management plans that must include prescriptions for the protection of important cultural resource values. As such, even though the Proposed RMP incorporates greater

numbers of acres into SRMAs and miles into non-motorized and motorized trails, these designations include protocols designed to protect cultural resources.

4.3.2.7.2. ALTERNATIVE A

Under Alternative A, approximately 499,588 acres would be specifically managed as SRMAs in the following areas: Blue Mountain (42,758 acres); Book Cliffs (273,486 acres); Browns Park (52,720 acres); Pelican Lake (1,014 acres); Red Mountain-Dry Fork (24,259 acres) Nine Mile Canyon (81,168 acres); and White River (24,183 acres). These areas contain large numbers of acres within high cultural resource site probability zones (Blue Mountain-approximately 26,000 acres; Book Cliffs-approximately 197,000 acres; Browns Park-approximately 38,000 acres; Nine Mile Canyon-approximately 32,000 acres; White River-approximately 20,000 acres). Consequently, there is very good potential for cultural resource sites to occur in these zones, and negative impacts would continue to occur. However, the designation of a SRMA allows for the potential to manage these impacts, in contrast to the no-action alternative where for the most part these areas are used for recreation with little or no management. The proposed designations reflect a significant increase, approximately 455,000 acres over the current acres (18,474) represented by SRMAs in the area. All SRMAs would be managed according to the philosophy of multiple-use.

4.3.2.7.3. ALTERNATIVE B

Improvement, development, and/or restriction of non-motorized trails would be the same as under the Proposed RMP. Under Alternative A, a management plan would be prepared for the Fantasy Canyon SRMA, and this plan would include prescriptions for the protection of cultural resources with high scientific, experimental, conservation, and traditional values, and the interpretation of cultural resources with high public use values. Under Alternative A, new cabin construction would be allowed within the VPA. Alternative A incorporates substantially greater numbers of acres into SRMAs than does Alternative D (No Action). Alternative D (No Action) generally allows for unrestricted and unconfined use of BLM lands for recreation. While the designation of SRMAs generally includes surface and subsurface disturbance related to recreational development and does increase human activity in given areas, such designations and associated development are subject to compliance with cultural resource laws, as noted previously. These designations also require the preparation of management plans that must include prescriptions for the protection of important cultural resource values. As such, even though Alternative A incorporates greater numbers of acres into SRMAs and miles into non-motorized and motorized trails, these designations include protocols designed to protect cultural resources.

As with the Proposed RMP, direct effects to cultural resources resulting from recreation decisions under Alternative B are related to the level of surface and subsurface disturbance associated with recreational development and use and with the degree of increased human activity associated with said development and use. Under Alternative B, a total of 86,454 acres would be managed within SRMAs: 44,181 acres in Nine Mile Canyon, 24,259 acres in Red Mountain-Dry Fork, 1,014 would be managed for Pelican Lake, and 17,000 acres in Browns Park. All designated SRMAs would be managed according to the philosophy of multiple-use.

Additionally under Alternative B, no non-motorized or motorized trails would be improved or developed, and OHV use off of designated trails would not be allowed for big game retrieval. Under Alternative B, no management plan would be prepared for the Fantasy Canyon SRMA, and unrestricted and unconfined recreational use of the Book Cliffs would continue as currently managed. Under Alternative B, new cabin construction would be allowed within the VPA in specific areas.

Alternative B is roughly comparable to Alternative D (No Action) in terms of acres managed as SRMAs and miles developed for non-motorized and motorized trails. Alternative B generally allows for unrestricted and unconfined use of BLM lands for recreation. As noted above, such allowances tend to increase adverse impacts to cultural resources as compared to areas that are actively managed for recreational uses.

4.3.2.7.4. ALTERNATIVE C

Under Alternative C, 522,604 acres would be specifically managed as SRMAs in the following areas: Book Cliffs (273,486 acres); Fantasy Canyon (69 acres); Browns Park (52,720 acres); Red Mountain-Dry Fork (24,259 acres); Nine Mile Canyon (81,168 acres), White River (47,130 acres), Blue Mountain (42,758 acres), and Pelican Lake (1,014 acres). These areas contain large numbers of acres within high cultural resource site probability zones (Blue Mountain-approximately 26,000 acres; Book Cliffs-approximately 196,000 acres; Browns Park-approximately 38,000 acres; Nine Mile Canyon-approximately 32,000 acres, White River-approximately 40,000 acres, all of the acreages in Fantasy Canyon are considered low site probability zones). All designated SRMAs would be managed according to the philosophy of multiple-use, and unlike under other alternatives, portions of the Book Cliffs SRMA would be open to oil and gas development under Alternative C. Under Alternative C, 400 miles of non-motorized trails would be improved and/or developed, and restrictions would be placed on the use of OHVs for retrieval of big game off designated routes. No motorized OHV trails would be developed under this alternative. Under Alternative C, no new cabin construction would be allowed within the VPA.

Compared to the other alternatives, Alternative C is roughly comparable to the Proposed RMP although slightly fewer acres would be managed as SRMAs under the Proposed RMP. None of the 69 acres proposed for the Fantasy Canyon SRMA fall within high site probability zones. The proposed designations reflect a substantial increase of acres over the current acres represented by SRMAs in the area.

4.3.2.7.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), the impacts on SRMAs would be the same as discussed above under Alternative B because the management decisions are the same. Additionally under Alternative D (No Action), 55 miles of non-motorized trails would be improved or developed. The Red Mountain-Dry Fork trail would be managed as a motorized OHV trail. No specifications are given for OHV use off designated trails for the retrieval of big game. Under Alternative D (No Action), development of a management plan for the Fantasy Canyon SRMA is unspecified as is the management of Blue Mountain as an SRMA. In general, Alternative D (No

Action) would allow for unrestricted and unconfined recreational use of most areas within the VPA. Under Alternative D (No Action), management of new cabin construction is unspecified.

4.3.2.7.6. ALTERNATIVE E

Alternative E recreation decisions would be the same as those described under Alternative C, with similar impacts on cultural resources, except that approximately 157,018 acres within the proposed SRMAs would be managed to protect non-WSA areas with wilderness characteristics, and for primitive, non-motorized/non-mechanized recreational opportunities. These protected areas would be managed under VRM I Class objectives, closed to cross-country OHV use, and closed to private wood cutting and seed collection. The impacts on cultural resources from non-WSA wilderness area protection within the proposed SRMAs would be beneficial in the long term because of the prohibitions and limitations on surface disturbances within these areas (to protect wilderness values) that would also protect cultural resources from surface disturbances.

Compared to Alternative D (No Action), this alternative would be more beneficial to cultural resources because more protection would be applied to cultural resources within the SRMAs than under Alternative D (No Action).

4.3.2.7.7. SUMMARY OF RECREATION DECISIONS

Alternative E would have the greatest potential for positive impacts to cultural resources because of the additional protection applied to the resource from non-WSA wilderness area protection. Alternatives C and A would provide a high degree of protection through the relatively large number of acres proposed as SRMAs, when compared to Alternative D (No Action). Alternative B would be comparable to Alternative D in the level of protection applied to cultural resources. Although there is a potential for direct and indirect negative impacts from increased recreation in the areas proposed for SRMA designation, the management of these areas under specific plans to protect SRMA resources would be beneficial to cultural resources in the long term.

4.3.2.8. IMPACTS OF SPECIAL DESIGNATION DECISIONS ON CULTURAL RESOURCES

Significant impacts to cultural resources from special designation decisions are direct, long-term, and generally beneficial. These positive impacts are related to the restriction of surface-disturbing activities and limitations placed on land uses within areas of special designation. The reduction, control, or elimination of surface-disturbing activities, such as oil and gas development and OHV travel, within large geographic areas affords significant protection to cultural resource sites and insures preservation of the important scientific, experimental, conservation, and traditional use values of these resources. Long-term direct positive impacts on cultural resources from special designation decisions include increased protection of cultural resource use values through the overall reduction of surface-disturbing activities within some of the specially designated areas. While a direct one-to-one correlation of acres disturbed to cultural resources encountered does not exist, relative ratios of higher numbers of acres disturbed to higher numbers of sites encountered and fewer acres disturbed to fewer sites encountered can be assumed. Thus, with the specific controls and restrictions placed on surface-disturbing activities under some of the special designations, the long-term net effect would be an overall decrease in

the numbers of sites subject to impacts, including those resulting from mitigation where avoidance is not possible. Furthermore, the designations may contribute to the preservation of site settings and view sheds, spiritual settings and values, and cultural resource site feelings and association and conservation of areas of tribal importance. There are no measurable short-term or long-term indirect effects on cultural resources resulting from special designation decisions.

4.3.2.8.1. PROPOSED RMP

Under the Proposed RMP, the following areas (and acreages) are proposed for ACEC designation in addition to (or differing from) the current designations: Browns Park (18,490 acres), Lears Canyon (1,375 acres), Nine Mile Canyon (44,168 acres), Pariette (10,437 acres), Red Creek Watershed (24,475 acres), Lower Green River Corridor (8,470 acres)and the Red Mountain-Dry Fork Complex (24,285 acres). All of these areas contain between 10,000 and 35,000 acres each within the zones of high potential for cultural resource sites. The acreages identified for each specially designated area represent increases over existing management acreages for established areas of special designation. Further, recommendation for designation of the Upper Green River and the Lower Green River as wild and scenic rivers affords additional protection to cultural resources adjacent to said river segments as surface-disturbing activities in these adjacent areas would be restricted to insure maintenance of those characteristics rendering these river segments eligible for special designation. Compared to Alternative D (No Action), the Proposed RMP provides increased benefit to cultural resources.

4.3.2.8.2. ALTERNATIVE A

Under Alternative A, the following areas (and acreages) are proposed for ACEC designation in addition to (or differing from) the current designations: Bitter Creek (68,834 acres), Browns Park (52,721 acres), Coyote Basin (87,743), Lears Canyon (1,375 acres), Lower Green River (10,170 acres), Nine Mile Canyon (48,000 acres), Pariette (10,437 acres), Red Creek Watershed (24,475 acres), Red Mountain-Dry Fork Complex (24,285 acres), and White River (17,810 acres). All of these areas contain between 10,000 and 35,000 acres each within the zones of high potential for cultural resource sites. The acreages identified for each specially designated area represent increases over existing management acreages for established areas of special designation. Further, recommendation for designation of two segments of the White River, one segment of the Upper Green River, and one segment of the Lower Green River as wild and scenic rivers affords additional protection to cultural resources adjacent to said river segments as surface-disturbing activities in these adjacent areas would be restricted to ensure maintenance of those characteristics rendering these river segments eligible for special designation. Also under Alternative A, the Lower Green River found suitable for designation as wild and scenic would be managed as such. The segment of the Green River between Little Hole and the Colorado State Line would be managed as a wild and scenic river with a classification of scenic until such time as Congress makes as decision as to whether or not to include this river segment in the national Wild and Scenic River system. Compared to Alternative D (No Action), Alternative A provides increased benefit to cultural resources.

4.3.2.8.3. ALTERNATIVE B

Under Alternative B, the following areas (and acreages) are proposed for ACEC designation in addition to (or differing from) the current designations: Browns Park (18,474 acres), Coyote Basin (47,659 acres), Lears Canyon (1,375 acres), Nine Mile Canyon (44,181 acres), Pariette (10,437 acres), Red Creek (24,475 acres), and Red Mountain-Dry Fork Complex (24,285 acres). This constitutes a reduction in number of separate areas defined relative to the Proposed RMP and it does not designate Lower Green River as does Alternative D (No Action). Only the Upper and Lower Green would be recommended for designation as a WSR.

4.3.2.8.4. ALTERNATIVE C

Under Alternative C, the following acreages are proposed for ACEC designation: Bitter / P.R. Spring (147,425 acres), Browns Park (52,721 acres), Coyote Basin-Coyote Basin (26,590) Coyote Basin-Kennedy Wash (10,670 acres), Coyote Basin-Myton Bench (36,670 acres), Coyote Basin-Shiner (21,957 acres), Coyote Basin-Snake John (28,274 acres), Four Mile Wash (50,280 acres), Lears Canyon (1,375, Lower Green River Expansion (10,170 acres), Main Canyon (100,915 acres), Middle Green River (6,768 acres), Nine Mile Canyon (81,168 acres), Pariette (10,437 acres), Red Creek (24,275 acres), Red Mountain-Dry Fork Complex (24,285 acres), White River (47,130 acres). Between 1,000 and 75,000 acres within high cultural resource site probability zones are present in these proposed areas. Unlike decisions under the other three alternatives, decisions under Alternative C would also include the designation of 50,280 acres of land in the Four Mile Wash area as and ACEC/ONA, approximately 7,000 of these acres are within high cultural resource site probability zones.

Under Alternative C three segments of the White River would be recommended for wild and scenic designations, and one segment each of Nine Mile Creek, Argyle Creek, and the Middle Green River would be recommended for wild and scenic designation with a classification of recreational. Additionally, one segment each of Evacuation Creek, Nine Mile, and Bitter Creek would be recommended for wild and scenic designation with a classification of scenic. Further, the segment of the Green River between Little Hole and the Colorado State Line would be managed as a wild and scenic river with a classification of scenic until such time as Congress makes as decision as to whether or not to include this river segment in the national Wild and Scenic River system.

The overall nature of the direct effect of special designation decisions on cultural resources under Alternative C is similar to but greater than that described for the Proposed RMP and Alternatives A and B. Under Alternative C, significantly higher numbers of acres would be designated as special status and would be subject to the restrictions and controls on surface and subsurface disturbance and land use that provide positive protective benefits to cultural resources within the designated areas. Under Alternative C, approximately 195,000 more acres within zones of high probability for cultural resource sites would be protected relative to the Proposed RMP and approximately 210,000 more acres would be protected relative to Alternatives B and D.

4.3.2.8.5. ALTERNATIVE D (NO ACTION)

The net positive direct effect of proposed ACEC designation on cultural resources under Alternative D (No Action) is substantially less than those under all action alternatives. Under Alternative D (No Action), no new special area designations would be made. Only those existing ACECs of the Lower Green River west bank (8,470 acres), Browns Park (52,721 acres), Red Mountain-Dry Fork (24,285 acres), Nine Mile Canyon (44,181 acres), Pariette (10,437 acres), Red Creek (24,475 acres) and Lears Canyon (1,375 acres) would be managed according to special designation management restrictions and controls on surface-disturbing activities and land uses. Also under Alternative D (No Action), the Lower Green River found suitable for designation as wild and scenic would be managed as such. The segment of the Green River between Little Hole and the Colorado State Line would be managed as a wild and scenic river with a classification of scenic until such time as Congress makes as decision as to whether or not to include this river segment in the national Wild and Scenic River system.

4.3.2.8.6. ALTERNATIVE E

The special designation decisions and impacts on cultural resources would be similar to those discussed under Alternative C, except that the approximately 197,171 acres of non-WSA areas with wilderness characteristics that lie within proposed ACECs would have protection measures as discussed above under Section 4.3.2.6.5 for Recreation. The impacts on cultural resources would be similar to those for SRMAs: the management decisions would substantial limit or prohibit surface disturbances within these areas in order to protect their wilderness values, which would also afford long term, beneficial protection to cultural resources. This alternative would have more beneficial impacts on cultural resources than Alternative D (No Action) because, as discussed under the Recreation above, more resource-protective surface disturbance prohibitions and limitations would be applied under Alternative E.

4.3.2.8.7. SUMMARY OF SPECIAL DESIGNATION DECISIONS

Overall, Alternative E has the greatest potential long-term direct and indirect benefit to cultural resources of all the alternatives. Alternative C has the second-greatest benefit, followed by the Proposed RMP, then Alternative B, and Alternative D (No Action).

4.3.2.9. IMPACTS OF TRAVEL DECISIONS ON CULTURAL RESOURCES

Travel decisions, such as the designation of areas open, limited, or closed to OHV travel and the designation of travel routes can impact cultural resources in a number of ways. Negative direct effects can result from construction of new roads and trails that would disturb archaeological sites, from allowing OHV travel in areas with cultural resource sites, or allowing motorized camping vehicles to travel off designated routes on a single path up to 300 feet to access an existing disturbed dispersed camp site, except in non-WSA lands with wilderness characteristics and WSA lands. Indirect effects can result from increased traffic in the area and the potential for the traffic along designated routes to develop into access to and subsequent travel over or even looting of nearby cultural resource sites.

However, there can also be benefits to cultural resources from travel decisions. Cultural resources located in areas closed for OHV use or with restrictions placed on OHV use would receive the greatest positive benefit by either eliminating or reducing the potential for travel-related damage to cultural resource sites by closing or re-routing travel ways around important cultural resource sites and restricting vehicular travel to those designated routes. Thus, with the specific controls and restrictions placed on travel activities under the travel decisions, the long-term net effect would be an overall decrease in the numbers of sites subject to impacts.

While there is not a one-to-one correlation between acreage of routes and exact numbers of cultural resources encountered, a basic ratio of acres of routes to sites encountered can be assumed such that the greater the acreage of disturbance the greater the potential for encountering cultural resources. For the purposes of analysis, areas of open, limited, or closed OHV travel were combined with zones of high and low cultural resource site probability to determine the probable numbers of acres potentially subject to negative impacts from OHV travel (Table 4.3.6). To determine potential impacts in areas where travel is limited to designated routes and motorized camping vehicles would be allowed to travel off designated routes on a single path up to 300 feet to access an existing disturbed dispersed camp site, except in non-WSA lands with wilderness characteristics and WSA lands, a 300-foot zone was established on either side of the designated routes for the Proposed RMP and each alternative, and the acreages within areas of high and low cultural resource site probability were calculated accordingly for the Proposed RMP and each alternative (Table 4.3.7). An estimation of 4.87 sites per square mile in high site probability zones and 0.93 sites per square mile in low site probability areas was then applied to estimate the number of potential cultural resource sites involved under each scenario. While it must be understood that these averages are nothing more than conservative estimates, they provide a means of assessing the probable numbers of cultural resource sites that may be in an area open to OHV travel (see Table 4.3.6) or within the 300-foot area allowed for recreation use (and potential indirect negative impacts) associated with allowing limited travel on designated routes (see Table 4.3.6).

Table 4.3.6. Estimated Numbers of Acres Open to OHV Travel and Limited OHV Travel in High and Low Cultural Resource-site Probability Zones, and Estimated Numbers of Cultural Resource Sites Potentially within Open OHV Travel Areas by Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Acres in High Site Probability Zones						
Open	236	236	236	236	251,120	236
% Change	-99.9%	-99.9%	-99.9%	-99.9%	0.0%	-99.9%
Potential Sites	2	2	2	2	1,911	2
Limited	587,212	587,212	592,986	478,924	355,539	469,497
% Change	65.2%	65.2%	66.8%	34.7%	0.0%	32.1%
Acres in Low Site Probability Zones						
Open	5,966	5,966	5,198	5,198	526,700	5,198
Percent Change	-98.9%	-98.9%	-99.0%	-99.0%	0.0%	-99.0%
Potential Sites	9	9	8	8	765	8

Table 4.3.6. Estimated Numbers of Acres Open to OHV Travel and Limited OHV Travel in High and Low Cultural Resource-site Probability Zones, and Estimated Numbers of Cultural Resource Sites Potentially within Open OHV Travel Areas by Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Acres in High Site Probability Zones						
Limited	1,058,746	1,058,746	1,066,916	875,740	532,876	858,904
% Change	98.7%	98.7%	100.2%	64.3%	0.0%	61.2%
Total Open Acreage	6,202	6,202	5,434	5,434	787,820	5,434
Total Potential Sites	11	11	10	10	2752	10

(Note: Potential sites for areas associated with limited travel are estimated on the next table)

Table 4.3.7. Estimated Acres and Potential Cultural Resource Sites Associated with Travel Routes and the 300-foot Travel Buffer by Alternative

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Within High Cultural Site Probability Zones						
Acres	49,554	49,554	49,370	46,604	68,852	44,800
% Change	-28.0%	-28.0%	-28.3%	-32.3%	0.0%	-34.9%
Potential Sites	377	377	376	355	524	339
Within Low Cultural Site Probability Zones						
Acres	71,748	71,748	71,746	69,102	91,699	68,279
% Change	-21.8%	-21.8%	-21.8%	-24.6%	0.0%	-25.5%
Potential Sites	104	104	104	100	133	99
Total Acres	121,302	121,302	121,116	115,706	160,551	113,079
% Change	-24.4%	-24.4%	-24.6%	-27.9%	0.0%	-29-6%
Total Potential Sites	481	481	480	455	657	438

4.3.2.9.1. PROPOSED RMP

Compared to the other action alternatives and to the current management situation, the Proposed RMP provides a much greater level of benefit to cultural resources within the VPA. The Proposed RMP provides for the limitation of travel to designated routes for 1,643,475 acres of land. Approximately 240 acres would remain open to OHV travel in high cultural resource site probability zones and approximately 6,000 acres would remain open in low cultural resource site probability zones, a nearly 100% decrease in the amount of acreage open to unrestricted travel within each site probability zone as compared to Alternative D (No Action) (see Table 4.3.6). Based on the estimates for sites/square mile described above, approximately 11 sites may be present in these open areas and would continue to see impacts that may be already occurring (see

Table 4.3.6). However, not all of these sites would necessarily continue to be impacted or would necessarily be newly impacted. The number of sites is also greatly reduced relative to the no-action alternative, which has approximately 2,700 sites within areas that are currently open to OHV travel.

Under the Proposed RMP, multiple areas would have travel restricted to existing routes. Approximately 121,300 acres of land are located in or allowing motorized camping vehicles to travel off designated routes on a single path up to 300 feet to access an existing disturbed dispersed camp site, except in non-WSA lands with wilderness characteristics and WSA landset of either side of existing routes (see Table 4.3.7). This represents an approximately 25% reduction in open area overall relative to Alternative D (No Action), with an approximately 28% reduction in open area within high cultural resource site probability zones (see Table 4.3.7). Based on reasonable projections of numbers of sites within high and low probability zones, this alternative would potentially expose approximately 480 cultural resource sites to ongoing impacts or potentially new impacts. However, this number is approximately 27% lower than the nearly 660 sites that are currently potentially subject to impacts.

4.3.2.9.2. ALTERNATIVE A

Alternative A would be the same as the Proposed RMP. As such, potential impacts from Alternative A are the same as those described in Section 4.3.2.8.1.

4.3.2.9.3. ALTERNATIVE B

Alternative B provides for the limitation of travel to designated routes for 1,659,901 acres of land currently open to unrestricted OHV travel, or a 99.5% decrease in areas open to travel. Approximately 240 acres would remain open to OHV travel in high cultural resource site probability zones and approximately 5,200 acres would remain open in low cultural resource site probability zones, a nearly 100% decrease in the amount of acreage open to unrestricted travel within each site probability zone (see Table 4.3.6). Based on the estimates for sites/square mile described above, approximately 10 sites may be present in these open areas and would continue to see impacts that may be already occurring (see Table 4.3.6). However, not all of these sites would necessarily continue to be impacted or would necessarily be newly impacted. The number of sites is also greatly reduced relative to Alternative D (No Action), which has approximately 2,700 sites within areas that are currently open to OHV travel.

Under Alternative B, multiple areas would have travel restricted to existing routes. Approximately 121,500 acres of land are located in or within 300 feet of either side of existing routes (see Table 4.3.7). This represents an approximately 25% reduction in open area overall relative to Alternative D (No Action), with an approximately 28% reduction in open area within high cultural resource site probability zones (see Table 4.3.7). Based on reasonable projections of numbers of sites within high and low probability zones, this alternative would potentially expose approximately 480 cultural resource sites to ongoing impacts or potentially new impacts. However, this number is approximately 27% lower than the nearly 660 sites that are currently potentially subject to impacts.

4.3.2.9.4. ALTERNATIVE C

Alternative C provides for the limitation of travel to designated routes for 1,353,529 acres of land currently open to unrestricted OHV travel, or a 99.5% decrease in areas open to travel. Approximately 240 acres would remain open to OHV travel in high cultural resource site probability zones and approximately 5,200 acres would remain open in low cultural resource site probability zones, a nearly 100% decrease in the amount of acreage open to unrestricted travel (see Table 4.3.6). Based on the estimates for sites/square mile described above, approximately 10 sites may be present in these open areas and would continue to see impacts that may be already occurring (see Table 4.3.6). However, not all of these sites would necessarily continue to be impacted or would necessarily be newly impacted. The number of sites is also greatly reduced relative to Alternative D (No Action), which has approximately 2,700 sites within areas that are currently open to OHV travel.

Under Alternative C, multiple areas would have travel restricted to existing routes. Approximately 115,700 acres of land are located in or within 300 feet of either side of existing routes (see Table 4.3.7). This represents an approximately 28% reduction in open area overall relative to Alternative D (No Action), with an approximately 32% reduction in open area within high cultural resource site probability zones (see Table 4.3.7). Based on reasonable projections of numbers of sites within high and low probability zones, this alternative would potentially expose approximately 455 cultural resource sites to ongoing impacts or potentially new impacts. However, this number is approximately 31% lower than the nearly 660 sites that are currently potentially subject to impacts under Alternative D (No Action).

4.3.2.9.5. ALTERNATIVE D (NO ACTION)

Travel decisions under Alternative D (No Action) are largely unspecified. No specific provisions exist for the repair, maintenance, upgrade, or realignment of roadways causing damage to resources. Designations do exist, however, for OHV use within the VPA under Alternative D (No Action). These designations provide the least protection to cultural resources of all the designations under the Proposed RMP and all alternatives. Under Alternative D (No Action) relative to the Proposed RMP and other alternatives, significantly more acres (787,859 acres) are open to unrestricted OHV use. Fewer acres (887,275 acres) are subject to restrictions on OHV use, and fewer acres (50,388 acres) are closed to OHV use. Based on the estimates of acreages and sites/square mile in high and low cultural resource site probability zones, under this alternative, approximately 2,750 sites are subject to potential new damage or to continuing damage from OHV use.

Under Alternative D (No Action), the largest number of travel routes and associated access areas would remain open. Approximately 161,500 acres of land are located in or within 300 feet of either side of existing routes (see Table 4.3.7). Based on reasonable projections of numbers of sites within high and low probability zones, this alternative would potentially expose approximately 660 cultural resource sites to ongoing impacts or potentially new impacts.

4.3.2.9.6. ALTERNATIVE E

Alternative E would have travel decisions similar to those proposed under Alternative C, with similar impacts on cultural resources: Open, cross-country OHV travel would be allowed on 5,435 acres; OHV Limited travel on designated routes would be allowed on 1,326,024 acres; and approximately 392,818 acres would be designated as Closed to OHV travel. Under this alternative, approximately 53 miles of OHV routes would be closed to travel in order to protect the wilderness values that lie within non-WSA lands with wilderness characteristics, which would have long-term, beneficial impacts on cultural resources by reducing the potential for OHV impacts to the resource along designated travel routes.

Approximately 240 acres would remain open to OHV travel in high cultural resource site probability zones and approximately 5,200 acres would remain open in low cultural resource site probability zones, a nearly 100% decrease in the amount of acreage open to unrestricted travel (see Table 4.3.6). Based on the estimates for sites/square mile described above, approximately 10 sites may be present in these open areas and would continue to see impacts that may be already occurring (see Table 4.3.6). However, not all of these sites would necessarily continue to be impacted or would necessarily be newly impacted. The number of sites is also greatly reduced relative to Alternative D (No Action), which has approximately 2,700 sites within areas that are currently open to OHV travel.

Under Alternative E, multiple areas would have travel restricted to existing routes. Approximately 113,079 acres of land are located in or within 300 feet of either side of existing routes (see Table 4.3.7). This represents an approximately 30% reduction in open area overall relative to Alternative D (No Action), with an approximately 35% reduction in open area within high cultural resource site probability zones (see Table 4.3.7). Based on reasonable projections of numbers of sites within high and low probability zones, this alternative would potentially expose approximately 438 cultural resource sites to ongoing impacts or potentially new impacts. However, this number is approximately 33% lower than the nearly 660 sites that are currently potentially subject to impacts under Alternative D (No Action).

4.3.2.9.7. SUMMARY OF TRAVEL DECISIONS

Alternatives E and C would have the greatest beneficial impacts on cultural resources because of the small areas designated as Open to OHV travel, followed by the Proposed RMP and then B. Alternative D (No Action) would have the least beneficial impacts on travel because approximately 787,859 acres would be managed for unlimited, cross-country OHV use. The large open OHV area under Alternative D (No Action) would increase the likelihood for direct and indirect, adverse, surface-disturbances to cultural resources.

4.3.2.10. IMPACTS OF VEGETATION DECISIONS ON CULTURAL RESOURCES

Vegetation decisions under the Proposed RMP and all alternatives are similar to those described previously for Fire Management. As the impacts of such decisions on cultural resources have already been described, they would not be reiterated here.

4.3.2.11. Impacts of Visual Resource Management Decisions on Cultural Resources

There are no measurable short-term or long-term direct effects on cultural resources resulting from visual resource management decisions. Significant impacts to cultural resources from visual resource management decisions under the Proposed RMP and all alternatives are direct and beneficial over the long-and short-term. These positive impacts are related to the restriction of surface-disturbing activities and limitations placed on land uses within areas of high VRM Class values. The reduction, control, or elimination of surface-disturbing activities, such as oil and gas development, OHV travel, mechanical vegetation treatments, prescribed fire, etc. within large geographic areas to preserve high VRM values affords significant protection to cultural resource sites and insures preservation of the important scientific, experimental, conservation, and traditional use values of these resources.

While a direct one-to-one correlation of acres disturbed to cultural resources encountered does not exist, relative ratios of higher numbers of acres disturbed to higher numbers of sites encountered and fewer acres disturbed to fewer sites encountered can be assumed. Thus, with the specific controls and restrictions placed on surface-disturbing activities in areas managed as the two highest VRM classes, the long-term net effect would be an overall decrease in the numbers of sites subject to impacts, including those resulting from mitigation where avoidance is not possible.

4.3.2.11.1. Proposed RMP

Under the Proposed RMP, 57,776 acres would be managed as VRM Class I, the highest level of VRM value and the one with the most limitations on the nature of surface-disturbing activities. Another 231,911 acres would be managed as VRM Class II, 786,612 acres would be managed as VRM Class III, and 643,641 acres would be managed as VRM Class IV, the least restrictive visual resource management class. Compared to the other alternatives, the Proposed RMP provides the fourth highest level of overall direct benefit to cultural (behind Alternatives C and E) as a total of 289,687 acres would be managed as the two highest VRM classifications. Visual resource management decisions under the Proposed RMP provide a greater benefit to cultural resources than do those under Alternatives B and D.

4.3.2.11.2. Alternative A

Under Alternative A, approximately 63,136 acres would be managed as VRM Class I, the highest level of VRM value and the one with the most limitations on the nature of surface-disturbing activities. Another 294,773 acres would be managed as VRM Class II, approximately 716,186 acres would be managed as VRM Class III, and 868,542 acres would be managed as VRM Class IV, the least restrictive visual resource management class. Compared to the other alternatives, Alternative A provides the third highest level of overall direct benefit to cultural (behind Alternative C) as a total of 357,909 acres would be managed as the two highest VRM classifications. Visual resource management decisions under Alternative A provide a greater benefit to cultural resources than do those under Alternatives B and D.

4.3.2.11.3. ALTERNATIVE B

Under Alternative B, 52,764 acres would be managed as VRM Class I, and 114,030 acres would be managed as VRM Class II. Another 199,179 acres would be managed as VRM Class III, and 1,353,967 acres would be managed as VRM Class IV. Compared to the other alternatives, Alternative B provides the fifth greatest level of benefit to cultural resources with 166,794 acres managed as the two highest, and most restrictive, VRM classes. Visual resource management decisions under Alternative B provide a similar benefit as those under Alternative D (No Action) but less than those under the Proposed RMP and Alternatives A, C, and E.

4.3.2.11.4. ALTERNATIVE C

Under Alternative C, 145,781 acres would be managed as VRM Class I, and 362,660 acres would be managed as VRM Class II. Another 580,846 acres would be managed as VRM Class III, and 630,653 acres would be managed as VRM Class IV. Compared to the other alternatives, Alternative C provides the second greatest level of benefit to cultural resources with a total of 508,441 acres managed as the two highest, and most restrictive, VRM classes.

4.3.2.11.5. ALTERNATIVE D (NO ACTION)

Indirect effects of visual resource management decisions on cultural resources under Alternative D (No Action) would be substantially less than that described for Alternatives A, C, and E. As impacts to cultural resources are generally related to the level of surface and subsurface disturbance in a given area, the lower number of acres managed as either VRM Class I or VRM Class II under Alternative D (No Action) provides less protection to cultural resources within the VPA. Under Alternative D (No Action), 53,086 acres would be managed as VRM Class I, and 113,686 acres would be managed as VRM Class II. Another 199,192 acres would be managed as VRM Class III, and 1,353,976 acres would be managed as VRM Class IV. Compared to the Proposed RMP and all other action alternatives Alternative D (No Action) provides the lowest level of benefit to cultural resources with a total of 116,772 acres managed as the two highest, and most restrictive, VRM classes.

4.3.2.11.6. ALTERNATIVE E

Under Alternative E, approximately 331,913 acres would be managed under VRM Class I objectives, and 263,285 acres would be managed under VRM II objectives. Approximately 536,301 acres would be managed as VRM Class III, and 590,262 acres would be managed as VRM Class IV. Compared to the other alternatives, Alternative E provides the highest level of benefit to cultural resources with a total of 595,198 acres managed as the two highest, and most restrictive, VRM classes because VRM I and II would either prohibit or greatly restrict surface disturbances on the landscape in order to protect scenic quality. These prohibitions and/or restrictions would also be beneficial in the long term in preserving and protecting cultural resources from surface disturbances. Compared to Alternative D (No Action), this alternative would be more beneficial because it would manage 428,000 more acres under VRM I and II objectives.

4.3.2.12. Impacts of Wildlife and Fisheries Decisions on Cultural Resources

Wildlife and fisheries decisions under the Proposed RMP and the various alternatives have negligible direct impacts on cultural resources within the VPA. Potentially significant impacts to cultural resources from wildlife and fisheries decisions under the alternatives are generally indirect, long-term, and beneficial. These positive impacts are related specifically to those decisions placing restrictions on surface-disturbing activities and limitations on land uses within areas of crucial deer winter range. The reduction or control of surface-disturbing activities, such as oil and gas development and OHV travel, within large geographic areas to preserve crucial deer winter range affords significant protection to cultural resource sites and insures preservation of the important scientific, experimental, conservation, and traditional use values of these resources.

It should be noted, however, that direct, long-term adverse impacts to cultural resources might occur from wildlife use of the Planning Area. These impacts are primarily related to the trampling of archaeological sites by herd animals such as wild horses, burros, and elk. These potential impacts would typically be comparable to those described for livestock grazing. Because of their particular herd behavior, wild horses may have a slightly greater impact on cultural resources by trampling, as evidenced by the higher level of vegetation damage and soil erosion noted in areas where wild horses congregate.

4.3.2.12.1. Proposed RMP

Under the Proposed RMP, new surface disturbance of up to 10% per township of crucial deer winter range would be allowed. Under the Proposed RMP, no more than 10% of such habitat would be subject to new and pre-existing surface disturbance and would remain un-reclaimed at any given time. This decision under the Proposed RMP provides greater benefit to cultural resources than do decisions under Alternative B but slightly less than decisions under Alternatives C and E. Similar decisions are unspecified under Alternative D (No Action). Potential adverse impacts on cultural resources from wildlife trampling would be comparable to those described for livestock for this alternative.

4.3.2.12.2. Alternative A

Alternative A, new surface disturbance of up to 560 acres per township would be allowed and would be prorated based upon the percentage of the range within that township that functions as crucial winter range. Under Alternative A, the 560 acres represent new surface and subsurface disturbance over and above existing disturbance. This decision under Alternative A provides greater benefit to cultural resources than do decisions under Alternative B but slightly less than decisions under Alternative C. Similar decisions are unspecified under Alternative D (No Action).

4.3.2.12.3. Alternative B

Under Alternative B, new surface disturbance of up to 560 acres per township would be allowed and would be prorated based upon the percentage of the range within that township that

functions as crucial winter range (same management action as Alternative A). As such, this alternative provides less net benefit to cultural resources than do Alternatives C and E, which limit total disturbance (new and existing) to 560 acres per township. Potential adverse impacts on cultural resources from wildlife trampling would be comparable to those described for livestock for this alternative.

4.3.2.12.4. ALTERNATIVE C

Under Alternative C, surface disturbance in crucial deer winter range would be capped at 560 acres per township (prorated based upon the percentage of the range within that township that functions as crucial winter range on BLM-managed land). This 560-acre cap includes both new and existing surface and subsurface disturbance. This decision under Alternative C provides greater benefit to cultural resources than do decisions under the other alternatives. Potential adverse impacts on cultural resources from wildlife trampling would be comparable to those described for livestock for this alternative.

4.3.2.12.5. ALTERNATIVE D (NO ACTION)

Wildlife and fisheries decisions related to surface and subsurface disturbance in crucial deer winter range are unspecified under Alternative D (No Action). Potential adverse impacts on cultural resources from wildlife trampling would be comparable to those described for livestock for this alternative.

4.3.2.12.6. ALTERNATIVE E

The impacts would be the same as Alternative C because the management decisions are the same.

4.3.2.13. MITIGATION MEASURES

All undertakings based on decisions set forth under the Proposed RMP and all alternatives analyzed herein for the VPA RMP are also subject to compliance with cultural resource laws, such as Section 106 of the NHPA, as well as internal agency guidelines. These laws and guidelines are intended to provide considered alternatives to eliminate, reduce, and/or mitigate adverse impacts to cultural resources. Although the preferred treatment of important cultural resources within an area of an undertaking is complete avoidance, this is not always possible. As such, mitigation of impacts is offered as an alternative to avoidance. While avoidance helps to preserve the physical archaeological record within an area, mitigation would result in the gradual elimination of the physical archaeological record and its conversion into a paper or archival record. It should be noted, however, that both the identification of sites and the mitigation of impacts through data recovery conducted in association with the Section 106 process for land uses has the positive impact of increasing the body of knowledge about past human behaviors and occupations in the Vernal Planning Area.

4.3.3. UNAVOIDABLE ADVERSE IMPACTS

Because the location and nature of all cultural resources in the area under consideration are unknown, it is not possible to determine if there would be unavoidable adverse impacts to cultural resources and/or what these impacts might be. There is some potential for unavoidable adverse impacts from nearly any proposed management decision. However, following the relevant cultural resource laws would provide opportunities for mitigation of many of these impacts.

4.3.4. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Because the location and nature of all cultural resources in the area under consideration are unknown, it is not possible to determine if there would be changes in short-term uses or long-term productivity of these resources.

4.3.5. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Because the location and nature of all cultural resources in the area under consideration are unknown, it is not possible to determine if there would be irreversible and/or irretrievable impacts to cultural resources and/or what these impacts might be. There is the potential for impacts from nearly any proposed management decision. However, following the relevant cultural resource laws would provide opportunities for mitigation of many of these impacts.

4.4. ENVIRONMENTAL JUSTICE

4.4.1. THE PROPOSED RMP AND ALTERNATIVES A, B, C AND E

The Hill Creek Extension of the Uintah and Ouray Indian Reservation in Uintah County has high potential for oil and gas occurrence (USDI, BLM, Mineral Potential Report for the Vernal Planning Area, June, 2004). It could be expected, therefore, that full development of federal minerals (188,500 acres) and adjacent Indian minerals (113,684 acres) for oil and gas would occur. In addition, the infrastructure development, such as pipelines access roads and compressors would facilitate development on adjacent Indian mineral areas inside and outside the Hill Creek Extension.

However, estimates of future revenue generated from anticipated well field development are uncertain. The uncertainty of future market conditions contributes to the unknown factors. Primary among non-market uncertainties is the irregular nature of natural gas reservoirs, which are often discontinuous and localized. Uncertainties in estimating future revenues from natural gas production also arise from the difficulty in estimating gas production and capitalization for future natural gas development (BLM 1999). Current seismic projects in this area are attempting to define potential natural gas reservoirs.

On federal mineral areas, the Tribe would benefit from revenue derived from granting rights-of-way to the oil and gas industry across Indian surface. Should similar development occur on adjacent areas of Indian minerals, the Tribe would benefit from oil and gas royalties. In addition, it can be expected that several Tribal contractors would contribute to the local workforce constructing roads, well pads, and pipelines.

Well field development would not be in immediate proximity to a Tribal community. The nearest community is located approximately 10 miles to the north at the settlement of Ouray. It is possible that this town could experience an increase in exposure to road traffic, including large rigs and trucks used to service the oil fields, increased air pollution, fugitive dust, spills, and an impact to water resources. Residents in the settlement of Ouray may be subject to increased health risks as a result of an increase in oil and gas development in nearby areas. Therefore, Alternative B would have the greatest potential for adverse impacts to the community with and estimated 6,391 wells, followed by the Proposed RMP with 6,342.

Should full development of oil and gas resources occur, important Tribal traditional lifeways and religious sites would be at high risk. In general, the Northern Ute Tribe maintains the northern half of the Hill Creek Extension as a sensitive religious and cultural area and the southern half as a sensitive wilderness/wildlife area. The highest of these values is along Willow Creek and the higher elevation Book Cliffs divide. The Hill Creek Extension Book Cliffs "wilderness" is where relatively undisturbed natural values interrelate to Tribal lifeways and religious pursuits.

In these Tribal sensitive areas, construction, operation and sights and sounds of oil and gas wells and associated support facilities would degrade the roadless and natural character of undisturbed areas. In addition, intensive oil and gas development could depress or replace Tribal livestock

grazing. Similar to other nearby areas on the public lands, the cumulative surface disturbance and density of well spacing would change the natural landscape into an industrial landscape.

The industrial landscape would decrease opportunities for big game hunting and the gathering of plants and other materials for ceremonies as traditional Tribal activities. These areas are primarily associated with places where ancient activities were conducted, such as camps, burial sites, and areas where artifacts, rock art, and lithic scatters are located (USDI, BLM, Ouray to Interstate 70 Highway Draft Environmental Impact Statement, September, 1992).

A disproportionately high and adverse human health or environmental effect on the Northern Ute Tribe would not result from this alternative. However, extensive future development would be a tradeoff between Tribal economic benefits versus loss of traditional lifeways, ethnographic and religious values.

4.4.1.1. MITIGATION

Partial mitigation would be avoidance of sensitive areas. Tribal consultation would be conducted for areas where conflicts arise between traditional Ute values and proposed development. Tribal mitigation would be considered and followed as appropriate. Where federal mineral rights do not exist, the Tribe might restrict development in areas of special significance.

4.4.2. ALTERNATIVE D (NO ACTION)

The Hill Creek Extension of the Uintah and Ouray Indian Reservation in Uintah County has high resource potential for oil and gas (USDI, BLM, Mineral Potential Report for the Vernal Planning Area, June, 2004). It should be expected, therefore, that development of Indian oil and gas resources (113,684 acres) would continue. In addition, infrastructure development, such as pipelines access roads and compressors would facilitate development on adjacent Indian mineral areas outside the Hill Creek Extension. However, under this alternative, federal minerals within the Hill Creek Extension (188,500 acres) would not be developed.

Estimates of future revenue generated from anticipated well field development are uncertain. The uncertainty of future market conditions contributes to the unknown factors. Primary among non-market uncertainties is the irregular nature of natural gas reservoirs, which are often discontinuous and localized. Uncertainties in estimating future revenues from natural gas production also arise from the difficulty in estimating gas production and capitalization for future natural gas development (USDI, BLM, Costilla Energy Inc. Hill Creek Unit Well field Development Environmental Assessment/RMP Plan Amendment, December, (BLM 1999). Current seismic projects in this area are attempting to define potential natural gas reservoirs.

Well field development would not be in proximity to a Tribal community. The nearest community is located approximately 10 miles to the north at the settlement of Ouray. Therefore, oil and gas development would not expose this community or the public-at-large to known health risks or environmental hazards.

Should full development of oil and gas resources occur, important Tribal traditional lifeways and religious sites would be at high risk. In general, the Northern Ute Tribe maintains the northern half of the Hill Creek Extension as a sensitive religious and cultural area and the southern half as a sensitive wilderness/wildlife area. The highest of these values is along Willow Creek and the higher elevation Book Cliffs divide. The Hill Creek Extension Book Cliffs "wilderness" is where relatively undisturbed natural values interrelate to Tribal lifeways and religious pursuits.

In these Tribal sensitive areas, construction, operation and sights and sounds of oil and gas wells and associated support facilities would degrade the roadless and natural character of undisturbed areas. In addition, intensive oil and gas development could depress or replace some Tribal livestock grazing. Similar to other nearby areas on the public lands, the cumulative surface disturbance and density of well spacing would change the natural landscape into an industrial landscape.

The industrial landscape would decrease opportunities for big game hunting and the gathering of plants and other materials for ceremonies as traditional Tribal activities. These areas are primarily associated with places where ancient activities were conducted, such as camps, burial sites, and areas where artifacts, rock art, and lithic scatters are located (USDI, BLM, Ouray to Interstate 70 Highway Draft Environmental Impact Statement, September, 1992).

A disproportionately high and adverse human health or environmental effect on the Northern Ute Tribe would not result from this alternative. However, future extensive development would be a tradeoff between Tribal economic benefits versus loss of traditional lifeways, ethnographic and religious values.

4.4.2.1. MITIGATION

Partial mitigation could include avoidance of sensitive areas. Areas or artifacts could be cleared by Tribal traditional ritual, as appropriate The Tribe could restrict development in areas of special significance.

4.5. FIRE MANAGEMENT

Management common to the Proposed RMP and all alternatives would include the restoration of natural fire regimes using prescribed fire, mechanical treatment, chemical treatments, and wildland fire. Fire Condition Classes and Fire Management Categories have been designated throughout the VPA to indicate fire treatment priorities and are described in Chapter 3.

Prescribed fire, mechanical treatments, and chemical treatments would be used in the Fire Management Category Areas every decade, as described below in Table 4.5.1. Mechanical and chemical treatments would primarily be applied on additional acres; however, some overlap could occur with the acres designated for prescribed burning.

Table 4.5.1. Acreages in the VPA Receiving Various Treatments per Decade, by Fire Management Category

Fire Management Category	Prescribed Fire	Mechanical	Chemical
A	1,000	5,000	5,000
B	19,570	10,000	10,000
C	82,738	20,000	20,000
D	53,117	0	0

Four Wildland Urban Interface (WUI) areas were identified within the VPA and assigned a Fire Management Category: Dry Fork, Category B; Diamond Mountain, Category C; Deep Creek, Category B; and Browns Park, Category B. Special attention would be directed to each of these areas because they present a high risk associated with human safety.

In addition to the acres listed above, naturally occurring wildland fires would be used for fire management, when feasible, in the category areas as described below, in Table 4.5.2. This treatment would be applied under the Proposed RMP and all of the alternatives, as determined by site-specific conditions. Naturally occurring wildland fires would be allowed to burn as many acres per category area as described below:

Table 4.5.2. Acreages in the VPA to Receive Treatment via Natural Wildland Fires, by Fire Management Category

Fire Management Category	Acres Targeted	Acres Allowed to Burn
A	0	2,100
B	0	21,000
C	75,000	151,500
D	30,000	30,000

4.5.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

In order to analyze the impacts of various management decisions on fire management, two key elements have been considered: 1) the risks of fire ignition from vehicles, humans, or other sources and 2) fuel loading.

Ignition risk would occur primarily from oil and gas development activities. Management Common to All would include mineral leasing on approximately 188,500 acres of the Hill Creek Extension (see Chapter 2). In the short term, this action would create a potential fire-ignition risk from vehicles and construction activities. In the long term, fire risk would be present during mineral development activities, site maintenance, and machinery and vehicle operations. The presence of large mainline and feeder natural gas lines, primarily those greater than eight inches in diameter, would potentially impede the movement of fire suppression vehicles and equipment across these lines.

Recreation management decisions under the Proposed RMP and all alternatives would draw visitors onto public lands within the VPA. Under all of the Proposed RMP and all alternatives, motorized camping vehicles would be allowed to travel off designated routes on a single path up to 300 feet to access an existing disturbed dispersed camp site, except in non-WSA lands with wilderness characteristics and WSA lands. Additionally, areas (generally areas where disturbances to vegetation and soils would be deemed acceptable) would be designated to accommodate intensive cross-country travel. These activities would increase fire risk associated with vehicle- and human-caused ignitions. Recreation management decisions would include maintenance and possible expansion of all recreational sites. These activities would increase fire risk due to increased visitation, construction, and maintenance activities. The limitations on fire treatments within developed recreation areas and intense-use recreational areas would maintain hazardous fuel loads in these areas.

Visual resource decisions, under the Proposed RMP and all of the alternatives, would affect fire management. Restrictions on management activities that would degrade scenic quality, as described in the VRM I and VRM II Class objectives, could limit the use of fire management in some areas. Those areas most likely to be affected within the VPA would include areas designated as eligible for consideration under the Wild and Scenic River System, special designation areas, riparian corridors, and cultural sites that possess scenic quality (e.g., rock art and prehistoric structures) and could be damaged by fire.

Fire management would be affected by wildlife and special status species management actions for the Proposed RMP and all alternatives. Spatial and timing restrictions for raptors and sage grouse, and surface-disturbing restrictions for wildlife would determine when, where, and to what degree fire management treatments would be applied.

Vegetation treatments would occur under all rangeland improvement management decisions, and would use prescribed fire, mechanical, and/or chemical treatments. For analysis purposes, it is assumed that the greater the number of acres treated, the greater the direct long term, beneficial impacts to fire management because more of the fire management goals and objectives would be achieved.

4.5.2. PROPOSED RMP AND ALTERNATIVES IMPACTS

The impacts of various management decisions on fire management are quantitatively and/or qualitatively determined, depending on the management action. Impacts are discussed in terms of the risk of fire from ignition, fuel loading, and limitations on the use of prescribed fire due to implementation of other resource management decisions. In analyzing the impacts of the proposed RMP management actions on fire management, an assumption was made that there would be a relationship between the increased presence of humans and human activities within the VPA and an increase in the risks of wildland fire.

Management actions associated with paleontology, lands and realty, forage, livestock grazing, soils and watershed, and wild horse's resources would have negligible impacts on fire management and, therefore, are not discussed further in this section.

4.5.2.1. IMPACTS OF FIRE DECISIONS ON FIRE MANAGEMENT

Implementation of fire management strategies and treatments would be based on Fire Management Categories, Fire Regimes, and Fire Condition Classes, which are depicted in Figures 2, 3, and 4.

Fire Regimes are the patterns of wildland fires that include factors such as fire frequency, extent, and severity, and vegetation type. Regimes vary by ecosystem because each ecosystem has a different composition and structure determined by climatic conditions, vegetation types, and ignition sources.

As described in Chapter 3, Fire Condition Classes represent the degree to which an area has departed from historic fire conditions. Fire Condition Classes 1, 2, or 3 are assigned to areas depending on wildland fire risk, potential fire intensity and severity, and ecological integrity, compared to the historic fire regime, which is based on the stand density, the density of forest understory and fuel loads, and ecological conditions prior to the implementation of a policy of fire suppression (USDA and USDI 2001). Class 1 represents a relatively low risk for a catastrophic wildland fire event, and Class 3 represents a relatively high risk.

Fire Management Categories designate the type and extent of fire treatments in an area. The categories range from Category A, where full suppression of fire would be applied and the protection of areas where fire is not desired, to Category D in which planned wildland fires and prescribed fires would be used for resource benefit and where there are few constraints on fire use.

4.5.2.1.1. PROPOSED RMP, ALTERNATIVES A, B, C, AND E

In the long term, the proposed use of prescribed fire on 156,425 acres within the VPA per decade would directly benefit fire management by reducing fuel loads and stand densities and, subsequently, the risks of large-scale, catastrophic wildland fires. Management actions under these alternatives would reduce the risk of catastrophic wildland fire within the VPA, when compared to Alternative D (No Action).

4.5.2.1.2. ALTERNATIVE D (NO ACTION)

This alternative would designate prescribed fire on 50,900 acres of the VPA (27,950 within the Book Cliffs area and 22,950 in pinyon-juniper and sagebrush communities within the Diamond Mountain area). This alternative would not provide the fuel load reductions that would occur under the action alternatives. Therefore, the fire risks associated with Alternative D (No Action) would be higher than for the Proposed RMP and Alternatives A, B, and C, and E .

4.5.2.2. IMPACTS OF MINERAL DEVELOPMENT DECISIONS ON FIRE MANAGEMENT

Wildland fire risks would be limited to Standard Stipulations and Timing and Controlled Surface Use areas. No Surface Occupancy and Closed category areas would not be available for surface development and, therefore, would not be sources of wildland fire risk from minerals development activities.

4.5.2.2.1. PROPOSED RMP

Approximately 18,860 acres of surface disturbance would pose a greater risk for wildland fire due to minerals development (and surface disturbances) within the BLM-administered areas of the VPA, in the short term and long term. Surface disturbances would include seismic exploration, access road and well pad construction, pipeline construction, and the construction of support facilities. Short-term surface disturbances within this area would increase the risk of wildland fire, particularly during clearing and blading of well pads and access roads, with long-term adverse impacts on fire management because of limitations on prescribed fire treatments in these areas. The potential risks would be created by spark or heat ignition from vehicles, construction equipment, and construction personnel. However, there may be beneficial impacts to fire management from construction of roads for minerals development. These roads would serve as possible fire breaks and would provide equipment access for fire control.

Compared to Alternative D (No Action), the Proposed RMP would potentially disturb approximately 648 more acres through minerals surface disturbances (with an associated increase in fire risks) in the short term and long term.

4.5.2.2.2. ALTERNATIVE A

Approximately 18,971 acres of surface disturbance would pose a greater risk for wildland fire due to minerals development (and surface disturbances) within the BLM-administered areas of the VPA, in the short term and long term. The impacts would be similar to those described under the Proposed RMP.

Compared to Alternative D (No Action), Alternative A would potentially disturb approximately 759 more acres through minerals surface disturbances (with an associated increase in fire risks) in the short term and long term.

4.5.2.2.3. ALTERNATIVE B

Minerals development under this alternative would disturb approximately 19,033 acres throughout the BLM-administered areas of the VPA from minerals-related surface disturbances, in the short term and long term. The impacts would be similar to those described under the Proposed RMP. Compared to Alternative D (No Action), Alternative B would potentially disturb approximately 821 more acres in the short term and long term.

4.5.2.2.4. ALTERNATIVE C

Minerals development under Alternative C would disturb approximately 18,757 acres throughout the BLM-administered areas of the VPA in the short term and long term from minerals-related surface disturbances. The impacts would be similar to those described under the Proposed RMP. Compared to Alternative D (No Action), Alternative C would potentially disturb approximately 545 more acres in the short term and long term.

4.5.2.2.5. ALTERNATIVE D (NO ACTION)

Under this alternative, minerals development would disturb approximately 18,212 acres throughout the BLM-administered areas of the VPA from minerals-related surface disturbances in the short term and long term. The impacts would be similar to those described under the Proposed RMP. Alternative D (No Action) would potentially disturb approximately fewer acres in the short term and long term than the Proposed RMP and Alternatives A, B and C, but more than Alternative E.

4.5.2.2.6. ALTERNATIVE E

Minerals development under Alternative E would disturb approximately 17,469 acres throughout the BLM-administered areas of the VPA in the short term and long term from minerals-related surface disturbances. The impacts would be similar to those described under the Proposed RMP. Compared to Alternative D (No Action), Alternative E would potentially disturb approximately 744 fewer acres in the short term and long term.

4.5.2.2.7. SUMMARY

The relative risks of fire from surface disturbance associated with minerals development would be highest under Alternative B, followed by Alternative A, then the Proposed RMP, then C, then D, then E. Alternative E would pose the lowest relative risk of fire from minerals surface disturbances.

4.5.2.3. IMPACTS OF NON-WSA AREAS WITH WILDERNESS CHARACTERISTICS DECISIONS ON FIRE MANAGEMENT

4.5.2.3.1. PROPOSED RMP

Under the Proposed RMP, approximately 106,178 acres would be managed as non-WSA lands with wilderness characteristics. Salvage of forest woodland species would not be allowed and

these areas would also be closed to woodland product harvest and salvage, resulting in long-term, adverse impacts as compared to Alternative D (No Action), by not allowing fuel load reductions through woodland thinning or removal of dead wood.

Prescribed burning within these areas would still be permitted when compatible with the goals and objectives for management of the non-WSA lands with wilderness characteristics. This would have long-term, beneficial impacts by reducing fire risks by reducing understory vegetation.

This alternative would have more long-term adverse impacts on fire management than Alternative D (No Action), but fewer than Alternative E.

4.5.2.3.2. ALTERNATIVES A, B, C AND D

The impacts of managing non-WSA areas with wilderness characteristics on fire management under Alternatives B, C, and D would be the same, as no acres would be managed as non-WSA areas with wilderness characteristics under any of these alternatives. This would have more beneficial impacts on fire management as compared to Alternatives A or E.

4.5.2.3.3. ALTERNATIVE E

Under Alternative E, the impacts to fire management from the closure of 277,596 acres of non-WSA areas with wilderness characteristics to woodland harvest would be similar to A, but greater due to the additional 176, 891 acres of non-WSA lands and because these areas would also be closed to commercial and personal wood cutting. This alternative would have the most long-term adverse impacts on fire management as compared to the other action alternatives and Alternative D (No Action) because a greater acreage would be restricted from fuel load reductions through woodland thinning or removal of dead wood.

4.5.2.4. IMPACTS OF RANGELAND IMPROVEMENT DECISIONS ON FIRE MANAGEMENT

4.5.2.4.1. PROPOSED RMP

Vegetation treatments for rangeland improvements under the Proposed RMP would occur on an estimated 34,640 acres. This is an estimate, not a limit. Therefore, this alternative would be less beneficial to fire management than Alternative D (No Action) because under the Proposed RMP 5,750 fewer acres would be treated than under Alternative D (No Action).

4.5.2.4.2. ALTERNATIVE A

Impacts for vegetation treatments for rangeland improvements under Alternative A would be the same as the Proposed RMP because the acreages are the same.

4.5.2.4.3. ALTERNATIVE B

Vegetation treatments for rangeland improvements under Alternative B would occur on an estimated 50,900 acres. This is an estimate, not a limit. This alternative would result in long-term benefits to fire management, when compared with Alternative D (No Action) because 10,510 more acres would have vegetation treatments under this alternative than under Alternative D (No Action).

4.5.2.4.4. ALTERNATIVE C AND E

Vegetation treatments for rangeland improvements under Alternative C and E would occur on an estimated 45,860 acres. This is an estimate, not a limit. These alternatives would have beneficial impacts on fire management, compared to Alternative D (No Action), because 5,470 more acres would have vegetation treatments than under Alternative D (No Action).

4.5.2.4.5. ALTERNATIVE D (NO ACTION)

Rangeland-improvement vegetation treatments under Alternative D (No Action) would occur on an estimated 40,390 acres. This is an estimate, not a limit. Alternative D (No Action) would benefit fire management more than Alternative A, but less than Alternatives B and C.

4.5.2.5. IMPACTS OF RECREATION DECISIONS ON FIRE MANAGEMENT

Recreation opportunities included under the Proposed RMP and all of the proposed alternatives would draw visitors onto public lands within the VPA. It is assumed that increased visitation would produce an increased risk and potential for human- and/or vehicle-caused fire. In addition, visitation would potentially impede the BLM's ability to control fuel loading using prescribed fire treatments in areas with high recreational use.

4.5.2.5.1. PROPOSED RMP

The Proposed RMP would manage the following seven SRMAs:

- 42,729 acres on Blue Mountain (13,328 acres of non-WSA lands with wilderness characteristics)
- 18,490 acres in Browns Park (8,050 acres of non-WSA lands with wilderness characteristics)
- 44,168 acres in Nine Mile Canyon
- 2,831 acres along the White River
- 69 acres in Fantasy Canyon
- 24,259 acres on Red Mountain-Dry Fork
- 1,014 acres around Pelican Lake

Under the Proposed RMP, 45,436 acres within the SRMAs identified as having wilderness characteristics would be managed as VRM II. Restrictions on management activities, as described in the VRM II Class objectives, could limit the use of fire management in some areas. The Proposed RMP would also create up to 400 miles of non-motorized trails, and up to 800 miles of motorized trails would be developed and/or improved. These management actions would increase recreation-related visitation. Increased visitation would cause indirect long-term, adverse impacts in the form of increased wildland fire risks from human- and vehicle-caused ignitions. Remote and dispersed camping fires within the existing and proposed SRMAs would pose a particularly high risk of wildland fire. Based on the analytical assumption that increased visitation would increase the human-caused risks of wildland fire, the Proposed RMP would result in higher human-caused fire risks than Alternative D (No Action).

4.5.2.5.2. ALTERNATIVE A

Alternative A would manage the following seven SRMAs, with no specific actions specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics.

- 42,758 acres on Blue Mountain
- 273,486 acres in the Book Cliffs
- 52,720 acres in Browns Park
- 24,183 acres along the White River
- 81,168 acres in Nine Mile Canyon
- 24,259 acres on Red Mountain-Dry Fork
- 1,014 acres around Pelican Lake

Based on the analytical assumption that increased visitation would increase the human-caused risks of wildland fire, Alternative A would result in higher human-caused fire risks than Alternative D (No Action), but with slightly lower risks than Alternative C.

Alternative A also proposes to create 400 miles of non-motorized trails and 800 miles of motorized trails would be developed and/or improved. Impacts of trail development and improvement are the same as described under the proposed RMP because the mileages are the same.

4.5.2.5.3. ALTERNATIVE B

Alternative B would not manage new SRMAs and would not establish new non-motorized trails, but would continue to manage four existing SRMAs: Browns Park (17,000 acres), Nine Mile Canyon (44,181 acres), Pelican Lake (1,014 acres), and Red Mountain (24,259 acres). No specific actions would be specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness within SRMAs. Recreation in the Book Cliffs area would be unlimited and unconfined. However, up to 800 miles of motorized trails would be developed and/or improved. These management actions would maintain or increase recreation-related

visitation and their associated wildland fire risks, which would be less than Alternatives A ,C and E, but greater than Alternative D (No Action).

4.5.2.5.4. ALTERNATIVE C

Alternative C would manage the following eight SRMAs:

- 42,758 acres on Blue Mountain
- 273,486 acres in the Book Cliffs
- 52,720 acres in Browns Park
- 69 acres in Fantasy Canyon
- 47,130 acres along the White River
- 81,168 acres in Nine Mile Canyon
- 24,259 acres on Red Mountain-Dry Fork
- 1,014 acres around Pelican Lake

Under Alternative C, up to 400 miles of non-motorized trails would be created, but no improvements or development of 800 miles of motorized trails. The impacts would be similar to those described under Alternative A. Based on the increased number of acres designated as SRMA and mileages of trail development/improvement, Alternative C would result in higher human-caused fire risks, compared to Alternative D (No Action), but less than Alternative E, as no specific actions would be specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness within SRMAs.

4.5.2.5.5. ALTERNATIVE D (NO ACTION)

Alternative D would manage the following recreation areas (the same as Alternative B):

- Unlimited and unconfined recreation in the Book Cliffs
- 17,000 acres in Browns Park
- 44,181 acres in Nine Mile Canyon
- 24,259 acres on Red Mountain-Dry Fork
- 1,014 acres around Pelican Lake

No specific actions would be specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness within SRMAs. In addition, Alternative D (No Action) would create 55 miles of hiking and/or horseback trails, two miles of mountain bicycling trails, and one non-motorized trail of an unspecified length along Sears Canyon. This alternative would not develop or improve 400 miles of non-motorized trails nor would it develop or improve 800 miles of motorized trails. Based on the analytical assumption that increased visitation would increase the human-caused risks of wildland fire, Alternative D (No Action) would have lower fire risks compared to the action alternatives.

4.5.2.5.6. ALTERNATIVE E

Alternative E would manage the same eight SRMAs as described in Alternative C with similar management decisions and impacts, but also manages for protection of non-WSA areas with wilderness characteristics within these proposed SRMAs. The acres of non-WSA wilderness characteristics in each SRMA are as follows:

- 13,308 acres on Blue Mountain
- 77,939 acres in the Book Cliffs
- 23,657 acres in Browns Park
- 0 acres in Fantasy Canyon
- 21,164 acres along the White River
- 20,952 acres in Nine Mile Canyon
- 0 acres on Red Mountain-Dry Fork
- 0 acres around Pelican Lake

Under Alternative E, the approximately 157,018 acres within the SRMAs identified as having wilderness characteristics would be managed as VRM I. Restrictions on management activities, as described in the VRM I Class objectives, could limit the use of fire management in some areas. Outside of the non-WSA areas, up to 400 miles of non-motorized trails would be created, with improvements or development of 800 miles of motorized trails. The impacts would be similar to those for Alternative A, but Alternative E would result in the highest human-caused fire risks, compared to the other action alternatives and to Alternative D (No Action), based on the increased number of acres designated as SRMAs, increased trail development, and restrictions on fire management activities within SRMAs lands identified as having wilderness characteristics.

4.5.2.6. IMPACTS OF TRAVEL DECISIONS ON FIRE MANAGEMENT

Motorized use in the VPA creates a limited risk of human-caused fire. This risk includes heat and sparks from motors and exhaust systems. This risk is increased substantially if travel occurs off designated routes. The cross-country motorized travel category poses the greatest risk of inadvertent wildland fire starts, followed by travel on designated routes. Cross country travel is much more likely to bring the heat and sparks from exhaust systems in direct contact with vegetation than travel on designated routes, which are typically devoid of vegetation. Closing areas to motorized travel largely eliminates the risk of inadvertent fire starts from motorized vehicles. The Proposed RMP and all of the action alternatives would lessen the impact of human-caused fires more than Alternative D (No Action), due to the reduction of motorized cross-country travel under those alternatives. Acreages vary by alternative and are discussed below.

4.5.2.6.1. PROPOSED RMP

Under the Proposed RMP, 6,202 acres would be open to unrestricted OHV travel. Another 1,643,475 acres would be open to limited or restricted OHV travel, and 75,845 acres would be

closed to OHV travel. This would have beneficial impacts on fire management as compared to Alternative D (No Action) as 781,657 fewer acres would be open to unrestricted OHV travel and 28,457 more acres would be closed to OHV travel.

4.5.2.6.2. ALTERNATIVE A

Impacts under Alternative A would be the same as under the Proposed RMP because the travel decisions are the same.

4.5.2.6.3. ALTERNATIVE B

Under Alternative B, 5,434 acres would be open to unrestricted OHV travel. Another 1,659,901 acres would be open to limited or restricted OHV travel, and 60,187 acres would be closed to OHV travel. This would have beneficial impacts on fire management as compared to Alternative D (No Action) as 782,425 fewer acres would be open to unrestricted OHV travel and 9,799 more acres would be closed to OHV travel.

4.5.2.6.4. ALTERNATIVE C

Under Alternative C, 5,434 acres would be open to unrestricted OHV travel. Another 1,353,529 acres would be open to limited or restricted OHV travel, and 366,559 acres would be closed to OHV travel. This would have beneficial impacts on fire management as compared to Alternative D (No Action) as 782,425 fewer acres would be open to unrestricted OHV travel and 316,171 more acres would be closed to OHV travel.

4.5.2.6.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), 787,859 acres are open to unrestricted OHV use, largely in Condition 1 and Condition 2 areas. There are 887,275 acres subject to restrictions on OHV use, and 50,388 acres are closed to OHV use. The highest adverse impacts to fire management would be due to Alternative D (No Action) as compared to the Proposed RMP and the action alternatives because fewer acres are closed to OHV travel and more acres are open to unrestricted OHV travel.

4.5.2.6.6. ALTERNATIVE E

Under Alternative E, 5,434 acres would be open to unrestricted cross-country OHV travel. Approximately 1,326,024 acres would be managed to restrict OHV travel to designated routes, and 392,818 acres would be closed to OHV travel. This would have beneficial impacts on fire management as compared to Alternative D (No Action) as 782,425 fewer acres would be open to unrestricted OHV travel and 342,430 more acres would be closed to OHV travel.

Travel decisions would result in the same risk as Alternative A, less risk of fire than Alternative B and Alternative C, but more risk than Alternatives D and E.

4.5.2.7. Impacts of Woodland and Forest Decisions on Fire Management

4.5.2.7.1. Proposed RMP

Under the Proposed RMP, forests and woodlands would be managed to promote biodiversity and multiple use/sustained yield. In addition, woodlands and forests within the VPA would be managed so that disturbances would not exceed levels normally expected within healthy woodland and forest ecosystems. Woodland and forest harvesting would reduce stand densities, and salvaging of dead or downed wood would reduce fuel loads, which would have direct, long-term, beneficial impacts on fire management.

Under the Proposed RMP, 546,152 acres of forest and woodlands would be open to treatments or harvesting. Approximately 13,606 acres within WSAs and 106,178 acres of non-WSA lands with wilderness characteristics would not have woodland product harvest or salvage, but would be open to treatments. This would have long term, beneficial impacts by reducing the risk of wildland fire through fuel loads reduction. The Proposed RMP would have more long-term direct beneficial impacts on fire management than Alternative D (No Action) because more acreage within the VPA would have treatments or be harvested.

4.5.2.7.2. Alternatives A and C

Under Alternatives A and C, 552,152 acres of forest and woodland are proposed for treatments or harvesting. Approximately 13,606 acres of WSAs would not have woodland product harvest or salvage, but would be open to treatments. Alternatives A and C would have more long-term direct beneficial impacts on fire management than Alternative D (No Action) because more acreage within the VPA would have treatments or be harvested.

4.5.2.7.3. Alternative B

Under this alternative 554,108 acres of forest and woodlands would be open to treatments or harvesting. The long term, beneficial impacts of this management action on fire management would be similar to those described above for the Proposed RMP, but on a larger scale. This alternative would have more long-term direct beneficial impacts on fire management than Alternative D (No Action) because more acreage within the VPA would have treatments or be harvested.

4.5.2.7.4. Alternative D (No Action)

Under Alternative D (No Action), up to 288,200 acres (88,200 acres of forest and 200,100 acres of woodland) would be designated for treatments or be harvested, but public use of the resource and woodland salvaging is unspecified. Alternative D (No Action) would have some long-term direct beneficial impacts on fire management from harvesting and treatments, but less than those resulting from the Proposed RMP or the action alternatives.

4.5.2.7.5. ALTERNATIVE E

Under Alternative E, up to 421,133 acres of forest and woodland would be treated or harvested. Approximately 330,573 acres within WSAs and non-WSA lands wilderness characteristics would not have vegetation removal. Impacts to fire management would be similar to those described under the Proposed RMP, but would be less as fewer acres would be treated and the salvage of forest and woodland species, woodland product harvest and personal and commercial woodcutting would not be allowed in 277,596 acres non-WSA lands with wilderness characteristics. This would increase the risks of large-scale, catastrophic wildland fires that would have direct, long-term, adverse impacts on fire management. This alternative would have more long term adverse impacts than any of the alternatives.

4.5.2.8. SUMMARY

4.5.2.8.1. PROPOSED RMP

Under the Proposed RMP, fire risk would be third highest due to minerals development. Rangeland improvements would result in fewer beneficial impacts than under Alternative D (No Action). Recreation decisions would result in the second highest level of risk when compared to Alternative D (No Action). Travel decisions would result in the same risk as Alternative A, less risk of fire than Alternative B and Alternative D (No Action)., but more risk than Alternatives D (No Action) and E. Alternative A would have more long-term direct beneficial impacts on fire management from woodland decisions that would reduce stand densities, and reduce fuel loads through dead or downed wood would reduce fuel loads than Alternative D (No Action). Management of non-WSA land with wilderness characteristics would result in fewer beneficial impacts to fire management as compared to Alternative D (No Action).

4.5.2.8.2. ALTERNATIVE A

Under Alternative A, fire risk would be second highest due to minerals development. Rangeland improvements would result in fewer beneficial impacts than under Alternative D (No Action). Recreation decisions would result in the second highest level of risk when compared to Alternative D (No Action). Travel decisions would result in less risk of fire than Alternative Band Alternative D (No Action)., but more risk than Alternatives D (No Action) and E. Alternative A would have more long-term direct beneficial impacts on fire management from woodland decisions that would reduce stand densities, and reduce fuel loads through dead or downed wood would reduce fuel loads than Alternative D (No Action). Management of non-WSA land with wilderness characteristics would result in fewer beneficial impacts to fire management as compared to Alternative D (No Action).

4.5.2.8.3. ALTERNATIVE B

Under Alternative B, risk of wildland fire due to minerals development would be the highest. Rangeland improvements would be the most beneficial under Alternative B, when compared to Alternative D (No Action). Recreation decisions would result in a higher risk of fire than Alternative D (No Action), but lower than the other action alternatives. Travel decisions would

result in less risk of fire than Alternative D (No Action), but more fire risk than the other action alternatives. Woodland decisions would have impacts on reducing the risks of wildland fire similar to Alternatives A and C, but on a slightly larger (and more beneficial) scale, with impacts to fire management more beneficial than Alternative D (No Action). Management of non-WSA land with wilderness characteristics would result in the same impacts as Alternative D (No Action).

4.5.2.8.4. ALTERNATIVE C

Under Alternative C, the risk of wildland fire due to minerals development would be lower than Alternatives A and B. Rangeland improvements would be beneficial when compared to Alternative D (No Action), though not as beneficial as those under Alternative B. Recreation decisions would result in a higher risk of wildland fire, when compared to Alternative D. Travel decisions would result in less risk of fire than Alternatives A, B and D (No Action), but more risk than Alternative E. Alternative C would have more long-term direct beneficial impacts on fire management from woodland decisions than Alternatives A, D (No Action), and E. Management of non-WSA land with wilderness characteristics would result in the same impacts as Alternative D (No Action).

4.5.2.8.5. ALTERNATIVE D (NO ACTION)

Minerals development proposed under Alternative D (No Action) would cause the risk of wildland fire to be lower than the risks under Alternatives A and B, and C, but higher than under Alternative E. Rangeland vegetation improvements under Alternative D (No Action) would be more beneficial than those of Alternative A, but less than those of Alternatives B, C, and E. Recreation decisions would pose less of a wildland fire risk than Alternatives A. B, C, and E. Travel decisions under Alternative D (No Action) would have substantially more risk than the action alternatives. Woodland decisions would have some beneficial impacts on fire management, but less than Alternatives A, B, and C. There would be no impacts from non-WSA land management decisions under Alternative D (No Action).

4.5.2.8.6. ALTERNATIVE E

Under Alternative E, the risk of wildland fire due to minerals development would be lower than all other alternatives. Rangeland improvements would be beneficial when compared to Alternative D (No Action), though not as beneficial as those under Alternative B. The risk of wildland fire due to travel decisions would be lowest under Alternative E. Recreation and woodland decisions would result in the highest risk of wildland fire. Management of non-WSA land with wilderness characteristics would result in fewer beneficial impacts as Alternative D (No Action).

4.5.3. MITIGATION MEASURES

- To ensure timely access to and escape from wildland fire or prescribed burns for fire suppression equipment and personnel, berm or bury pipelines at road crossings to ensure

that fire equipment and personnel would not be impeded or obstructed by cross-country natural gas or liquid petroleum pipelines.

- To reduce fire risk, vehicles used to transport personnel and equipment to treatment areas would be restricted to authorized routes or equipped with spark arresters.
- Prescriptive treatments would be managed in high-use recreation areas and during special seasons (e.g., big-game rifle hunting in the fall) to reduce or eliminate resource use conflicts.
- To reduce wildland fire risk, after prescribed burning, chemicals and seed with shrub/grass/forbs would be used to reduce cheatgrass, tamarisk, and other noxious weeds and non-native species.

4.5.4. UNAVOIDABLE ADVERSE IMPACTS

Wildland fire ignition risks associated with minerals development would be an unavoidable adverse impact.

Recreation decisions would have unavoidable adverse impacts on fire management by increasing visitation, but reducing the ability of the BLM to control fuel loading through the use of prescribed fire or other treatments.

4.5.5. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Short-term development of mineral exploration and extraction sites would have long-term impacts on fire management, including increasing the wildland fire ignition risk and increasing the difficulty of restoring desired natural Fire Regimes and Fire Condition Classes.

Recreation decisions would potentially result in long-term impacts to fire management by increasing wildland fire ignition risks that result from increased visitor use in recreation areas and, due to an increased human presence in VPA recreation areas, decreasing the ability to control fuel loading through prescribed fire.

4.5.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Proposed management decisions regarding woodlands, recreation and travel management, minerals development; and management of non-WSA lands with wilderness characteristics would impose long-term limitations and restrictions on the use of prescribed fire for vegetation and fuels management. This, in turn, would result in a potential irretrievable departure in vegetative natural functioning condition, with a resultant increase in the risk of catastrophic fire in those areas where these restrictions are imposed. However, these impacts would not be irreversible as areas where proposed surface disturbance would occur could be rehabilitated or restored. Additionally, chemical and mechanical vegetation treatments could be used in these areas in lieu of prescribed fire.

4.6. HAZARDOUS MATERIALS

Sources of hazardous materials are subject to the federal and state laws and regulations described in Chapter 3. These laws and regulations are designed to safeguard human health and safety and to protect other environmental resources. Enforcement of these laws and regulations would minimize risks associated with the use, storage, and disposal of hazardous materials, but with an increase in inherent risk associated with an increase in the amount of hazardous materials generated, used, transported, and stored. Decisions regarding the following resources and resource uses would have no adverse impact on hazardous materials for the Proposed RMP or any of the alternatives, because none of these resources have management prescriptions that would generate hazardous wastes, affect cleanup of toxic or hazardous waste spills, or increase or decrease the dangers of existing abandoned minelands (AML) sites and related AML water quality.

The following resources would not affect generation, usage, transportation, or storage of any hazardous materials:

- Air quality
- Cultural and paleontological resources
- Fire resource actions
- Lands and realty
- Forage management, livestock grazing, and rangeland improvement
- Recreation
- Soils and water
- Special designations
- Travel
- Vegetation, including woodland and riparian resources
- Visual resources
- Wild horse, wildlife resources, and special status species
- Woodlands

These impacts and resources, as they pertain to hazardous materials, are not analyzed further.

4.6.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

4.6.1.1. MINERALS

For the Proposed RMP and all of the alternatives, BLM management goals include meeting local and national, non-renewable and renewable energy needs, and other public mineral needs, while ensuring a viable long-term mineral industry related to energy development. Management goals

also include reasonable and necessary protections of other resources. Oil, natural gas, and other mineral exploration and development operations are users and producers of hazardous materials within the VPA, and these operators are responsible for understanding and complying with Environmental Protection Agency (EPA) regulations pertaining to hazardous materials.

Under the Proposed RMP and all of the alternatives, approximately 188,500 acres of split-estate lands (lands involving Tribal surface overlying federal minerals) within the Hill Creek Extension of the Uintah and Ouray Indian Reservation would be considered for minerals leasing. All potential mineral- and energy-related activities would be closely coordinated with the tribal government to ensure that their concerns were accommodated to the maximum extent possible under existing law and policy, and that Environmental Justice concerns were met.

For the Proposed RMP and all of the alternatives, applicable safety measures would reduce the potential for hazardous materials contamination and releases associated with minerals development. All potentially hazardous chemicals in the VPA would be stored in accordance with state and federal guidelines. Personnel with emergency response training would periodically inspect areas containing chemicals. Standard operating procedures for oil and gas operators would include required measures that would be followed in the event of a chemical release in excess of reportable quantities (as outlined in the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] of 1990). Bureau of Land Management standard approval for oil and gas operations would require that the operators be subject to required coordination with and/or permitting from applicable local and state agencies, and otherwise conform to applicable state and federal laws and regulations when conducting activities involving the generation, storage, or transport of hazardous materials. Additionally, federal and state operating and reporting requirements include provisions for the cleanup and mitigation of chemical, product, or waste releases. Hazardous materials associated with oil, natural gas, and CBNG extraction are listed in Table 3.6.1 of the Hazardous Materials section in Chapter 3.

4.6.1.1.1. PIPELINES

The installation of pipelines and supporting services for pipelines (e.g., compressor stations) would be necessary for oil and gas development. The companies installing and operating pipelines in the VPA are responsible for understanding and abiding by the applicable hazardous material laws and regulations. The Vernal Field Office would be responsible for inspecting and monitoring these operations to ensure that these companies are in compliance with all applicable laws and regulations.

4.6.1.1.2. POWER LINES

The installation of power lines would be necessary for oil and gas development, and the polychlorinated biphenyls (PCBs) contained in power line transformers are classified as a hazardous material. The operators that install and maintain the power lines are responsible for understanding and abiding by all applicable hazardous material laws and regulations.

4.6.1.1.3. TRANSPORTATION

Minerals development activities would increase the instances of hazardous materials transportation. Transportation (e.g., trucking) companies are responsible for understanding and abiding by all applicable hazardous materials transportation laws and regulations.

4.6.1.1.4. GAS FLOWLINE LEAKAGE OR RUPTURES

The potential exists for gas flowline leakage or ruptures during natural gas extraction and processing. The U.S. Department of Transportation (DOT) data indicate that an average of one rupture annually should be expected for every 5,000 miles of pipeline (Office of Pipeline Safety 1997). More than 50% of pipeline ruptures occur as a result of heavy equipment striking the pipeline. Such ruptures would potentially cause a fire or explosion if a spark or open flame ignited the natural gas escaping from the pipeline.

Pipeline design, materials, maintenance, and abandonment procedures are required to meet the standards set forth in DOT regulations (49 CFR Part 192, Transportation of Natural Gas by Pipelines). Further construction specifications are recommended for safety and are available through the American Society of Mechanical Engineers (ASME-31.8) and the American Petroleum Institute (API Standard 1004).

4.6.1.1.5. WELL FIRES AND EXPLOSIONS

Well fires are rare but can occur under certain conditions, and a well fire could result from a blowout during drilling activities or from a gas leak during extraction operations. Conditions that would cause gas accumulation in a confined space, and ignition by a spark would likely produce a well fire. Even though these risks are low, oil and gas companies would typically have a procedure within their Emergency Contingency Plan that would recommend calling a service company specializing in controlling and extinguishing well fires in the unlikely event of such a fire.

4.6.1.1.6. HUMAN-CAUSED FIRES

Implementing the Utah Division of Oil, Gas and Mining (UDOGM) measures for surface fire hazards would reduce the risks of human-caused wildfires resulting from unsafe well control practices. Well sites would be kept free of vegetation and trash in order to minimize fire fuel near the well. The UDOGM Rule R649-3 *Drilling and Operating Practices* (from the Oil and Gas Conservation General Rules) requires trash control measures to minimize surface fire hazard risk.

4.6.1.1.7. GEOLOGIC HAZARDS

The potential risks associated with oil, gas, and CBNG development include geologic hazards. These hazards include natural gas seepage, hydrogen sulfide (H_2S) releases, abnormally high gas pressure, seismic activity, and fires and explosions. The following sections describe these risks and the standard measures that would be required to minimize these risk factors.

4.6.1.1.7.1. Natural Gas Seepage

There are two potential avenues for natural gas to reach the ground surface. First, natural gas could migrate up the well bore annulus (the space between the drilling pipe and the bore hole). A cementing and casing program would be used to isolate or protect all geologic zones containing a fluid (gas or liquid) with the potential to migrate. Second, natural gas could seep through the natural fractures and faults of geologic formations, eventually venting when it reaches ground surface. The geologic setting would dictate the measures necessary to prevent natural fracture seepage.

4.6.1.1.7.2. Hydrogen Sulfide (H_2S)

The likelihood of a potential H_2S release (a byproduct of drilling, extraction, and processing) is monitored by H_2S detectors located near the drill holes. If H_2S gas was detected, an H_2S Emergency Contingency Plan should be available for implementation by the well operator.

4.6.1.1.7.3. Abnormal High Pressure

High pressures could be encountered when drilling. Blowout prevention equipment must be used to safely control any abnormally high pressures encountered. Onshore Oil and Gas Order No. 2 established the minimum equipment necessary to safely drilling and handling specific pressure situations. All wells drilled on federal mineral leases would abide by this Order. Wells drilled on private and state leases would have similar requirements administered by the Utah Division of Oil, Gas and Mining (UDOGM). Pressure equipment would be prescribed site-specifically during the Application for Permit to Drill (APD) approval process, and oil and gas companies would be required to maintain the equipment. The BLM and UDOGM would conduct inspections during drilling activities to verify compliance with these requirements.

4.6.1.1.7.4. Seismic Activity

Seismic risks in Utah are typically associated with the Wasatch Line, a north-south-trending system of earthquake faults. The effects of this seismically active area extend beyond Utah into Wyoming, Idaho, Nevada, and California. The effects are not as pronounced to the east of the Wasatch Line (toward Vernal), but there is a system of four faults that trends east-west approximately 9 miles (15 km) north of the towns of Duchesne, Roosevelt, and Vernal. Earthquake epicenters of major historic quakes measuring four or greater on the Richter Scale have been recorded approximately 30 miles (50 km) west of Vernal and approximately 30 miles (50 km) southeast of Vernal along the Utah/Colorado border (Stokes 1986). Thus, although the risk is not high, a seismic risk does exist within the VPA.

Seismic activity could increase hazardous material risks. Seismic activity has the potential to cause rupturing of holding or evaporative ponds, and/or cause damage to storage facilities.

4.6.1.2. ABANDONED MINE LAND (AML)

The BLM recognizes the need to identify and address physical safety and environmental hazards at all AML sites on public lands. Abandoned mine land sites would be prioritized for remediation and closure, based on physical safety, watershed protection, and funding by other agencies. Abandoned mine lands would be considered in future recreation management area designations, land use planning, and all applicable use authorizations.

4.6.2. PROPOSED RMP AND ALTERNATIVE IMPACTS

4.6.2.1. IMPACTS OF MINERALS DECISIONS ON HAZARDOUS MATERIALS

Increased minerals exploration and development would indirectly cause increases in hazardous materials risks. These impacts could be adverse and long-term.

4.6.2.1.1. PROPOSED RMP

4.6.2.1.1.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 1,640,381 acres of BLM administered land within the VPA would be open to oil and gas leasing (which includes CBNG) with standard, timing limitation and/or controlled surface use stipulations. This represents a 7% increase in the total amount of acres available for leasing, compared to Alternative D (No Action).

An increase in the total number of acres available for oil and gas development would increase the use, generation, storage, transportation, and/or disposal of hazardous materials. However, the increase in the short-term and long-term adverse impacts due to presence hazardous materials would be less than 7% because the use, generation, storage, transportation, and/or disposal of associated hazardous materials would be consistently regulated.

4.6.2.1.1.2. Gilsonite and Phosphate

Approximately 172 miles or 36,846 acres would be open for prospecting, leasing, and development of Gilsonite. (Additional, new veins located via field study or prospecting [not shown on Figure 19] would also be available if they are within Open category lands) (see Table 4.8.1). This represents a 2% increase in total linear miles of land for Gilsonite prospecting, leasing, and developing compared to Alternative D (No Action). An increase in the total linear miles available for Gilsonite development would increase the use, generation, storage, transportation, and/or disposal of hazardous materials. However, the increase in long-term adverse impacts due to the presence of hazardous materials would be less than 2% because the use, generation, storage, transportation, and/or disposal of associated hazardous materials would be consistently regulated.

Approximately 87,724 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. This represents a 4% increase in the total acreage open for prospecting, leasing and developing phosphate, compared to

Alternative D (No Action). An increase in the total acreage available for phosphate development would increase the use, generation, storage, transportation, and/or disposal of hazardous materials. However, the increase in long-term adverse impacts due to the presence of hazardous materials would be less than 4% because the use, generation, storage, transportation, and/or disposal of associated hazardous materials would be consistently regulated.

4.6.2.1.1.3. Mineral Materials

Approximately 389,788 acres would be open for mineral materials development. This represents a 1% increase in the total number of acres available for development of mineral materials, compared to Alternative D (No Action). An increase in the total acreage available for minerals development would increase the use, generation, storage, transportation, and/or disposal of hazardous materials. However, the increase in adverse impacts due to the presence of hazardous materials is less than 1% because the use, generation, storage, transportation, and/or disposal of associated hazardous materials would be consistently regulated.

4.6.2.1.2. ALTERNATIVE A

Because the amount of acres open to mineral development (1,780,860 acres) is similar to those under the Proposed RMP (a 7% increase under Alternative A) and the amount of oil and gas wells anticipated under Alternative A is identical to the Proposed RMP (6,342 wells), impacts on hazardous materials would be similar to the Proposed RMP.

4.6.2.1.3. ALTERNATIVE B

4.6.2.1.3.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 1,819,397 acres of land would be administratively available for oil and gas leasing (which includes CBNG) with standard, timing limitation and/or controlled surface use stipulations. This represents an 18% increase in the total acreage available for leasing and potential number of wells, compared to Alternative D (No Action).

An increase by 18% of the total number of acres available for oil and gas development would increase the use, generation, storage, transportation, and/or disposal of hazardous materials, with impacts similar to those described under Alternative A.

4.6.2.1.3.2. Gilsonite and Phosphate

Approximately 172 miles or 36,846 acres would be open for prospecting, leasing, and development of Gilsonite. (Additional, new veins located via field study or prospecting [not shown on Figure 20] would also be available if they are within Open category lands). This represents a 2% increase in the total linear miles open for Gilsonite prospecting, leasing, and developing, compared to Alternative D (No Action), with impacts similar to those described under Alternative A.

Approximately 87,724 acres would be open for prospecting, leasing, and development of phosphate resources. This 4% increase in the number of available acres, when compared to Alternative D (No Action), would have impacts similar to those described under Alternative A.

4.6.2.1.3.3. Mineral Materials

Approximately 432,953 acres would be open for mineral material development. This would be a 12% increase in the total acreage available for development of mineral materials, compared to Alternative D (No Action). The impacts would be similar to those described under Alternative A.

4.6.2.1.4. ALTERNATIVE C

4.6.2.1.4.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 1,627,085 acres of land would be administratively available for oil and gas leasing (which includes CBNG) under Standard Stipulations or Timing and Controlled Surface Use. This represents a 6% increase in the total acreage available for leasing and potential number of wells, compared to Alternative D (No Action). The impacts of a 6% increase in the number of available acres would be similar to those described under Alternative A.

4.6.2.1.4.2. Gilsonite and Phosphate

The number of miles Open for Gilsonite leasing and the impacts would be the same as for Alternative A.

Approximately 63,571 acres would be open for phosphate development. This represents a 25% decrease in the total acreage Open for prospecting, leasing, and developing phosphate, compared to Alternative D (No Action). If this decrease in available acreage were equivalent to a decrease in actual mining, then there would be a decrease in the potential impacts associated with hazardous materials used for vehicle and equipment operations.

4.6.2.1.4.3. Mineral Materials

Approximately 388,699 acres would be open for mineral material development. This represents a 0.3% increase in the total acreage available for development of mineral materials, compared to Alternative D (No Action). An increase in the total number of acres available for mineral materials development would increase the use, generation, storage, transportation, and/or disposal of hazardous materials. However, the increase in impacts due to hazardous materials would be less than 0.3% because the use, generation, storage, transportation, and/or disposal of associated hazardous materials would be consistently regulated.

4.6.2.1.5. ALTERNATIVE D (NO ACTION)

4.6.2.1.5.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 1,536,030 acres of land would be available on BLM-administered land for oil and gas leasing (which includes CBNG) under Standard Stipulations and Timing and Controlled Surface Use within the VPA. The impacts of hazardous materials from oil, gas, and CBNG exploration and development activities would continue at current levels, with hazardous materials risks at levels similar to present conditions.

4.6.2.1.5.2. Gilsonite and Phosphate

Approximately 168 miles (36,009 acres) would be open for prospecting, leasing, and development of Gilsonite resources. Approximately 84,600 acres would be open for development of phosphate resources. The potential impacts of hazardous materials from Gilsonite and phosphate mining would continue at current levels, with hazardous materials risks at levels similar to present conditions.

4.6.2.1.5.3. Mineral Materials

Approximately 387,700 acres would be open for mineral materials development, with potential impacts and risks from hazardous materials within the VPA at current levels.

4.6.2.1.6. ALTERNATIVE E

4.6.2.1.6.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 1,499,461 acres of land would be administratively available for oil and gas leasing (which includes CBNG)under Standard Stipulations or Timing and Controlled Surface Use. This represents a 2% decrease in the total acreage available for leasing and potential number of wells, compared to Alternative D (No Action). The impacts of a 2% decrease in the number of available acres would beneficially reduce the risks associated with use, generation, storage, transportation, and/or disposal of oil and gas drilling and extraction-related hazardous materials.

4.6.2.1.6.2. Gilsonite and Phosphate

Approximately 163 miles (34,9467 acres) would be open for exploration and development of Gilsonite resources, with impacts similar to those discussed under Alternative D (No Action).

Approximately 52,063 acres would be Open for phosphate development, which would be a 38% decrease in the total acreage Open for prospecting, leasing, and developing phosphate, compared to Alternative D (No Action). If this decrease in available acreage were equivalent to a decrease in actual mining, then there would be a proportional decrease in the potentially adverse impacts associated with hazardous materials used for vehicle and equipment operations.

4.6.2.1.6.3. Mineral Materials

Approximately 344,682 acres would be open for mineral material development. This represents a 11% decrease in the total acreage available for development of mineral materials, compared to Alternative D (No Action). A decrease in the total number of acres available for mineral materials development would decrease the use, generation, storage, transportation, and/or disposal of hazardous materials, with a proportional decrease in potential impacts from the aforementioned hazardous materials activities.

4.6.2.2. Impacts of Non-WSA Areas with Wilderness Characteristics Decisions on Hazardous Materials

4.6.2.2.1. Proposed RMP

Under the Proposed RMP, approximately 106,178 acres of non-WSA lands with wilderness characteristics would be closed or NSO to minerals leasing and closed to mineral materials disposal. This would reduce the area available for minerals development and thus reduce the potential for the handling and transportation of hazardous materials, and reduce the need to dispose of these materials, with long-term, beneficial impacts from the reduced potential for hazardous materials impacts to natural resources within the VPA. Compared to Alternative D (No Action), this alternative would be more beneficial because the greater reduction in risks from hazardous materials use.

4.6.2.2.2. Alternative A

There would be no impacts of managing non-WSA areas with wilderness characteristics on hazardous materials under Alternative A, as no acres would be managed as non-WSA areas with wilderness characteristics under this alternative.

4.6.2.2.3. Alternative B, C, and D

The impacts of managing non-WSA areas with wilderness characteristics on hazardous materials under Alternatives B, C, and D (No Action) would be the same as Alternative A, as no acres would be managed as non-WSA areas with wilderness characteristics under any of these alternatives.

4.6.2.2.4. Alternative E

Under Alternative E, approximately 277,596 acres of areas with wilderness characteristics would be closed to minerals leasing and mineral materials disposal. Compared to Alternative D (No Action), this alternative would be more beneficial because the greater reduction in risks from hazardous materials use.

4.6.2.3. SUMMARY

Minerals management decisions made under Alternative B would have the highest hazardous material potential impacts in the VPA. Minerals management decisions made under Alternative A would have the second highest potential impacts, followed by the Proposed RMP and Alternative C. and Alternative D (No Action). Alternative E would have the lowest hazardous materials potential impacts of all the alternatives.

4.6.3. MITIGATION MEASURES

Using signs to identify the location of underground pipelines would help to reduce the incidence of ruptures caused by the impact of heavy equipment.

No additional mitigation would be required to reduce hazardous materials impacts. Hazardous material risks would be low, as it is assumed that hazardous materials users and producers would be in compliance with existing federal and state laws and regulations pertaining to hazardous materials use, storage, transportation, and disposal.

4.6.4. UNAVOIDABLE ADVERSE IMPACTS

Hazardous material risks would increase during minerals exploration and development, with unavoidable adverse impacts that would include the potential for H_2S releases, abnormally high pressure during drilling, seismic activity, gas flowline leakage or rupture, well fires, and explosions. Hazardous materials risks and impacts would increase due to the disruption of minerals operations by these events and the subsequent potential release of hazardous materials into the environment.

Unavoidable adverse impacts would be caused by the increase in personnel time required to monitor and be prepared to respond to hazardous materials releases when hazardous materials are being used.

4.6.5. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

There would be no loss in either short-term uses or long-term productivity as they relate to hazardous materials.

4.6.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

There are no irreversible or irretrievable impacts to hazardous materials impacts prevention for any of the alternatives.

4.7. LANDS AND REALTY

The majority of specific program management decisions regarding the following resources and resource uses would have no adverse impacts (short term and/or long term, as well as direct and/or indirect) on lands and realty for the Proposed RMP of any of the alternatives. These include fire resource actions, air quality, hazardous materials, forage management, livestock grazing, and rangeland improvement, cultural and paleontological resources, some recreation decisions, travel decisions, vegetation decisions (including decisions regarding woodland and riparian resources), visual resources, and wild horse and wildlife resources. Impacts would be minimal because management decisions under these resources would not alter the BLM's authority to designate ROWs or to withdraw, acquire, and/or exchange lands under its administration. These impacts and resources, as they pertain to lands and realty, will not be analyzed further.

In general, adverse impacts to lands and realty would be limited because the types of acquisitions and disposals are identified.

4.7.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

4.7.1.1. DIRECT IMPACTS

No specific land disposals or exchanges have been identified under the Proposed RMP or any alternative; thus, there are no direct impacts associated with these lands and realty issues. Future land-tenure adjustments for major water developments—to protect water sources, consolidate management opportunities, or to accommodate the needs for the economy and community growth—would be processed on a case-by-case basis with public notices as required by regulation.

Priorities for land-tenure adjustments would focus on opportunities to pursue and assemble land exchanges with the State of Utah in order to consolidate land management opportunities for the BLM and provide the State of Utah with additional revenue generating potential for the State Institution Trust Lands Administration.

The BLM recognizes local government concerns over net gains of public lands within the respective counties and would continue to consider these concerns during land-tenure adjustment processes.

Priority would be given for acquisition of lands containing significant paleontological or cultural resources, special status species habitat, riparian and wetland habitat, crucial wildlife habitat, and high-value recreation areas. Lands would be acquired through donation, purchase, or land exchange from willing partners to secure key property necessary to protect special status species and to promote biological diversity. Right-of-way designation would be generally avoided in threatened and endangered species habitat.

Recreation resources would affect lands and realty where increased public access is desired in order to provide recreational opportunities on approximately 70,700 acres within the VPA. Land-tenure adjustments would be made and/or easements acquired from willing partners to improve public access for hunting and access to rivers for fishing, boating, or swimming. In addition, ROW designation would be avoided in developed or inventoried recreation sites unless necessary to support recreational uses.

The BLM would pursue easements from willing partners to provide access for roads and trails with priority given to certain areas. Similarly, easements would be pursued for access to woodland resources.

Easements would be acquired to provide public access to ACECs and SRMAs, and new ROWs may be issued to avoid special designation areas unless necessary to support complementary uses.

ACECs would be managed to protect a variety of special values under the Proposed RMP and each alternative. While the number of ACECs and acreage designated would vary under the Proposed RMP and each alternative, the values identified for protection would remain the same. Under the Proposed RMP or all alternatives considered, portions of the Upper, Middle, and Lower Green Rivers, White River, Evacuation Creek, Bitter Creek, Nine Mile Creek, and Argyle Creek would be recommended for designation as wild and scenic rivers. The number of segments and miles of river recommended suitable varies under the Proposed RMP and each alternative. The utility corridors that exist would be carried forward in the Proposed RMP and each alternative considered, for location of future utility lines. These corridors lie adjacent to, or cross, almost every proposed ACEC and recommended wild and scenic river. Placement of new power lines and pipelines within these corridors would have to be consistent with protection of identified relevant and important ACEC values, and outstandingly remarkable wild and scenic river values. For ACECs that are managed to protect relevant and important scenic values (Brown's Park, Four Mile Wash, Lower Green River, Nine Mile Canyon, Red Mountain-Dry Fork, and White River), construction of new power lines and pipelines within the designated corridors would have to be consistent with VRM objectives. However, construction of new utility lines would also have to be consistent with other natural and cultural resource objectives of the ACECs. Compatibility with the objectives of the ACECs would depend on the size, design, and location of the line within the corridors. Placement of new lines within the corridors would also have to be consistent with wild and scenic river values. Generally, rights-of-way are discouraged in "wild," scenic," and "recreational" river segments unless they are provided for in a plan, or no reasonable alternative exists. New lines would likely be confined to the designated corridors and would be designed to minimize impacts to the outstandingly remarkable river values. See Tables 4.16.1 for a list of ACECs that would be designated and Table 4.16.2 for a list of wild and scenic rivers recommended for designation under the Proposed RMP and each alternative.

Specific cultural resource mitigation requirements may adversely affect some lands by limiting access to significant cultural sites in order to preserve cultural resources. Land-tenure adjustments might be made and easements acquired from willing partners to obtain land and provide access to significant cultural sites for protective or interpretive purposes. Right-of-way

designation, permits, and leases are unavailable or very limited in areas designated for avoidance due to significant cultural sites

The Proposed RMP and all alternatives would have some direct short- and long-term impacts to lands and realty due to mineral resource decisions. If locatable minerals are found on lands to be sold, the VFO might remove the lands from sale, dispose of the surface estate, or reserve all or part of the mineral estate to the U.S. Consequently, the VFO would dispose of the mineral estate pursuant to Section 209(b) of the FLMPA, or a surface owner could acquire the mineral estate under 43 CFR 2720. Acquisition of access rights could be pursued, providing easements for removal of mineral resources, and ROW designation, permits, and leases would be provided for oil and gas gathering systems or roads.

In 1982, a dam and reservoir ROW grant, serial number UTU-30745, was issued to the State of Utah Division of Water Resources, but the dam has not been built. Should the dam be constructed, access road(s) and power line locations and their effects would need to be addressed at that time.

Where public access would be sought, VRM Class I areas may be affected.

4.7.1.2. Indirect Impacts

Cultural and historical sites, special area designations, special status species, fish and wildlife habitat, wetland and riparian habitats, water and fisheries issues, and other resource values generally limit lands available for exchange or disposal in any area, reducing the demand for the number and type of realty use authorizations and withdrawals and restricting the ability to construct or relocate roads for legal access.

4.7.2. Proposed RMP and Alternatives Impacts

No short-term indirect impacts are anticipated for the Proposed RMP or any of the alternatives.

4.7.2.1. Impacts of Lands and Realty Decisions on Lands and Realty

4.7.2.1.1. Proposed RMP

Easements would need to be acquired from the state and/or willing private landowners to increase public recreation access to trail systems where they cross non-federal lands. Under the Proposed RMP, a public access easement would be pursued for the White River at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. This would allow the public to access a portion of the White River, which has been nominated for Wild and Scenic River (WSR) status. An easement for the old Uintah Railroad bed from the Utah–Colorado line to Watson in Evacuation Creek would not be pursued, thus restricting access along this portion of the creek.

Acquisition of Indian Trust lands in Bitter Creek and near the confluence of South and Sweetwater Canyons would be sought from willing partners, which would allow the public to

access this area, as well as permit the BLM to better manage the area by consolidating landscape-level issues without having to consider administrative boundaries.

Land-withdrawal decisions would preclude mineral entry on 22,814 acres under the Proposed RMP. Compared to Alternative D (No Action), this alternative would have less adverse, long-term impacts on lands and realty because fewer acres would be restricted and the range of land usages would be greater.

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would be managed as ROW avoidance areas. Compared to Alternative D (No Action), this alternative would have greater adverse, long-term impacts on lands and realty because more acres would be restricted and the range of land uses would be less.

4.7.2.1.2. ALTERNATIVE A

Impacts of land-access decisions under Alternative A would be the same as the Proposed RMP, as the land-access management decisions are the same.

Impacts of land withdrawal decisions under Alternative A would be the same as the Proposed RMP, as the same acreages are proposed for withdrawal.

No acres of non-WSA lands with wilderness characteristics would be managed as ROW avoidance areas under Alternative A. Impacts would be the same as Alternative D (No Action), because management decisions regarding non-WSA lands with wilderness characteristics are the same.

4.7.2.1.3. ALTERNATIVE B

Under this alternative, the BLM would pursue only administrative access to Indian Trust lands and would not pursue public access to the White River at the mouth of Cowboy Canyon, Bonanza Bridge, and Wagon Hound Road. These land-acquisition decisions would have potential direct, long- and short-term adverse effects on lands resources as compared to Alternative D (No Action), by restricting access to public lands and increasing BLM lands.

Impacts of land-withdrawal decisions under Alternative B would be the same as the Proposed RMP, because the same acreages are proposed for withdrawal.

Impacts of management of non-WSA lands with wilderness characteristics would be the same as under Alternative A because management decisions are the same.

4.7.2.1.4. ALTERNATIVE C

Lands and realty decisions under Alternative C are similar to the Proposed RMP, except that the BLM would also pursue an easement for the old Uintah Railroad bed from the Utah–Colorado line to Watson in Evacuation Wash. Potential long- and short-term direct impacts to lands and

realty from land-acquisition decisions under Alternative C would be similar to those described under Alternative A, but would also include the railroad bed easement.

Land-withdrawal decisions would preclude mineral entry on 36,265 acres under the Alternative C. Compared to Alternative D (No Action), this alternative would have adverse, long-term impacts on lands and realty because slightly more acres would be restricted; however, the range of land usages would be less restrictive than Alternative D, No Action, which would also preclude agricultural entry.

Impacts of management of non-WSA lands with wilderness characteristics would be the same as under Alternative A because management decisions are the same.

4.7.2.1.5. ALTERNATIVE D

Lands and realty decisions under Alternative D (No Action), are unspecified in the current management plan. Any proposal to acquire or dispose of land would be reviewed to determine its potential to affect resources.

Land-withdrawal decisions would preclude mineral and agricultural entry on 35,900 acres, over 13,000 more acres than the Proposed RMP Alternatives A and B, but slightly fewer acres than Alternative C and E. This alternative would have most adverse, long-term impacts on lands and realty because the range of land uses would be more limited as compared to the action alternatives, and in general, more acres would be subject to restrictions.

Impacts of management of non-WSA lands with wilderness characteristics would be the same as under Alternative A because management decisions are the same.

4.7.2.1.6. ALTERNATIVE E

Proposed lands and realty decisions under Alternative E are similar to Alternative C, with potential long- and short-term direct impacts to lands and realty from land-acquisition decisions similar to those described under Alternative A, except that under this alternative, approximately 277,596 acres of non-WSA lands with wilderness characteristics within the VPA would be designated as ROW exclusion areas to protect the wilderness characteristics values in these areas. This would have more long-term, adverse impacts on lands and realty by reducing the range of land uses as compared to Alternative D (No Action).

Impacts from land withdrawal decisions under Alternative E would be the same as Alternative C because the acreages are the same.

4.7.2.2. IMPACTS OF MINERAL DECISIONS ON LANDS AND REALTY

4.7.2.2.1. PROPOSED RMP

Under the Proposed RMP, 1,640,381 acres of BLM-administered land would be open for oil and gas development within the VPA and 273,706 acres would be closed to surface occupancy or development. Off-lease roads and pipelines related to oil and gas development are a major contributor to lands and realty actions within the VFO planning area. More acres would be

available for oil and gas leasing, resulting in more land and realty actions, such as ROW applications, than under Alternative D (No Action).

4.7.2.2.2. ALTERNATIVE A

Under Alternative A, 1,780,860 acres of BLM-administered land would be open for oil and gas development within the VPA and 133,141 acres would be closed to surface occupancy or development. Off-lease roads and pipelines related to oil and gas development comprise a major contributor to land and realty actions within the VFO planning area. More acres would be available for oil and gas leasing, resulting in more land and realty actions, such as ROW applications, than under Alternatives D, No Action.

4.7.2.2.3. ALTERNATIVE B

Under Alternative B, 1,819,397 acres of BLM-administered land would be open for oil and gas development within the VPA and 94,603 acres would be closed to surface occupancy or development. Impacts to lands and realty would be similar to Alternative A. More acres would be available for oil and gas leasing, resulting in more ROWs applied for and granted than under Alternative D (No Action).

4.7.2.2.4. ALTERNATIVE C

Under Alternative C, 1,627,085 acres of BLM-administered lands would be open to minerals development and 286,916 acres would be closed to surface occupancy or development. Impacts to land and realty would be similar to Alternative A. More acres would be available for oil and gas leasing, and therefore more ROWs would be applied for and granted than under Alternative D (No Action).

4.7.2.2.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), 1,536,030 acres on BLM-administered lands within the VPA would be open to oil and gas development, while 189,470 acres would be closed to surface occupancy or development. Fewer acres would be available for oil and gas leasing, and therefore fewer ROWs would be applied for and granted as compared to Alternatives A through C, but more than Alternative E.

4.7.2.2.6. ALTERNATIVE E

Under Alternative E, 1,499,461 acres of BLM-administered lands would be open to oil and gas minerals development and 414,666 acres would be closed to surface occupancy or minerals surface occupancy or development. Of all the alternatives, Alternative E has the fewest acres available for oil and gas leasing and would result in fewest ROWs being applied for and granted.

4.7.2.3. IMPACTS OF NON-WSA AREAS WITH WILDERNESS CHARACTERISTICS DECISIONS ON LANDS AND REALTY

4.7.2.3.1. PROPOSED RMP

Under the Proposed RMP, approximately 106,178 acres within the VFO would be retained in federal ownership and would be managed to preserve non-WSA wilderness characteristics. In addition to managing these areas as realty-action ROW avoidance areas, they would be managed as closed for oil and gas development (except for the White River area which is NSO and subject to prior existing rights), closed to solid mineral leasing and mineral material disposal, not available for disposal or exchange, and managed under VRM Class II objectives.

Restricting or prohibiting surface disturbance related development in order to protect the wilderness values in non-WSA areas with wilderness characteristics would result in fewer realty actions as compared to Alternative D (No Action).

4.7.2.3.2. ALTERNATIVES A–D

Under these alternatives, there would be no management decisions to protect non-WSA lands with wilderness characteristics.

4.7.2.3.3. ALTERNATIVE E

Approximately 277,596 acres within the VFO would be retained in federal ownership and managed to preserve non-WSA wilderness characteristics. In addition to managing these areas as realty-action ROW exclusion areas, they would be managed as closed for oil and gas development (subject to prior existing rights), closed to solid mineral leasing and mineral material disposal, not available for disposal or exchange, and managed under VRM Class I objectives. Restricting or prohibiting surface disturbance related development in order to protect the wilderness values in these areas would result in fewer realty actions as compared to Alternative D (No Action).

4.7.3. MITIGATION MEASURES

There are no mitigation measures necessary for lands and realty.

4.7.4. UNAVOIDABLE ADVERSE IMPACTS

There are no unavoidable adverse impacts.

4.7.5. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

At this point in time, there is no known loss in land productivity as a result of the decisions of the Proposed RMP or any alternatives.

4.7.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

The Proposed RMP and all alternatives accommodate land-tenure adjustments that may result in the permanent loss of lands from public ownership if they enter private or state ownership.

There are no irreversible or irretrievable impacts to Lands and Realty for the Proposed RMP or any alternative chosen.

4.8. LIVESTOCK AND GRAZING MANAGEMENT

4.8.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

Impacts to livestock and grazing resources would occur under the Proposed RMP and all of the proposed alternatives. The impacts could include those caused by route construction and maintenance, wellpad construction, vehicle traffic, accidental spills of potentially hazardous materials, and noxious weed infestations. These impacts are generally mitigated as part of the conditions of approval.

Controlling livestock movement by maintaining fence lines would serve to maintain efficient livestock and range management.

While new routes and wellpad construction produce adverse impacts on livestock grazing, such as removing forage, they can also have beneficial impacts. The construction of new routes associated with the Proposed RMP and the alternatives would provide beneficial impacts for livestock permittees from improved access to remote facilities and grazing areas. Also, the development of route systems within the VPA would improve livestock dispersal, thereby improving livestock foraging efficiency as cattle are better dispersed across the landscape due to improved access to forage and water sources. However, increased access could produce an increased disturbance to livestock, an increased number of undesignated routes, and increased distribution problems associated with unclosed cattle gates and/or gaps created in cut fences. Vehicles would also present a potential collision hazard to livestock.

For the Proposed RMP and all of the alternatives, fugitive dust caused by vehicles traveling along proposed new routes, existing routes, and other areas of surface disturbance could settle on vegetation used as forage, especially alongside routes with heavy traffic. This dust would potentially affect the quality and regenerative capacity of roadside grasses and forbs as well as decrease the palatability of the forage for livestock use.

Livestock forage would also be potentially impacted by spills and/or disposal of produced water from CBNG activities, and spills of fuels, solvents, or drilling fluids.

Areas of disturbed soil would lead to invasion by noxious weeds or other undesirable non-native, invasive plant species. These species would reduce rangeland and forage values by replacing preferred forage species, leading to a reduction in grazing capacity. Without proper management and control, invasive plant species become established and cause severe infestations. Additionally, some invasive species are poisonous to livestock and can kill or impair them if ingested.

Under the Proposed RMP and the proposed alternatives for riparian resources, many areas have proposed riparian management improvements that limit or reduce soil disturbance and manage for greater vegetative cover. Impacts from these management alternatives are generally projected to have minor impacts on livestock grazing, except as they relate to improved vegetation cover in currently impaired areas, or potential reduction in intensity or exclusion of grazing in currently

impaired areas being managed for the recovery of vegetation. Long-term effects are expected to include the required development of grazing management plans to achieve appropriate vegetation utilization as per BLM guidelines.

For all of the alternatives and the Proposed RMP, wild horse management decisions would generally have an indirect relationship to impacts upon livestock grazing, mostly in regards to forage availability. In terms of AUMs and categories of use, forage would be managed and designated to livestock, wildlife, and/or wild horses. Thus, if AUM designation were changed for wild horses, it could affect livestock and wildlife, or it could affect wildlife only. See Section 4.7.2.2 for specific foraging decisions that affect livestock in terms of wild horses.

Several areas have proposed wildlife and fisheries management decisions that would limit or reduce access and disturbance seasonally or year-round. Impacts from the proposed designations are generally projected to have relatively minor effects on livestock grazing. Impacts specific to decisions regarding the provision of habitat and forage, and potential emigration and reintroduction of Rocky Mountain bighorn sheep, bison, and moose, would include some changes in forage availability and use-priority. Combined with prescribed fire and other vegetation treatment options, including enhanced distribution and access to water, the impacts to livestock grazing from wildlife and fisheries management would be minor.

For proposed travel decisions under all of the alternatives and the Proposed RMP, many areas have proposed recreation management decisions that would increase on- and off-trail activities and OHV use. Impacts to livestock grazing from these management decisions would be moderately adverse in that they would result in increased human-caused noise, dust, and vegetation disturbance, and increase the opportunities for harassment of grazing animals. Intense recreational activities would exclude livestock use in the same area unless uses were separated in time. Increased human-caused impacts would include potential harassment of livestock, potential for OHVs to move off of designated routes, potentially producing vegetation losses on illegal trails, and the potential cutting of fences or leaving gates open affecting proper livestock distribution. Under Alternative D (No Action), much of the VPA would be open to cross-country OHV travel, which would allow visitors to travel throughout the allotments and potentially reduce forage productivity. For example, four open or "play" areas exist close to Vernal, Utah, and are designated as "open" for OHV use. While these areas are limited in forage production, they are located within existing allotments. Due to the level of impact, these areas would be considered lost in the calculation of forage production because these areas effectively change the allotment boundaries. The mean number of AUMs per acre of land within the VPA is 0.06 AUMs (standard deviation of 0.04). Assuming this average loss per acre of land open to OHV use, the number of lost AUMs for these areas under Alternatives A, B, and C, would be up to 372, 326, and 326 AUMs respectively. There is no way to effectively quantify the number of AUMs that have currently been lost in the 787,859 acres of area open to OHV use under Alternative D (No Action). However, it is assumed that future loss of AUMs, by continuing to leave these areas open, would be much higher than would be experienced under the more controlled OHV use proposed under the Proposed RMP and the action alternatives.

Under the Proposed RMP and the action alternatives, areas proposed for woodland and forest management improvements would limit or reduce soil disturbance and manage for greater

vegetation cover. Impacts from these management alternatives are generally considered to have relatively minor impacts on livestock grazing, except as they relate to improved vegetation cover and additional forage in currently impaired areas.

4.8.2. ALTERNATIVE IMPACTS

Management decisions specific to the Proposed RMP and the identified alternative have the potential to impact livestock grazing in the following ways:

- Impacts to livestock grazing from fire management decisions, livestock grazing management decisions, rangeland improvements, riparian management decisions, vegetation management decisions, and woodland and forest management decisions are projected to be directly beneficial and provide both short- and long-term improvements in forage health and availability, habitat improvements, and water access and availability. The use of fire as a management tool may lead to some areas being unavailable for foraging in the short term, but in the long term would act to improve overall conditions and reduce the likelihood for wildland fire damage.
- Without careful management, increased levels of livestock, wildlife and/or wild horse use could lead to increased utilization levels and decreased forage quality over time.
- Impacts from special status species and wildlife and fisheries management decisions are projected to be adversely small to moderate on livestock grazing, as management for the increased needs of bighorn sheep could result in the reduction of grazing opportunities and changes in priority forage utilization for livestock.
- Impacts from recreation and travel-based management decisions are expected to be adversely small to moderate on livestock grazing as related to increases in noise, dust, soil and vegetation disturbances, and harassment from humans. The majority of these projected impacts are assumed to be the result of proposed increases in motorized travel and access opportunities.
- Impacts associated with mineral management decisions could be potentially adverse to livestock grazing, as they represent the potential loss of AUMs from mining, well pad and access road construction, and the construction of support facilities. In most cases, these impacts are routinely mitigated, are of relatively short duration (e.g., surface disturbances around oil and gas well pads and extraction infrastructure are reclaimed immediately after construction) and affect a relatively small area within the VPA (the predicted surface disturbances and losses of AUMs from minerals development are discussed below in subsection 4.7.2.3). These adverse impacts to livestock and grazing may be greater where energy development features include dense well sites (i.e., more dense than a 40-acre well spacing). Current RFD scenarios do not assume such a high density. Other potentially adverse but remote impacts from mineral development would include increased livestock management needs, decreased livestock dispersal, and the physical risks of livestock/vehicle collisions associated with increased vehicle traffic in grazing areas. There are often benefits where reclamation of right-of-way corridors and well pads establish more palatable forage.
- Impacts from cultural resource management decisions, paleontological resources decisions, land and realty management decisions, soils and watershed management decisions, special designations, and visual resource management decisions are projected to have minor or

negligible impacts on livestock grazing except as they impact other management decisions as outlined above. These categories will not be discussed in detail in this alternatives analysis.

4.8.2.1. Impacts of Fire Management Decisions on Livestock Grazing

4.8.2.1.1. Proposed RMP, and Alternatives A, B, C, and E

The Proposed RMP and all of the action alternatives propose using prescribed fire to treat up to 156,425 acres per decade. Livestock grazing management decisions would need to be coordinated with fire management decisions. While general areas have been identified for prescribed fire treatments, decisions regarding where fire would be prescribed would be determined by the Fire Management Plan and would be dependent upon the status of the vegetation and the seasonal and annual meteorological conditions. Therefore, it is very difficult to quantify potential impacts to livestock grazing. Prescribed burning is a useful tool for resource management and would be used to enhance forage for cattle and to reduce hazardous fuel loads.

The direct effects of prescribed fire and fire treatments as a tool for forage and fuels management would be large for livestock grazing, both in the short and long term. Cumulatively, the use of prescribed fire would have beneficial impacts, and would outweigh the short-term impacts associated with the use of prescribed fire or other fire treatments as a management tool. Generally, the short-term livestock grazing effects from prescribed burn and/or other fire treatments would include the exclusion of livestock (and other related activities) from treated areas for approximately three growing seasons (typically, one growing season prior to treatment and two seasons post-treatment). This would result in a short-term reduction in available grazing acreage and associated AUMs where prescribed burning or other fire treatments coincide with grazed areas.

The long-term direct effects from prescribed burns would include improvement in the health, biomass, and diversity of forage. Studies on prescribed fire in other areas have shown that cattle gains were much greater on burned range than on unburned range during the spring and two to three times higher for the entire season. Also, the cattle showed a strong preference for recently burned areas, when the burned areas were available for grazing (FDOF 2000). The use of prescribed burning is an irreplaceable tool in maintaining biological diversity and ecological balance. Prescribed burns, as well as wildland fire, could effectively produce an increase in forage for livestock, wildlife, and wild horses. Decisions to potentially increase AUMs would be authorized temporarily and would be non-renewable for the affected allotments.

In conclusion, while the use of prescribed burning as a management tool would result in some short-term losses of grazing areas, the long-term beneficial impacts of its application far outweigh the projected short-term impacts. Prescribed fire has the potential to improve forage and presents a much lower risk to livestock grazing than wildland fire burning over the same area.

4.8.2.1.2. ALTERNATIVE D (NO ACTION)

This alternative would use prescribed burning to treat up to approximately 50,900 acres per decade within the VPA. The description of impacts under Alternative D (No Action) would be generally the same as Alternative A, with a difference in magnitude of both impacts and benefits associated with the difference in total acres treated. In comparison, the Proposed RMP and the action alternatives would have greater beneficial impacts on livestock grazing from fire treatments and prescribed burning than Alternative D (No Action) because more area would be treated than under Alternative D (No Action).

4.8.2.2. IMPACTS OF FORAGE MANAGEMENT DECISIONS ON LIVESTOCK GRAZING

4.8.2.2.1. PROPOSED RMP

The determination of the season of use under the Proposed RMP was based on plant phenology to ensure that the physiological needs of plants would be met. Therefore, the Proposed RMP, by focusing on the needs of plants, both due to season of use and utilization levels, would ultimately improve rangeland conditions and meet the Standards for Rangeland Health. Within the VPA, a total of 138,402 AUMs would be allocated to livestock, a total of 104,865 AUMs would be allocated to wildlife, and 2,340 AUMs would be temporarily allocated to wild horses. Within the uplands in the VPA, up to 50% use of forage would be allowed unless otherwise specified by a management plan. The Proposed RMP and all of the action alternatives would reduce forage availability from current conditions for livestock. Under the Proposed RMP, there would be a 5% reduction in livestock forage allocations when compared to Alternative D (No Action).

As the number of AUMs is directly related to the amount of available forage for grazing, the short- and long-term direct impacts can be similarly anticipated whenever AUMs are used as a quantitative measure of impact. In the short term, the Proposed RMP would beneficially impact livestock. Also, the use of grazing management criteria (see Section 2, Alternatives) to maintain or improve rangeland conditions, would over the long term, maintain adequate forage production levels for livestock, wildlife, and wild horse use. Minor, adverse, indirect impacts as a result of the implementation of the Proposed RMP would occur to the ranching community, but not individual ranchers, due to the reduction in AUMs.

Under the Proposed RMP, allowable utilization on upland would be 50 percent. This level of utilization would be considered proper use because plant health would be maintained and adequate root growth would be allowed to occur. The Proposed RMP would result in less impact to rangeland health than Alternative D (No Action) because upland utilization is unspecified under Alternative D (No Action).

4.8.2.2.2. ALTERNATIVE A

The impacts to livestock and grazing under this alternative would be the same as discussed under the Proposed RMP because the management decisions are similar. Under Alternative A, 137,838 AUMs would be allocated to livestock, 104,871 AUMs for wildlife, and 2,940 AUMs for wild horses, and the percentage of upland forage utilization would be the same as the Proposed RMP.

4.8.2.2.3. ALTERNATIVE B

The determination of season of use under Alternative B was based on billed use. The billed use is based on how the permittees are actually billed.

Within the VPA, a total of 139,163 AUMs would be allocated to livestock, a total of 104,871 AUMs would be allocated to wildlife, and no (0) AUMs would be allocated to wild horses. This reallocation in AUMs would be due to the increase in AUMs from acquired private properties. This alternative would result in an approximate 5% reduction in AUMs for livestock as compared to Alternative D (No Action). Overall reductions in forage use would be 0.8 percent. Within the uplands of the VPA, up to 60% use of forage would be allowed unless otherwise specified by a management plan. The Proposed RMP and all of the action alternatives would reduce forage availability from current conditions for livestock; however, of the action alternatives, Alternative B would be most favorable to livestock.

In the short term, Alternative B would beneficially impact livestock, and the use of grazing management criteria (see Chapter 2, Alternatives) to maintain or improve rangeland conditions would, over the long-term, maintain adequate forage production levels for livestock and wildlife use. Overall, grazing management criteria under this alternative would be beneficial for livestock management. Minor indirect impacts as a result of the implementation of Alternative B would occur to ranchers due to the reduction in AUMs and to local economies because of economic impacts to ranchers.

Under Alternative B, allowable utilization by livestock on upland vegetation would be 60 percent. This level of utilization would not be considered proper use without appropriate grazing management in place that would meet the physiological needs of plants because plant health would not be maintained over the long term and adequate root growth would not be allowed to occur. This alternative would have indirect long-term, adverse impacts on livestock and grazing because of a decline in rangeland health. Alternative B would result in a greater adverse impact to rangeland health than the Proposed RMP and Alternatives A, C, and E, but would be less than Alternative D (No Action).

4.8.2.2.4. ALTERNATIVES C AND E

The determination of season of use under Alternatives C and E would be based on how grazing was adjudicated (judicially assigned) in the 1960s. Within the VPA, a total of 77,294 AUMs would be allocated to livestock, a total of 106,196 AUMs would be allocated to wildlife, and a total of 3,960 AUMs would be allocated to wild horses. The number of livestock AUMs was determined by removing historic non-use AUMs (available AUMs not used over the past 10 years) from Alternative D (No Action) for the life of the management plan. Non-use by permittees would be the result of factors such as private business reasons, livestock market fluctuations, and drought conditions. This would result in an approximate 47.1% permitted reduction for livestock under Alternatives C and E as compared to Alternative D (No Action), which would have a major adverse impact on the livestock and grazing resource. Overall reductions in forage use would be 24.3%. Within the uplands of the VPA, up to 50% use of forage would be allowed unless otherwise specified by a management plan. All of the action alternatives would reduce forage availability from current conditions for livestock, and

Alternatives C and E are the alternatives least favorable to livestock from the standpoint of total available AUMs. However, from a rangeland health perspective, Alternatives C and E would result in the least use by livestock of the forage. Proper levels of use sustain a healthy vegetation condition that would support continued livestock grazing.

Because the number of AUMs is directly related to the amount of available forage for grazing, the short- and long-term direct impacts can be similarly anticipated whenever AUMs are used as a quantitative measure of impact. In the short term, Alternatives C and E would provide forage for livestock for roughly half of the AUMs as compared to Alternative D (No Action), due to the 47.1% removal of historic non-use AUMs. This reduction would have a major impact on the livestock industry within the VPA. However, the total use of AUMs would not realistically differ from current conditions based on the levels of non-use. As with the other alternatives, grazing management criteria would be followed (see Chapter 2, Alternatives) to maintain or improve rangeland conditions. A long-term direct, adverse impact of Alternatives C and E would be the limitation of permittees to expand the size of their operations above current levels within the allotments. This limitation would not allow the number of livestock to increase as markets improve, but increases would be driven by rangeland health and the capacity of the vegetation to support grazing. Forage production would likely increase under Alternative E, resulting in increased feed for foraging animals and an improvement in rangeland health. Alternatives C and E would result in indirect impacts to ranchers and their families, to the local economy due to the reduction in livestock AUMs, and to local businesses due to the slowed economy. The reduction in permitted AUMs could affect the ability of ranchers to obtain adequate financial resources because federal permits are a recognized value to lending institutions. Fire ecology would also change due to the limited amount of grazing that would be authorized. The increased amount of forage would increase fuel loads, thereby affecting rangeland fire conditions.

Rangeland health would be the driving force under Alternatives C and E and would be monitored to ensure that rangeland health standards would be met. As a result, the number of AUMs could increase under Alternatives C and E on a case-by-case basis as directed by improved rangeland health. Under Alternatives C and E, allowable utilization levels of 50% on uplands would be targeted to provide for plant health and adequate root growth. This level is expected to vary from year to year due to climatic changes, and the 50% utilization target could be modified in site-specific management plans considering allotment-specific conditions. Because of their lower utilization limits (50%), the Proposed RMP, and Alternatives A, C, and E would result in less livestock use of forage, compared to Alternative B (specified for management at 60% forage utilization). Proper levels of use sustain a healthy vegetation condition that would support continued livestock grazing. A comparison to Alternative D (No Action) is not possible because there is no specified utilization target. However, healthy rangeland standards would be targeted under all of the alternatives.

4.8.2.2.5. ALTERNATIVE D (NO ACTION)

The determination of season of use under Alternative D (No Action) was based on the permitted use. Season of use, combined with allowable utilization levels would adversely impact rangeland health to the greatest degree among the alternatives. Under this alternative, within the VPA, a total of 146,161 AUMs would be temporarily allocated to livestock, a total of 96,607 AUMs

would be allocated to wildlife, and a total of 2,340 AUMs would be allocated to wild horses. Forage actions for the uplands in all localities of the VPA are unspecified; therefore, the effects of forage management decisions on livestock grazing cannot be determined at this time. Alternative D (No Action) is the alternative most favorable to livestock.

As the number of AUMs is directly related to the amount of available forage, the short- and long-term direct impacts can be similarly anticipated whenever AUMs are used as a quantitative measure of impact. In the short term, Alternative D (No Action) would beneficially impact livestock, and the use of grazing management criteria (see Section 2, Alternatives) to maintain or improve rangeland conditions, would over the long-term, maintain adequate forage production levels for livestock, wildlife, and wild horse use. Minor indirect impacts as a result of the implementation of Alternative D (No Action) would occur to ranchers due to the increased amount of forage from range improvement practices.

Under Alternative D (No Action), allowable utilization on upland vegetation and riparian vegetation are unspecified**.** Depending on the allotment, proper use would potentially not be maintained. Alternative D (No Action) would potentially result in the greatest adverse impact to rangeland health, as compared to the Proposed RMP and alternatives.

4.8.2.3. IMPACTS OF MINERAL DECISIONS ON LIVESTOCK GRAZING

Activities associated with the exploration and development of mineral resources would have impacts on livestock grazing that would result in:

- the temporary loss of vegetation and/or the loss of land available for grazing;
- the possible disruption of livestock practices;
- the possible loss of grazing capacity due to changes in land management.

These impacts would be minor (and would be routinely mitigated), unless well densities were higher than projected. Short term losses of forage from surface disturbances would be adverse; however, reclamation of these areas would create the opportunity for establishing more palatable forage. Livestock grazing and the development of oil and gas and CBNG natural gas deposits are assumed to be generally compatible with livestock grazing in most cases, as exploration activity would be short-term and extraction activities and impacts are expected to require relatively small areas for the placement of equipment and machinery. The development of phosphate and Gilsonite resources would result in the long-term removal of lands from grazing activity to a greater extent than the above resource extraction processes because of greater surface and subsurface disturbances. In general, livestock grazing on rangeland would be expected to continue at some level during the development of oil and gas, and coal bed resources.

The potential impacts of mineral development on livestock grazing would be the same for the Proposed RMP and all of the alternatives. The construction of drilling well pads, pipelines, and access routes would remove areas from the forage base, thereby resulting in a decrease in available AUMs for livestock. The actual losses of AUMs as a result of development under each alternative are described separately below. Mineral development would also potentially produce adverse impacts on use patterns due to the construction of new access routes and fencelines,

resulting in the potential fragmentation of forage resources. This fragmentation could result in areas where livestock grazing would be avoided or areas where livestock become more concentrated. While the loss in AUMs under any alternative would be relatively low, these other impacts pertaining to resource fragmentation could result in a cumulatively greater impact.

The development of wellpad and mining access routes would have both adverse and beneficial impacts on the grazing resource. Routes would beneficially provide additional access to portions of the allotments that currently do not have access. Access routes could increase livestock distribution in some areas, but can also disrupt distribution patterns. Increased livestock distribution could occur in some areas that have previously been inaccessible due to terrain limitations, distance from water, or a combination of both. Livestock distribution would be adversely disrupted in some areas because livestock would move along the routes, thereby missing available forage, or livestock could gain access to areas that are not desirable or are too fragile for grazing. Access routes would also allow increased vehicular traffic, contributing to potentially adverse disturbance to livestock from OHV users and those seeking dispersed recreational opportunities.

4.8.2.3.1. ANALYSIS ASSUMPTIONS

In developing this analysis, there was a large degree of recognized uncertainty regarding the magnitude of final development. Uncertainty specific to livestock grazing impacts includes the number of wells, type and amount of equipment used, specific locations of development, etc. Because of this uncertainty, actual impacts would vary from the projected values and would potentially be affected by the timing of phased development and associated permit requirements. The projected impacts discussed below were based on the following assumptions:

- Losses in grazing area from exploration activities.
- Areas of impact and changes in AUMs were calculated assuming that all mineral extraction activity would be located on grazed lands.
- All impacts to livestock grazing were assessed at the full magnitude of the proposed management alternatives and therefore represent impacts at full development. Initial impacts are expected to be much smaller as all lands will not be developed at the same rate or schedule for any of the proposed alternatives.
- To the extent possible, existing roadways and fence crossings would be used for oil and gas operations rather than new construction in the same vicinity.
- Fugitive dust emissions from roadways were treated as line sources in the air quality model (see subsection 4.2.3.6.1.3). This may increase or reduce the predicted maximum loads deposited near roadways depending on meteorology and terrain.
- Other specific assumptions as detailed within this analysis.

4.8.2.3.2. PROPOSED RMP

General impacts to livestock grazing under the Proposed RMP are projected to be primarily caused by the loss of grazing land from the construction of well pads, other extraction facilities and access routes; loss of vegetation available for grazing due to surface disturbance in areas

associated with extraction activities; and disruption of livestock management practices due to extraction activities. For the purposes of this analysis, the mean number of AUMs per acre of land within the VPA (0.06) was used to estimate the potential loss of AUMs due to mineral development disturbances. Under the Proposed RMP, a total of 303 AUMs (based on the RFD prediction of 5,045 acres of short term surface disturbances) would be lost in the short-term due to oil and gas well construction (including CBNG development) and associated facilities. The total long-term loss of AUMs from minerals development would be 829 AUMs (based on a RFD prediction of 13,815 acres of long-term disturbance from well pads, pipelines, roads, compressors, and power line construction), which would be a 4% increase in lost AUMs when compared to Alternative D (No Action).

Each exploration or extraction site would be unique and would have site-specific impacts on livestock and on grazing. Impacts specific to minerals exploration are expected to be short-term (e.g., the length of time required to drill a well and determine its productivity potential); impacts from extraction activities are expected to be long term and last as long as those activities are occurring (i.e., the productive lifetime of a oil/gas well or mine). Changes in livestock management that would be necessary during minerals operations would potentially include construction of cattle guards and fences to prevent livestock escape due to the proposed construction of routes, and identification of specially designated or restricted areas and pipelines. It should be noted that a total exclusion of livestock grazing is not expected to occur within areas of oil and gas, and CBNG development.

In the long term, the movement of livestock within the VPA would be hindered, to some degree, by the placement of routes and well pads or similar extraction-related construction. New routes associated with the proposed alternatives would provide livestock permittees with improved access to remote facilities and grazing areas. Increased vehicle traffic associated with the new routes (recreational and those associated with mineral exploration and extraction activities) would present a potential physical hazard to livestock proportional to traffic and livestock density. Increased use of the land area by mineral resources would potentially shift grazing locations, resulting in greater grazing pressure on more remote areas.

Fugitive dust from new and existing routes and other areas of surface disturbance would have adverse impacts on livestock grazing, as it would tend to settle onto forage, especially along routes with heavy traffic. Such dust has the potential to affect the quality and regenerative capacity of grass and forb forage. Generally such effects are most severe in an area extending up to 0.25 miles from the route. Air quality modeling for this alternative has projected that 254 miles of new routes would be constructed per year, with the potential to generate 121 tons of particulates (PM_{10}) per year. Given the 0.25-mile assumption for dust effects, this equates to an area of impact of approximately 350,000 acres, not all of which would be grazed acres.

Additional, potentially adverse impacts on livestock and grazing would be produced by the establishment and spread of non-native, invasive species and noxious weeds that replace or out-compete palatable forage, and the disposal or spilling of highly saline produced-water from CBNG extraction activities, fuels and solvents, and drilling fluid that would adversely reduce forage productivity.

4.8.2.3.3. ALTERNATIVE A

The short term and long term impacts would be the same as discussed above under the Proposed RMP. There would be a short term loss of 304 AUMs from wellpad, pipeline, infrastructure, and access road construction (based on a RFD projection of 5,066 acres of disturbance). The total long-term loss in AUMs from constructed physical facilities would be 833 AUMs (based on a RFD projection of 13,879 acres of disturbance), which would be 4% increase in lost AUMs, when compared to Alternative D (No Action).

Fugitive dust impacts would be the same as discussed above under the Proposed RMP, as the same number of new roads per year would be constructed, with the potential to generate the same number of tons of PM_{10} particulates per year. The impacts from fluid spills and invasive species establishment would be the same as discussed above.

4.8.2.3.4. ALTERNATIVE B

Short-term and long term impacts from mineral resource exploration and development for Alternative B would be the same as those described under the Proposed RMP. Under Alternative B, a total of 305 AUMs that would be lost in the short-term due to oil and gas (including CBNG) well construction and associated facilities (based on a RFD disturbance of 5,088 acres in the short term). This alternative would reduce forage by 837 AUMs in the long term (from a projected surface disturbance of 13,945 acres). This would be a 5% long-term increase in the number of lost AUMs as compared to Alternative D (No Action).

The air quality modeling for this alternative has projected that the construction of 257 miles of new routes per year would create the potential to generate 123 tons of particulate (PM_{10}) per year. Given the assumption of 0.25 mile for dust effects, this equates to an area of impact of approximately 350,000 acres, not all of which would be grazed acres. The impacts of fugitive dust on livestock forage are discussed under the Proposed RMP.

4.8.2.3.5. ALTERNATIVE C

The short-term and long term impacts from mineral resource exploration and development for Alternative C would be the same as those described under the Proposed RMP. Under Alternative C, a projected total of 301 AUMs that would be lost in the short term because of oil and gas well (including CBNG) construction and associated infrastructure. The total long-term loss of AUMs from constructed physical facilities would be 824 AUMs (from oil and gas disturbances on 13,737 acres), which is a 3% increase in AUMs lost as compared to Alternative D (No Action). Air quality modeling for this alternative has projected the construction of 249 miles of new routes per year with the potential to generate 119 tons of particulate (PM_{10}) per year. Given the 0.25-mile assumption for dust effects, this equates to an area of impact of approximately 350,000 acres, the same as the Proposed RMP.

4.8.2.3.6. ALTERNATIVE D (NO ACTION)

General impacts from mineral resource exploration and development for Alternative D (No Action) are expected to be comparable to those described for the Proposed RMP. Under Alternative D (No Action), a total of 293 AUMs that would be lost in the short-term due to oil and gas well (includes coal bed) construction and associated facilities. There would be a total long-term loss of 800 AUMs, with the same impacts as those described under the Proposed RMP.

For Alternative D (No Action), air quality modeling has projected that 250 miles of new routes would be constructed per year with the potential to generate 119 tons of PM_{10} particulates per year. Given the 0.25-mile assumption for dust effects, this equates to an area of impact of approximately 350,000 acres.

4.8.2.3.7. ALTERNATIVE E

The short term and long term impacts to livestock forage from minerals development would be the same as discussed under the Proposed RMP Under Alternative E, a total of 282 AUMs would be lost in the short term due to oil and gas well (includes CBNG) construction and associated facilities. Long term loss of forage productivity would total 766 AUMs (based on a RFD prediction of 12,765 acres of disturbances), with impacts as discussed above under the Proposed RMP, which would result in a 4% reduction in lost AUMs when compared to Alternative D (No Action).

Air quality modeling has determined that 249 miles of new roads would be constructed each year, with the generation of 119 tons of PM_{10} particulates per year. This equates to an area of impact of approximately 350,000 acres.

4.8.2.4. IMPACTS OF NON-WSA AREAS WITH WILDERNESS CHARACTERISTICS DECISIONS ON LIVESTOCK GRAZING

4.8.2.4.1. PROPOSED RMP

Under the Proposed RMP, 106,178 acres of non-WSA lands with wilderness characteristics would be managed to protect their wilderness values. Management decisions under the Proposed RMP would allow construction of livestock facilities if compatible and consistent with the goals and objectives of preserving wilderness values in these areas. At the programmatic level of analysis, the impacts to livestock grazing would be difficult to predict, and any impacts would be analyzed at the site-specific activity level and/or at the time of proposed conversions or construction of new facilities.

4.8.2.4.2. ALTERNATIVE A, B, C, AND D (NO ACTION)

Under these alternatives, there would be no management decisions to specifically protect non-WSA lands with wilderness characteristics. Thus, there would be no impacts to livestock grazing.

4.8.2.4.3. ALTERNATIVE E

Under Alternative E, 277, 596 acres of non-WSA lands with wilderness characteristics, which represent approximately 16% of public lands in the VPA, would be protected from impacts that would degrade their wilderness characteristics. Management decisions would allow the construction of livestock facilities and permit the maintenance of existing facilities in non-WSA lands with wilderness characteristics if consistent with the goals and objectives of managing non-WSA lands with wilderness characteristics. The impacts would be similar to those discussed under the Proposed RMP because the management decisions for livestock are the same.

4.8.2.5. IMPACTS OF RANGELAND IMPROVEMENT DECISIONS ON LIVESTOCK GRAZING

The net impacts to livestock grazing resulting from rangeland improvements would be beneficial in the long term under the Proposed RMP and each of the four action alternatives.

4.8.2.5.1. PROPOSED RMP

Under this alternative, direct impacts would include the short-term, adverse impacts of displacement of livestock while improvements are made, and the long-term, beneficial impacts of improvements to grazing allotments.

Displacement of cattle would occur as a result of vegetation treatments. Cattle would be displaced for two growing seasons from a total of 34,640 acres of vegetation while it is being treated. Cattle would be temporarily and intermittently displaced during construction of approximately 69 linear miles of fenceline. This displacement would occur for the short term (i.e., pre-construction and the time needed to construct a portion of the fence in a particular allotment) and from a very small area (i.e., a construction zone to be designated on either side of the fence centerline). Cattle would be temporarily and intermittently displaced during development of 812 guzzlers and/or reservoirs, 51 wells and/or springs, and 38 miles of pipeline within their allotments. The more favorable grazing conditions would result from the three kinds of improvement actions. After two growing seasons, a total of 34,640 acres of improved/increased forage would be available. After construction of the 69 linear miles of fenceline, grazing areas would be more clearly delineated and that would result in better livestock management. Finally, more water would be available to cattle after installation of 812 guzzlers and/or reservoirs and 51 wells and/or springs, as well as the pipelines.

4.8.2.5.2. ALTERNATIVE A

The impacts to livestock and grazing under this alternative would be the same as discussed under the Proposed RMP because the management decisions are the same.

4.8.2.5.3. ALTERNATIVE B

Under this alternative, direct impacts would include the short-term, adverse impacts of livestock displacement while improvements are being made, and the long-term, beneficial impacts of

improvements to grazing allotments. The rangeland improvement actions comprising Alternative B would have the greatest number of acres improved, as compared to the other alternatives.

Displacement of cattle would occur as a result of the three kinds of improvement actions, as described under the Proposed RMP. Cattle would be displaced for two growing seasons from a total of 50,900 acres of vegetation while it is being treated. Cattle would be temporarily and intermittently displaced during construction of 369 linear miles of fenceline. This displacement would be in the short term and from a very small area, as described under the Proposed RMP. Cattle would be temporarily and intermittently displaced during development of 1,165 guzzlers and/or reservoirs and 78 wells and/or springs within their allotments. Cattle would also be temporarily and intermittently displaced during construction of 51 linear miles of water pipeline. This displacement from pipeline construction would occur in the short term and from a small area, as described under the Proposed RMP.

More favorable grazing conditions will result from the three kinds of improvement actions. After two growing seasons, a total of 50,900 acres of improved/increased forage would be available. After construction of the 369 linear miles of fenceline, grazing areas would be more clearly delineated. Finally, more water would be available to cattle after installation of 1,165 guzzlers and/or reservoirs and 78 wells and/or springs, as well as the pipeline.

4.8.2.5.4. ALTERNATIVES C AND E

More favorable grazing conditions would result from three kinds of improvement actions. These improvement actions include vegetation treatments; fence construction for improved livestock control; and the development of guzzlers and/or reservoirs, wells and/or springs, and pipeline construction within cattle allotments. Cattle would be displaced for two growing seasons from a total of 45,860 acres for vegetation treatments. Cattle would be temporarily and intermittently displaced from a very small area during construction of 129 linear miles of fenceline. Cattle would be temporarily and intermittently displaced during the development of 811 guzzlers and/or reservoirs and 87 wells and/or springs, and during the construction of 30 linear miles of water pipeline. After two growing seasons, a total of 45,860 acres of improved/increased forage would be available, grazing areas would be more clearly delineated, and more water would be available to cattle.

Under Alternatives C and E, direct impacts include the short-term, adverse impacts of displacement of livestock while improvements are made and the long-term, beneficial impacts of improvements to grazing allotments. Rangeland improvement actions under Alternatives C and E will improve current rangeland more than under the Proposed RMP and Alternatives A and D (No Action) but less than under Alternative B.

4.8.2.5.5. ALTERNATIVE D (NO ACTION)

Under this alternative, direct impacts include the short-term, adverse impacts of displacement of livestock while improvements are made and the long-term, beneficial impacts of improvements to grazing allotments. The rangeland improvement actions composing Alternative D (No Action)

would improve current rangeland more than the Proposed RMP and Alternative A but less than Alternatives B and C.

Displacement of cattle would occur as a result of the three kinds of improvement actions described under the Proposed RMP. Cattle would be displaced for two growing seasons from a total of 40,390 acres of vegetation while it is being treated. Cattle would be temporarily and intermittently displaced during construction of 65 linear miles of fenceline. This displacement would occur in the short term and over a very small area, as described under the Proposed RMP. Cattle would be temporarily and intermittently displaced during development of 775 guzzlers and/or reservoirs and 74 wells and/or springs within their allotments. Cattle would also be temporarily and intermittently displaced during construction of 35 linear miles of water pipeline. This displacement from pipeline construction would occur in the short term and from a small area.

In the long term, more favorable grazing conditions would result from the three kinds of improvement actions, as described under the Proposed RMP. After two growing seasons, a total of 40,390 acres of improved/increased forage would be available. After construction of the 65 linear miles of fenceline, grazing areas would be more clearly delineated. Finally, more water would be available to cattle after installation of 775 guzzlers and/or reservoirs and 74 wells and/or springs, as well as the pipeline.

4.8.2.6. Impacts of Vegetation Management Decisions on Livestock Grazing

4.8.2.6.1. Proposed RMP, and Alternatives A, B, C, and E

Vegetation in the Vernal planning area would be managed by using prescribed burning on approximately 156,425 acres per decade and by using rangeland improvements, with impacts similar to those described in Sections 4.8.2.1 and 4.8.2.4. Under the Proposed RMP and all of the action alternatives, the impacts to grazing would be those associated with and discussed under Fire Management and Rangeland Improvement.

4.8.2.6.2. Alternative D (No Action)

Generally, the types of impacts would be the same as discussed under the Proposed RMP and action alternatives, with a reduction in magnitude of both beneficial and adverse impacts, which would be associated with the decrease in acres proposed for fire treatments and reduced levels of rangeland improvements.

4.8.2.7. Summary

4.8.2.7.1. Proposed RMP

The Proposed RMP would have adverse impacts on livestock and grazing by allowing a 4% loss of AUMs from mineral development (more than Alternative E, but less than Alternative B) and proposes the least number of acres treated for rangeland improvement treatments. Forage allocation would be less than Alternatives B and D, but more than Alternatives A, C, and E.

4.8.2.7.2. ALTERNATIVE A

This alternative would have impacts similar to the Proposed RMP from a 4% loss of AUMs from minerals development and the same acreage of rangeland improvements treatments. Forage allocation would be less than the Proposed RMP and Alternative D (No Action), but more than Alternatives C and E.

4.8.2.7.3. ALTERNATIVE B

Alternative B would produce short-term conditions favorable to livestock, but long-term adverse impacts to rangeland health by exceeding forage production capacity, even though this alternative proposes the most area for rangeland improvements treatments. The percentage of AUMs lost to minerals development would be the highest of the action alternatives (5 percent).

4.8.2.7.4. ALTERNATIVE C

Under Alternative C, the impacts on livestock grazing would be adversely high (by removing the most AUMs from livestock grazing [the same as Alternative E]), but beneficial to rangeland health. The adverse impacts from AUMs lost to minerals development would be the less than of all the action alternatives except for Alternative E. Rangeland improvement management actions would be less beneficial than Alternative B, but greater than the Proposed RMP and Alternatives A and D (No Action).

4.8.2.7.5. ALTERNATIVE D (NO ACTION)

Alternative D (No Action) would provide the least number of acres for fire treatment (and indirect improvements to rangeland forage). This alternative would provide for rangeland improvements greater than the Proposed RMP and Alternative A, but less than Alternatives B, C, and E. The area of AUMs lost to minerals development would be less than the Proposed RMP, and Alternatives A, B, C, but more than Alternative E.

4.8.2.7.6. ALTERNATIVE E

Under Alternative E, the short-term adverse impacts on livestock grazing would be greater than under the other alternatives by removing the most AUMs from livestock grazing; however, it would result in the most beneficial long-term impacts to rangeland health. Adverse impacts from AUMs lost to minerals development would be the least of all the alternatives and the Proposed RMP. Rangeland improvement management actions would be less beneficial than under Alternative B, but greater than the Proposed RMP and Alternatives A and D (No Action).

4.8.3. MITIGATION MEASURES

Timing and location planning and coordination of prescribed burning would be critical in the mitigation of impacts. In some cases, it would be possible to time prescribed burns to avoid coinciding with seasons of peak grazing use. However, it may be necessary to allow a season of rest for a grazing area designated for prescribed burning in order to allow sufficient fuel loads to

accumulate. Therefore, because such coordination would typically be impossible, scheduling of prescribed burns should be coordinated with grazing to reduce or disperse the overall impacts between individual allotment holders to the extent possible and avoid undue impacts and hardships to individual allotment holders.

4.8.4. UNAVOIDABLE ADVERSE IMPACTS

There would be a short-term, unavoidable adverse impact to grazing from fire and vegetation treatments, which would temporarily reduce grazing areas within the VPA during treatment and vegetation recovery. There would be unavoidable, adverse short- and long-term loss of AUMs from the exploration and development of mineral resources. These losses are described above.

4.8.5. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

As discussed in the subsections above, short-term uses could be forgone in order to enhance long-term productivity. This is particularly the case with rangeland improvements such as prescribed fire, vegetation manipulation, and vegetation treatment scenarios. As discussed, foregoing short-term uses would greatly enhance the long-term productivity of the resource, thereby producing beneficial long-term outcomes.

4.8.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

Long-term surface-disturbing activities associated with 1) mineral development and access route construction, 2) OHV use, 3) motorized and non-motorized trail construction would result in irretrievable impacts to resources. There are no irreversible impacts that were identified for livestock and grazing resources.

4.9. MINERALS AND ENERGY RESOURCES

This chapter presents the environmental consequences of mineral and energy exploration and development with regard to the management actions proposed under the Proposed RMP and each of the five alternatives described in Chapter 2.

As described in Chapter 3, Minerals and Energy Resources (Section 3.9) the exploration and development of mineral and energy resources is accomplished through several stages of activity. The first stage (land categorization) involves determining which public lands should be available for exploration and development and under what conditions. The BLM has developed four conditions of leasing to describe the stipulations that would be placed upon BLM-administered public lands regarding their availability for fluid hydrocarbon leasing. All BLM-administered public lands within the VPA are allocated to leasing with one of the following four lease constraints for oil and gas development:

- Open to oil and gas leasing subject to standard lease terms
- Open to oil and gas leasing subject to moderate constraints (TL/CSU)
- Open to oil and gas leasing subject to major constraints (NSO)
- Administratively Closed to oil and gas leasing

In addition to the oil and gas leasing stipulations, locatable and salable minerals areas are generally classified as either open or closed. Locatable minerals are usually the base and precious metal ores, ferrous metal ores, and certain classes of industrial minerals where acquisition is by staking (locating) a mining claim over the deposit and then acquiring the necessary permits to explore or mine. Salable minerals are defined as mineral commodities sold by sales contract from the federal government. Salable minerals are generally common varieties of construction materials and aggregates, such as sand, gravel, cinders, roadbed, and ballast material.

4.9.1. IMPACTS COMMON TO THE PROPOSED RMP AND ALL ALTERNATIVES

Essentially, the goals and objectives for mineral and energy development that are common to the Proposed RMP and all alternatives are to help the BLM meet local and national, non-renewable and renewable energy and other public mineral needs, while ensuring a viable, long-term mineral industry and providing reasonable and necessary protections to other resources.

For both non-renewable and renewable alternative energy resources, the following principles would be applied:

1. Encourage and facilitate the development by private industry of public land mineral resources in a manner that satisfies national and local needs and provides for economical and environmentally sound exploration, extraction and reclamation practices.
2. Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with existing policy and guidance.

3. Monitor salable, locatable, and leasable mineral operations to ensure proper resource recovery and evaluation, production verification, diligence, inspection and enforcement of contract sales, common-use areas, community pits, free-use permits, leases, and prospecting permits.

The plan would recognize and be consistent with the National Energy Policy (National Energy Policy Development Group, 2001) by:

1. Recognizing the need for diversity in obtaining energy supplies
2. Encouraging conservation of sensitive resource values
3. Improving energy distribution opportunities

4.9.1.1. Oil and Gas Resources

Under the Proposed RMP and Alternatives A, B, C, and E, split-estate lands (federal minerals-Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Indian Reservation would be available for mineral leasing. Approximately 188,500 acres of split-estate lands would be available under Alternatives A, B, C, and E. Approximately 147,329 acres of split-estate lands would be available under the Proposed RMP. The Hill Creek Extension would not be available for leasing without an appropriate plan amendment under Alternative D (No Action). Therefore, the action Alternatives A, B, C and E, and the Proposed RMP would have more acreage available for mineral leasing than Alternative D (No Action), as well as more wells predicted for development. Although the Proposed RMP would have more acreage available for mineral leasing than Alternative D (No Action), it would have slightly less available than Alternatives A, B, C, and E.

Measures would be developed to avoid, minimize, or mitigate adverse environmental impacts that may result from federally authorized mineral lease activities on these split-estate lands. All potential mineral- and energy-related activities would be closely coordinated with the Tribal government to ensure that their concerns are accommodated to the maximum extent possible under existing law and policy.

The impacts of permitting minerals leasing on split-estate lands within the VPA would be beneficial and long-term. Leasing of split-estate lands would lead to the permitting of additional wells, which would in turn, lead to an increase in the domestic supply of oil and/or natural gas and increased royalties to the federal government and the State of Utah. The Ute Tribe would also receive economic benefits from leasing their lands, including rentals or fees from the use of surface permits or other rights-of-way (ROWs).[6]

4.9.1.2. Locatable Mineral Resources

Locatable mining operations on lands open to mineral entry (as well as on claim locations that predate withdrawal) must be conducted in compliance with the 43 CFR 3809 (surface management) regulations. These regulations require an operator to prevent unnecessary or undue

[6] Please note that there would also be adverse effects to Tribal lands from mineral leasing. These impacts are discussed under individual resource sections and are included as part of the area analysis.

degradation of the land. The three levels of operation under these regulations are casual use, notice, and plan of operation. In general, casual use mining activities only negligibly disturb federal lands and resources, and usually include recreational mining. This level of mining does not require mechanized equipment or explosives, does not require notification of the BLM, and does not require an approved plan of operations, but does require reclamation. Notice-level mining operations are on five acres or less within a mining claim or project area. A notice is submitted by the operator to the BLM that declares the intention of the operator to begin an operation, and this allows the BLM to review the operation for potential resource conflicts and to eliminate the need for federal action. Plan of operation-level mining activities are on more than five acres, with required submission of an operations plan to the BLM. A plan of operations must document in detail all actions that the operator plans to take from exploration through reclamation. For activities other than casual use, the operator is required to submit either a notice or a plan of operations and a reclamation plan.

A plan of operations and a reclamation plan are required where activities involve the surface disturbance of more than 5 acres. The plan of operations must include a description of the proposed activities, route access and construction, reclamation measures, timeframes of non-operation, and a sketch or a map of the area to be disturbed, including all access routes. Notices and plans of operations also require a 100% reclamation financial guarantee bond before work may commence on the ground. An environmental assessment (EA) or an environmental impact statement (EIS) must be prepared by the BLM or the claimant/operator prior to commencement of any surface-disturbing activities. A plan of operations must be approved by the BLM. Operations at the plan level may not commence until the plan is approved.

Five acres or less of surface disturbance usually requires a notice. The notice must describe the proposed activities, the location on the ground, the start-up date, route access and construction, if any, and reclamation measures. Receipt and review of a notice is not a federal action; therefore, there is no requirement for the preparation of an EA or EIS. Approval by BLM is not required for a notice.

There is no requirement for notifying the BLM of casual use activities. Casual use activities are those that cause only negligible disturbance of the public lands and resources. For example, activities that do not involve the use of earthmoving equipment or explosives may be considered casual use.

Certain lands, as defined in 43 CFR 3802.1-1 and 3809.11, always require a plan of operations. A plan of operation would have to be filed for operations conducted in:

- Lands under wilderness review;
- River corridors in the National Wild and Scenic Rivers System and corridors designated for potential addition to the system;
- Designated Areas of Critical Environmental Concern (ACECs);
- Areas designated as "closed" to OHV use (as defined in 43 CFR 8340-5);
- Any lands or waters known to contain federally proposed or listed threatened or endangered species, or their proposed or designated critical habitat.

Mining operations conducted in WSAs are subject to 43 CFR 3802, Exploration and Mining, Wilderness Review Program. The purpose of these regulations is to prevent impairment of the suitability of WSAs for inclusion in the wilderness system and to prevent unnecessary or undue degradation by activities authorized under the mining laws. Mining operations in WSAs usually require approval of a plan of operations.

The filing of plans of operation is generally more laborious than notice-level operations, and the cost of the extraction of locatable mineral resources would be expected to increase in these areas. Given the moderate potential for the occurrence of economical locatable minerals within the planning area and the fact that there is limited development activity anticipated over the next 15 years, requirements for plans of operations would not likely have adverse economic impacts on most mining operators or prevent the development of locatable minerals.

4.9.1.3. Mineral Materials

Under the Proposed RMP and alternatives, all existing mineral material sites would be evaluated to determine continued need and ensure that they are accommodating user needs. The Proposed RMP and alternatives would allow applications for contract sale and free-use permits. Common-use areas and community pits would be established by the BLM in "open" areas, unless otherwise encumbered. The impacts of these management decisions would continue to provide mineral materials, a direct and beneficial effect in the long term.

4.9.1.4. Alternative Energy

The goals and objectives for alternative energy development have the potential to provide economic benefits, both locally and regionally. Alternative energy development is considered by many to impact the human environment less than traditional, non-renewable forms of energy development. The goals and objectives reflect the economic need for alternative energy development of wind, solar, and geothermal energy. Individual development proposals would be evaluated based on conformance with the other program goals and objectives stated in the RMP. Alternative energy development would enhance the BLM's ability to help meet local and national energy needs, and it would assist in the growth of a practicable, long-term alternative energy industry while providing reasonable and necessary protections to other resources.

Under management common to all, the Proposed RMP and all action alternatives (A, B, C, and E) would recognize the opportunity for alternative energy development and proposals would be evaluated based on conformance with other program goals and objectives stated in the plan. BMPs would be developed. Implementation of these measures would provide for the use of VPA lands for alternative energy and communications uses while meeting the individual and overall resource management goals of the RMP.

4.9.2. Proposed RMP and Alternative Impacts

The following section describes the number of acres or miles that would be available for mineral development under the Proposed RMP and each alternative, the potential for economical resource development, and the impacts of other resource decisions upon mineral resources in the

VPA. Table 4.9.1 summarizes the number of acres or miles that would be available for energy and mineral development in the VPA under the Proposed RMP and each alternative. The acreages shown for Gilsonite, phosphate, oil shale, and mineral materials are in areas where the mineral resource was determined to have a high or moderate potential for occurrence (BLM 2004e).

The impacts on minerals resource development from fire, forage, lands and realty, livestock and grazing, paleontological resources, rangeland improvements, riparian, wild horses, and woodlands management decisions would be minor or negligible. The impacts of these resources on minerals resources will not be analyzed further.

Table 4.9.1. Acres or Miles of Land Available to Energy and Mineral Development under All Alternatives

Resource	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D No Action	Alternative E
Oil, Gas, and Coal-bed Natural Gas (Acres)						
Standard Stipulations	860,651	983,905	1,113,116	858,619	918,315	818,891
Timing and Controlled Surface Use	779,730	796,955	706,281	768,466	617,715	680,570
No Surface Occupancy	86,789	69,302	42,053	58,670	136,930	47,629
Closed to Leasing	186,917	63,839	52,550	228,246	52,540	367,037
Gilsonite (Miles/Acres)						
Open	172 miles/ 36,846 acres	Same as Proposed RMP	Same as Proposed RMP	Same as Proposed RMP	168 miles/ 36,009 acres	163 miles/ 34,967 acres
Phosphate (Acres)						
Open	76,208	87,724	87,724	63,571	84,600	52,063
Mineral Materials (Acres)						
Open	389,788	415,395	432,953	388,699	387,700	344,682

4.9.2.1. Impacts of Mineral Decisions on Mineral Resources

4.9.2.1.1. Proposed RMP

4.9.2.1.1.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 860,651 acres would be administratively available for oil and gas leasing (which includes CBNG) with Standard stipulations. Approximately 779,730 acres would be administratively available for oil and gas leasing (which includes CBNG) with Timing Limitations and/or Controlled Surface Use stipulations. Combined, approximately 1,640,381

acres of land would be administratively available for oil and gas leasing (which includes CBNG) with Standard, Timing Limitation, and/or Controlled Surface Use stipulations. This represents a 6.8% increase in the total acreage available for leasing, compared to Alternative D (No Action), and the third highest number of acres of land available for leasing among all of the alternatives.

Oil and gas development is expected to occur within each of the six exploration-and-development areas shown in Table 4.9.2. Coal-bed natural gas development would occur only in the East and West Tavaputs Plateau. The predicted number of wells is based on the Reasonably Foreseeable Development (RFD) described in the Mineral Potential Report for the VPA (BLM 2004e). If the Proposed RMP were implemented, there would be a 7.3% increase in the total number of predicted oil and gas wells, compared to Alternative D (No Action).

Table 4.9.2. Predicted Oil and Gas Wells within RFD Areas under The Proposed RMP [7]

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
Altamont-Bluebell	99.97%	175	250	0
East Tavaputs Plateau	89.69%	67	538	72
Manila-Clay Basin	92.64%	0	42	0
Monument Butte-Red Wash	97.03%	1,650	3,008	0
Tabiona-Ashley Valley	94.94%	28	0	0
West Tavaputs Plateau	95.51%	72	334	48
Total		**1,992**	**4,172**	**120**

The direct impacts of mineral resources decisions on oil, gas and CBNG development would be beneficial. An increase in the potential number of oil and gas wells under the Proposed RMP would lead to an increase in the available supply of oil and/or natural gas. This would have a short-term beneficial socioeconomic impact on the minerals extraction industry and on local economies from increased production, and by maintaining the supply of an energy resource.

The indirect impacts of mineral resources decisions on oil and gas development would be beneficial and adverse. An increase in the potential number of oil and gas wells under the Proposed RMP would lead to an increase in royalties paid to the federal government and/or the State of Utah, as the oil and gas wells were developed and the resource was extracted. However, the increased total acreage that would be open to oil, gas, and CBNG development would also diminish the quantity of finite fossil fuel resources found in the VPA, which would have a long-term adverse impact on the mineral resources extraction industry and on the local economies that support the development and extraction of the resource.

4.9.2.1.1.2. Other Mineral Resources

The impacts of mineral resource decisions on mineral resources other than fluid minerals are described below. Impacts are the same for each resource. Following is a quantitative analysis

[7] Note: Calculations based on all land-type jurisdictions occurring in the VPA (Bureau of Land Management, State of Utah, Tribal, Private, U.S. Fish and Wildlife Service, Bureau of Reclamation, Utah Division of Wildlife Resources, and U.S. Forest Service).

providing a comparison of mineral resources decisions of the Proposed RMP to Alternative D (No Action).

Direct impacts of mineral resources decisions on Gilsonite, phosphate, and mineral materials development would be beneficial. An increase in the total linear miles available for Gilsonite, and the total acreage available for phosphate and mineral materials development would have a short-term, beneficial socioeconomic impact on the minerals industry and the local economies that support the industry resulting from an increase in the amount of mineral resources available for extraction and commercial sale.

Indirect impacts of mineral resources decisions on Gilsonite, phosphate, and mineral materials development would be beneficial and adverse. An increase in the linear miles available for Gilsonite development, and the total acreage available for mineral materials development under the Proposed RMP would lead to an increase in royalties paid to the federal government and/or the State of Utah. An increase in the total linear miles available for Gilsonite, and the total acreage available for mineral materials development would, over time, decrease the amount of the finite mineral resources found in the VPA, producing indirect, long-term, adverse economic impacts. A decrease in the area open to phosphate development would decrease royalties but retain a larger percentage of the remaining supply of phosphate.

Coal

Coal mining has not occurred on public lands in the VPA due to lack of demand and the poor quality of the deposits. There is a moderate potential for the occurrence of economically mineable coal deposits within the VPA, but it is unlikely that coal exploration or development will occur during the next 15 years due to the low-grade quality of the coal. Therefore, it is unlikely that mineral resource decisions made under this alternative would have impacts, either beneficial or adverse, on coal resources.

Gilsonite

Approximately 172 miles or 36,846 acres would be open for prospecting, leasing, and development of Gilsonite. Additional, new veins located via field study or prospecting would also be available if they are within lands already categorized as "open" for Gilsonite development. This represents a 2.4% increase in the total miles open for prospecting, leasing, and developing Gilsonite, compared to Alternative D (No Action).

Phosphate

Approximately 76,208 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. This represents a 9.9% decrease in the total acreage open for prospecting, leasing and developing phosphate, compared to Alternative D (No Action).

Mineral Materials

Approximately 389,788 acres would be open for mineral material development. This represents a 0.5% increase in the total number of acres available for development of mineral materials, compared to Alternative D (No Action).

Locatable Minerals

As identified in the Mineral Potential Report (BLM 2004e), there is moderate potential for the occurrence of locatable minerals within the VPA. Very little development activity for locatable minerals is anticipated during the next 15 years; therefore, it is unlikely that mineral resource decisions under this alternative would have an impact, beneficial or adverse, on locatable mineral resources.

4.9.2.1.2. ALTERNATIVE A

4.9.2.1.2.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 983,905 acres would be administratively available for oil and gas leasing (which includes CBNG) with Standard stipulations. Approximately 796,955 acres would be administratively available for oil and gas leasing (which includes CBNG) with Timing Limitations and/or Controlled Surface Use stipulations. Combined, approximately 1,780,860 acres of land would be administratively available for oil and gas leasing (which includes CBNG) with Standard, Timing Limitation and/or Controlled Surface Use stipulations. This represents a 15.9% increase in the total acreage available for leasing, compared to Alternative D (No Action), and the second highest number of acres of land available for leasing among all of the alternatives.

Oil and gas development is expected to occur within each of the six exploration-and-development areas shown in Table 4.9.3. Coal-bed natural gas development would occur only in the East and West Tavaputs Plateau. The predicted number of wells is based on the Reasonably Foreseeable Development (RFD) described in the Mineral Potential Report for the VPA (BLM 2004e). If Alternative A were implemented, there would be a 8.3% increase in the total number of predicted oil and gas wells, compared to Alternative D (No Action).

Table 4.9.3. Predicted Oil and Gas Wells within RFD Areas under Alternative A[8]

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
Altamont-Bluebell	99.97%	175	250	0
East Tavaputs Plateau	94.96%	71	570	76
Manila-Clay Basin	97.86%	0	44	0
Monument Butte-Red Wash	96.59%	1,655	3,018	0
Tabiona-Ashley Valley	96.26%	29	0	0

[8] Note: Calculations based on all land-type jurisdictions occurring in the VPA (Bureau of Land Management, State of Utah, Tribal, Private, U.S. Fish and Wildlife Service, Bureau of Reclamation, Utah Division of Wildlife Resources, and U.S. Forest Service).

Table 4.9.3. Predicted Oil and Gas Wells within RFD Areas under Alternative A[8]

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
West Tavaputs Plateau	95.53%	72	334	48
Total		**2,002**	**4,216**	**124**

The direct impacts of mineral resources decisions on oil, gas and CBNG development would be beneficial. An increase in the potential number of oil and gas wells under Alternative A would lead to an increase in the available supply of oil and/or natural gas. This would have a short-term beneficial socioeconomic impact on the minerals extraction industry and on local economies from increased production, and by maintaining the supply of an energy resource.

The indirect impacts of mineral resources decisions on oil and gas development would be beneficial and adverse. An increase in the potential number of oil and gas wells under Alternative A would lead to an increase in royalties paid to the federal government and/or the State of Utah, as the oil and gas wells were developed and the resource was extracted. However, the increased total acreage that would be open to oil, gas, and CBNG development would also diminish the quantity of finite fossil fuel resources found in the VPA, which would have a long-term adverse impact on the mineral resources extraction industry and on the local economies that support the development and extraction of the resource.

4.9.2.1.2.2. Other Mineral Resources

The impacts of mineral resource decisions on mineral resources other than fluid minerals are described below. Impacts are the same for each resource. Following is a quantitative analysis providing a comparison of mineral resources decisions of Alternative A to Alternative D (No Action).

Direct impacts of mineral resources decisions on Gilsonite, phosphate, and mineral materials development would be beneficial. An increase in the total linear miles available for Gilsonite and acres available for phosphate and mineral materials development would have a short-term, beneficial socioeconomic impact on the minerals industry and the local economies that support the industry resulting from an increase in the amount of mineral resources available for extraction and commercial sale.

Indirect impacts of mineral resources decisions on Gilsonite, phosphate, and mineral materials development would be beneficial and adverse. An increase in the linear miles available for Gilsonite development, and the total acreage available for phosphate and mineral materials development under Alternative A would lead to an increase in royalties paid to the federal government and/or the State of Utah. An increase in the total linear miles available for Gilsonite, and the total acreage available for phosphate and mineral materials development would, over time, decrease the amount of the finite mineral resources found in the VPA, producing indirect, long-term, adverse economic impacts.

Coal

Coal mining has not occurred on public lands in the VPA due to lack of demand and the poor quality of the deposits. There is a moderate potential for the occurrence of economically mineable coal deposits within the VPA, but it is unlikely that coal exploration or development will occur during the next 15 years due to the low-grade quality of the coal. Therefore, it is unlikely that mineral resource decisions made under this alternative would have impacts, either beneficial or adverse, on coal resources.

Gilsonite

Approximately 172 miles or 36,846 acres would be open for prospecting, leasing, and development of Gilsonite. Additional, new veins located via field study or prospecting would also be available if they are within lands already categorized as "open" for Gilsonite development. This represents a 2.4% increase in the total miles open for prospecting, leasing, and developing Gilsonite, compared to Alternative D (No Action).

Phosphate

Approximately 87,724 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. This represents a 3.7% increase in the total acreage open for prospecting, leasing and developing phosphate, compared to Alternative D (No Action).

Mineral Materials

Approximately 415,395 acres would be open for mineral material development. This represents a 7.1% increase in the total number of acres available for development of mineral materials, compared to Alternative D (No Action).

Locatable Minerals

As identified in the Mineral Potential Report (BLM 2004e), there is moderate potential for the occurrence of locatable minerals within the VPA. Very little development activity for locatable minerals is anticipated during the next 15 years; therefore, it is unlikely that mineral resource decisions under this alternative would have an impact, beneficial or adverse, on locatable mineral resources.

4.9.2.1.3. ALTERNATIVE B

4.9.2.1.3.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 1,113,116 acres would be administratively available for oil and gas leasing (which includes CBNG) with Standard Stipulations. Approximately 706,281 acres would be administratively available for oil and gas leasing (which includes CBNG) with Timing Limitations and/or Controlled Surface Use stipulations. Combined, approximately 1,819,397 acres of land would be administratively available for oil and gas leasing (which includes CBNG) with standard, Timing Limitations, and/or Controlled Surface Use stipulations. This represents

an 18.4% increase in the total acreage available for leasing and potential number of wells, compared to Alternative D (No Action), and the highest number of acres of land available for leasing among all of the alternatives.

Oil and gas development is expected to occur within each of the six exploration-and-development areas shown in Table 4.9.4. Coal-bed natural gas development would occur only in the East and West Tavaputs Plateau. The predicted number of wells is based on the Reasonably Foreseeable Development (RFD) outlined in the Mineral Potential Report for the VPA (BLM 2004e). If Alternative B were implemented, there would be a 9.1% increase in the total number of predicted oil and gas wells, compared to Alternative D (No Action). It should be noted, as mentioned above in Section 4.9.1.1, that Alternative D (No Action) would not include the additional acreage within the Hill Creek Extension analyzed under the action alternatives, so the RFD predictions of oil and gas development would seem to be less than predicted under the action alternatives.

Table 4.9.4. Predicted Oil and Gas Wells within RFD Areas under Alternative B [9]

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
Altamont-Bluebell	99.97	175	250	0
East Tavaputs Plateau	95.19	71	571	76
Manila-Clay Basin	97.98	0	44	0
Monument Butte-Red Wash	97.93	1665	3036	0
Tabiona-Ashley Valley	96.69	29	0	0
West Tavaputs Plateau	99.65	75	349	50
Total		**2,015**	**4,250**	**126**

The direct and indirect impacts of minerals decisions under Alternative B for oil, gas, and CBNG development would be similar to those described under Alternative A, though more wells would be drill under Alternative B (6,391) than Alternative A (6,342).

4.9.2.1.3.2. Other Mineral Resources

The direct and indirect impacts on Gilsonite, phosphate, and mineral materials resources under Alternative B would be similar to the impacts described under Alternative A. Following is a quantitative analysis providing a comparison of mineral resources decisions of Alternative A to Alternative D (No Action).

[9] Note: Calculations based on all land-type jurisdictions occurring in the VPA (Bureau of Land Management, State of Utah, Tribal, Private, U.S. Fish and Wildlife Service, Bureau of Reclamation, Utah Division of Wildlife Resources, and U.S. Forest Service).

Coal

The impacts on coal resources under Alternative B would be similar to those described for Alternative A.

Gilsonite

Approximately 172 miles or 36,846 acres would be open for prospecting, leasing, and development of Gilsonite. This represents a 2.4% increase in the total miles open for prospecting, leasing, and developing Gilsonite, compared to Alternative D (No Action).

Phosphate

Approximately 87,724 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. This represents a 3.7% increase in the total acreage open for prospecting, leasing, and developing phosphate, compared to Alternative D (No Action).

Mineral Materials

Approximately 432,953 acres would be available for mineral material development. This represents a 11.7% increase in the total acreage available for development of mineral materials, compared to Alternative D (No Action).

Locatable Minerals

The impacts on locatable resources under Alternative B would be similar to the impacts described under Alternative A.

4.9.2.1.4. ALTERNATIVE C

4.9.2.1.4.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 858,619 acres would be administratively available for oil and gas leasing (which includes CBNG) with Standard Stipulations. Approximately 768,466 acres would be administratively available for oil and gas leasing (which includes CBNG) with Timing Limitations and/or Controlled Surface Use stipulations. Combined, approximately 1,627,085 acres of land would be administratively available for oil and gas leasing (which includes CBNG) with Standard, Timing Limitations, and/or Controlled Surface Use stipulations. This represents a 5.9% increase in the total acreage available for leasing and potential number of wells, compared to Alternative D (No Action). The Proposed RMP and Alternatives A, B, and C would increase the number of acres available for oil and gas leasing (which includes CBNG) compared to Alternative D (No Action). Alternative E would be less than the other alternatives and have the least oil and gas development of the Proposed RMP and all of the action alternatives (see below).

Oil and gas development is expected to occur within each of the six exploration-and-development areas shown in Table 4.9.5. CBNG development would occur only in the East and West Tavaputs Plateau. The predicted number of wells is tied to the RFD outlined in the Mineral Potential Report

(BLM 2004e). If Alternative C were implemented, there would be a 6.3% increase in the total number of predicted oil and gas wells, compared to Alternative D (No Action).

Table 4.9.5. Predicted Oil and Gas Wells within RFD Areas under Alternative C [10]

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
Altamont-Bluebell	99.97	175	250	0
East Tavaputs Plateau	85.18	64	511	68
Manila-Clay Basin	97.80	0	44	0
Monument Butte-Red Wash	96.51	1,641	2,992	0
Tabiona-Ashley Valley	93.93	28	0	0
West Tavaputs Plateau	95.17	71	333	48
Total		**1,979**	**4,130**	**116**

The direct and indirect impacts of minerals decisions under Alternative C for oil, gas, and CBNG development would be similar to those described under Alternative A, though somewhat fewer wells would be drilled and placed into production under Alternative C (6,225) than Alternative A (6,342).

4.9.2.1.4.2. Other Mineral Resources

The direct and indirect impacts on Gilsonite, and mineral materials resources under Alternative C would be similar to the impacts described under Alternative A. The miles of Gilsonite available for production under this alternative would be the same as Alternative A but acres of mineral material available for development under Alternative C would be less than that under Alternatives A, and D (No Action). Following is a quantitative analysis providing a comparison of mineral resources decisions of Alternative C to Alternative D (No Action).

Direct impacts of mineral resources decisions on phosphate development would be adverse. A decrease in the total acreage available for phosphate development under Alternative C (compared to Alternative D, No Action) would result in a decrease in the amount of phosphate available for mining and commercial sale, which would have a long-term, adverse economic impact on the phosphate mining industry in the VPA. However, a decrease in the total acreage available for phosphate development would also prolong the availability of finite phosphate resources found in the VPA for future use, which would reduce the long-term adverse impacts on the phosphate mining industry by ensuring that the resource was available to support a viable, long-term phosphate industry. Indirect impacts of mineral resources decisions on phosphate development would be economically adverse in the long-term. A reduction in the acreage available for phosphate development under Alternative C (when compared to Alternative D) would lead to a decrease in the royalties paid to the federal government and/or the State of Utah.

[10] Note: Calculations based on all land-type jurisdictions occurring in the VPA (Bureau of Land Management, State of Utah, Tribal, Private, U.S. Fish and Wildlife Service, Bureau of Reclamation, Utah Division of Wildlife Resources, and U.S. Forest Service).

Coal

The direct and indirect impacts on coal resources under Alternative C would be similar to the impacts described for coal under Alternative A.

Gilsonite

The direct and indirect impacts on Gilsonite resources under Alternative C would be the same as described for Alternative A.

Phosphate

Approximately 63,571 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. This represents a 24.9% decrease in the total acreage open for prospecting, leasing, and developing phosphate, compared to Alternative D (No Action).

Mineral Materials

Approximately 388,699 acres would be available for mineral material development. This represents a 0.3% increase in the total acreage available for development of mineral materials, compared to Alternative D (No Action).

Locatable Minerals

The impacts on locatable resources under Alternative C would be the same as described under Alternative A.

4.9.2.1.5. ALTERNATIVE D (NO ACTION)

4.9.2.1.5.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 918,315 acres would be available for oil and gas lease under Standard leasing stipulations. Approximately 617,715 acres would be managed with special mitigating measures required to protect various renewable resource values. In total, approximately 1,536,030 acres of land would be administratively available for oil and gas leasing (which includes CBNG) under Standard, Timing Limitation and/or Controlled Surface Use lease stipulations.

Oil and gas development would be expected to occur within each of the six development areas shown in Table 4.9.6. The predicted number of wells for these areas is based on estimates of RFD outlined in the Mineral Potential Report. Under this alternative the federal government and/or the State of Utah would continue to receive royalties from the production and sale of oil and gas. Continued oil and gas extraction would also, over time, reduce the quantities of finite, non-renewable fossil fuel resources found in the VPA.

Table 4.9.6. Predicted Oil and Gas Wells within RFD Areas under Alternative D (No Action)

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
Altamont-Bluebell	99.94	175	250	0
East Tavaputs Plateau	80.84	61	485	64
Manila-Clay Basin	95.20	0	43	0
Monument Butte-Red Wash	89.52	1,522	2,775	0
Tabiona-Ashley Valley	95.30	29	0	0
West Tavaputs Plateau	95.16	71	333	48
Total		**1,858**	**3,886**	**112**

4.9.2.1.5.2. Other Mineral Resources

The direct and indirect impacts on Gilsonite, phosphate, and mineral materials resources under Alternative D (No Action) would be similar to the impacts described under Alternative A.

Coal

The impacts on coal resources under Alternative D (No Action) would be similar to those described for Alternative A.

Gilsonite

Approximately 168 miles (36,009 acres) would be open for prospecting, leasing, and development of Gilsonite. Restrictions placed on a lease or subsequent conditions of approval do not apply to maintenance and production of existing facilities. Restrictions from other resource decisions would be applied to new leases, or at the time of lease renewal, for existing leases. Exploration and development of Gilsonite within crucial deer and elk winter range would be allowed year-round but would require management actions designed to mitigate both short- and long-term loss of habitat.

Phosphate

Approximately 84,600 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. The impacts on phosphate resources would be similar to those described for Alternative A.

Mineral Materials

Approximately 387,700 acres would be available for mineral material development. The impacts on mineral materials would be similar to those described for Alternative A.

Locatable Minerals

The impacts on locatable resources under Alternative D (No Action) would be similar to the impacts described under Alternative A.

4.9.2.1.6. ALTERNATIVE E

4.9.2.1.6.1. Oil, Gas, and Coal Bed Natural Gas (CBNG)

Approximately 818,891 acres would be administratively available for oil and gas leasing (which includes CBNG) with Standard stipulations. Approximately 680,570 acres would be administratively available for oil and gas leasing (which includes CBNG) with Timing Limitations and/or Controlled Surface Use stipulations. Combined, approximately 1,499,461 acres of land would be administratively available for oil and gas leasing (which includes CBNG) with Standard, Timing Limitations, and/or Controlled Surface Use stipulations. This represents a 2.4% decrease in the total acreage available for leasing and potential number of wells, compared to Alternative D (No Action). Thus, Alternative E would have the least land available for oil and gas development of all of the alternatives.

Under Alternative E, approximately 277,597 acres within non-WSA areas with wilderness characteristics would be closed to oil and gas leasing and closed to disposal of mineral materials, in order to protect the wilderness characteristics of these areas. This would have long-term, adverse impacts on minerals development and extraction because these areas would be closed to minerals-related surface disturbances. However, the Hill Creek Extension would be open to leasing, as described above.

Under this alternative, oil and gas development is expected to occur within each of the six exploration-and-development areas shown in Table 4.9.7. CBNG development would occur only in the East and West Tavaputs Plateaus, with the predicted number of wells linked to the RFD discussed in the Mineral Potential Report. If Alternative E were implemented, there would be a 4.5% increase in the total number of predicted oil and gas wells, compared to Alternative D (No Action).

Table 4.9.7. Predicted Oil and Gas Wells within RFD Areas under Alternative E[11]

Exploration and Development/RFD Area	Percent of Open Area	Predicted Oil Wells	Predicted Gas Wells	Predicted CBNG Wells
Altamont-Bluebell	99.96%	175	250	0
East Tavaputs Plateau	83.17%	62	499	67
Manila-Clay Basin	91.03%	0	41	0
Monument Butte-Red Wash	95.08%	1616	2948	0
Tabiona-Ashley Valley	91.80%	28	0	0
West Tavaputs Plateau	91.00%	68	318	45
Total		**1949**	**4056**	**112**

[11] Note: Calculations based on all land-type jurisdictions occurring in the VPA (Bureau of Land Management, State of Utah, Tribal, Private, U.S. Fish and Wildlife Service, Bureau of Reclamation, Utah Division of Wildlife Resources, and U.S. Forest Service).

While the fewest number of acres would be available for oil and gas production under Alternative E, the direct and indirect impacts of minerals decisions would be similar to those described under Alternative A, though somewhat fewer wells would be drilled and placed into production under Alternative E (6,117) than Alternative A (6,342).

4.9.2.1.6.2. Other Mineral Resources

The direct and indirect impacts on Gilsonite, other leaseable minerals, mineral materials and locatable minerals under Alternative E would be of the same nature as the impacts described under Alternative A. Following is a quantitative analysis providing a comparison of mineral resources decision under Alternative E to Alternative D (No Action).

Coal

The direct and indirect impacts on coal resources under Alternative E would be similar to the impacts described for coal under Alternative A.

Gilsonite

Approximately 163 miles (34,967 acres) would be available for prospecting, leasing, and development of Gilsonite. Additional, new veins located via field study or prospecting would also be available if they are within lands already categorized as "open" for Gilsonite development. This represents a 2.9% decrease in the total miles open for prospecting, leasing, and developing Gilsonite, as compared to Alternative D (No Action).

Phosphate

Approximately 52,063 acres would be open for prospecting, leasing, and development of phosphate within areas known to contain phosphate deposits. This represents a 38.5% decrease in the total acreage open for prospecting, leasing, and developing phosphate, compared to Alternative D (No Action).

Direct impacts of mineral resources decisions on phosphate development would be adverse. A decrease in the total acreage available for phosphate development under Alternative E (compared to Alternative D, No Action) would result in a decrease in the amount of phosphate available for mining and commercial sale, which would have a long-term, adverse economic impact on the phosphate mining industry in the VPA. However, a decrease in the total acreage available for phosphate development would also prolong the availability of finite phosphate resources found in the VPA for future use, which would reduce the long-term adverse impacts on the phosphate industry by ensuring that the resource was available to support a viable, long-term industry. Indirect impacts of mineral resources decisions on phosphate development would be economically adverse in the long-term. A reduction in the acreage available for phosphate development under Alternative E (when compared to Alternative D, No Action) would lead to a decrease in the royalties paid to the federal government and/or the State of Utah.

Mineral Materials

Approximately 344,682 acres would be available for mineral material development. This represents an 11.1% decrease in the total acreage available for development of mineral materials, compared to Alternative D (No Action).

Locatable Minerals

The impacts on locatable resources under Alternative E would be similar to the impacts described under Alternative A.

4.9.2.2. Impacts of Cultural Resource Decisions on Mineral Resources

4.9.2.2.1. Proposed RMP and Alternative A

Cultural resource decisions under Alternative A would restrict oil and gas leasing on 48,801 acres of land in the Uinta Foothills, Little/Devil's Hole, Upper Willow Creek and Four Mile Wash areas. Oil and gas leasing within these areas would have Timing Limitations and/or Controlled Surface Use stipulations and/or No Surface Occupancy stipulations. The 48,801 acres in these two leasing categories is included in the total number of acres available for oil and gas leasing (Table 4.9.1).

Cultural resource decisions under Alternative A would have long-term, indirect, adverse impacts to mineral resources. Impacts include increasing the costs associated with mineral exploration, extraction, and development, which would have economically adverse impacts on the mineral materials industry in the VPA. Increased costs are associated with directionally drilling for sub-surface resources in NSO areas, the re-routing of access routes and pipelines, and re-locating well pads.

4.9.2.2.2. Alternative B

The impacts on mineral resources under Alternative B would be similar to the impacts described under Alternative A, except that leasing in the Four Mile Wash area would be open subject to Standard stipulations, reducing restrictions on oil and gas exploration and development.

4.9.2.2.3. Alternative C

Cultural resource decisions under Alternative C would close lands in the Uinta Foothills, Little/Devil's Hole, and Four Mile Wash areas to protect cultural resources. Lands in Willow Creek would be open to leasing subject to Timing and Controlled Surface Use stipulations.

Under this alternative, only the Willow Creek area would be available for oil and gas exploration and development, and stipulations to protect cultural resources would have long-term, indirect, adverse impacts to mineral resources. Impacts include increasing the costs associated with mineral exploration, extraction, and development, which would have economically adverse impacts on the mineral materials industry in the VPA. Increased costs are associated with

measures needed to protect cultural resources including re-routing access routes and pipelines, and re-locating well pads.

4.9.2.2.4. ALTERNATIVE D (NO ACTION)

Cultural resource decisions under Alternative D (No Action) would leave all 48,801 acres of land open to oil and gas leasing in the Uinta Foothills, Little/Devil's Hole, Upper Willow Creek and Four Mile Wash areas. The 48,801 acres in this leasing category is included in the total number of acres available for oil and gas leasing (Table 4.9.1).

Impacts include a decrease in the costs associated with mineral exploration, extraction and development and possibly increasing the pace at which mineral resources would be developed. Fewer restrictions would allow direct, planned placement of access routes and pipelines to and from wells; thus, in many cases, the time required to develop oil, gas and CBNG wells would be reduced.

4.9.2.2.5. ALTERNATIVE E

The impacts of cultural resource decisions on minerals and energy resources would be the same as described for Alternative C because the actions are the same.

4.9.2.3. IMPACTS OF NON-WSA AREAS WITH WILDERNESS CHARACTERISTICS DECISIONS ON MINERAL RESOURCES

4.9.2.3.1. PROPOSED RMP

The Proposed RMP would manage approximately 106,178 acres of non-WSA areas with wilderness characteristics for the protection of the wilderness values within these areas. Management decisions to protect these values would include closure to oil and gas leasing (except in White River, which would be NSO), closure to solid mineral leasing, and closure to mineral material disposal, closure to cross-country OHV travel, no new road construction, ROW avoidance, and management under VRM Class II objectives. These decisions would reduce the leasing acreage for minerals development within the VPA in the long term, and prevent access road construction within these areas, which would have long-term, adverse impacts on minerals exploration and development within most of the RFD areas.

The following Table 4.9.8 shows the number of acres of non-WSA wilderness characteristics protection under each alternative that would adversely impact minerals resources leasing within each RFD area.

Table 4.9.8. Acres of Non-WSA Areas with Wilderness Characteristics, by RFD

Exploration and Development/RFD Area	Proposed RMP	Alternatives A, B, and C	Alternative D (No Action)	Alternative E
Altamont-Bluebell	0	0	0	0
East Tavaputs Plateau	0	0	0	106,785

Table 4.9.8. Acres of Non-WSA Areas with Wilderness Characteristics, by RFD

Exploration and Development/RFD Area	Proposed RMP	Alternatives A, B, and C	Alternative D (No Action)	Alternative E
Manila-Clay Basin	12,374	0	0	12,374
Monument Butte-Red Wash	6,705	0	0	27,572
Tabiona-Ashley Valley	87,099	0	0	87,099
West Tavaputs Plateau	0	0	0	43,453
Total	106,178	0	0	277,597

4.9.2.3.2. Alternatives A, B, C, and D (No Action)

Under these alternatives, non-WSA wilderness characteristics areas would not be managed for protection of their wilderness values, so there would be no restriction on exploration and development of minerals resources.

4.9.2.3.3. Alternative E

Alternative E would manage approximately 277,596 acres of non-WSA areas with wilderness characteristics for the protection of the wilderness values within these areas. All non-WSA lands with wilderness characteristics would be closed to oil and gas leasing, solid mineral leasing, and disposal of mineral materials. The impacts to mineral resources under Alternative E would be the same as those described for the Proposed RMP, but would occur over a larger area (see Table 4.9.8).

4.9.2.4. Impacts of Recreation Resource Decisions on Mineral Resources

4.9.2.4.1. Proposed RMP

Recreation resource decisions to mitigate noise and light pollution adjacent to Dinosaur National Monument would have long-term, indirect, adverse impacts to mineral resources. Minimizing noise and light pollution would impact development by increasing its costs. However, these costs would be minimal in comparison to total operation and development costs. Recreation resource decisions under this alternative would also lead to decreased opportunities for exploration adjacent to Dinosaur National Monument. In this case, impacts, beneficial or adverse, would be based on mineral potential adjacent to Dinosaur National Monument. It is unlikely that requirements to minimize noise and light pollution would lead to the denial of a proposed project. This decision would impact mineral resources more than Alternative D (No Action), which does not address light pollution and noise mitigation impacts adjacent to the Monument.

The Pelican Lake Special Recreation Management Area (SRMA: 1,014 acres) would be closed to disposal of mineral materials and NSO for oil and gas leasing. These restrictions would be in place for protection of the recreation setting and experience, but increase costs for development of fluid and mineral material resources. Oil and gas could still be produced via directional drilling, but at greater effort and expense.

4.9.2.4.2. ALTERNATIVE A

Impacts to mineral resources would be the same as for the Proposed RMP. In addition, 160 acres in the Book Cliffs would be open to oil and gas leasing with an NSO stipulation for the protection of a remnant old growth pinyon pine forest, with similar restriction and limitation on the development of oil and gas resources that would result from the NSO stipulation prescribed in the Pelican Lake SRMA under the Proposed RMP. Further, in the White River SRMA under this alternative, ½ mile either side of the river would also be NSO of oil and gas leasing for the protection of the recreation setting and experience. The effect of NSO in this SRMA would be the same as described above for Pelican Lake SRMA.

4.9.2.4.3. ALTERNATIVE B

Impacts to mineral resources would be the same as for Alternative A, but including only the Pelican Lake SRMA prescription and resultant effects on mineral exploration and production.

4.9.2.4.4. ALTERNATIVE C

Impacts to mineral resources from the decision to mitigate noise and light would be the same as for Alternatives A and B.

The decision to lease for oil and gas activities with an No Surface Occupancy stipulation within 0.5 mile of Dinosaur National Monument would have a long-term direct and indirect, adverse impact to mineral development, in an indirect relationship with the potential for minerals in those areas. Impacts include an increase in development costs associated with directional drilling operations. The recreation resource decisions under this alternative are substantially more restrictive to mineral and energy resources development than alternatives A and B, but less than Alternative E (see below).

The effect of management of the Pelican Lake SRMA on mineral development would be the same as described for Alternative A.

4.9.2.4.5. ALTERNATIVE D (NO ACTION)

Recreation resource decisions regarding noise and light pollution to Dinosaur National Monument are not specified under this alternative, and would place no restrictions on minerals or energy development. Impacts to mineral resources would be long-term direct/indirect, and beneficial. Impacts would include an increase in the potential number of wells permitted, increased domestic supply of oil and natural gas, and increased royalties to the federal government and the State of Utah. Impacts would be based on mineral potential adjacent to the Monument.

The management prescription for Pelican Lake SRMA would have the same effect on development of mineral and energy resources as described under Alternative A.

4.9.2.4.6. ALTERNATIVE E

The impacts of recreation decisions on minerals would be similar to those discussed under Alternative C because the management decisions are similar, except that under this alternative non-WSA areas with wilderness characteristics would be closed to mineral leasing, further restricting mineral development. Under this alternative, approximately 277,596 acres of non-WSA wilderness characteristics areas would be managed to provide opportunities for primitive recreation activities and focus management on non-motorized recreation uses, and therefore would be more restrictive of mineral development. Compared to Alternative D (No Action), this alternative would have more adverse impacts on minerals resources because more areas within the VPA would be closed to minerals leasing than under Alternative D (No Action).

4.9.2.5. IMPACTS OF SOIL RESOURCES DECISIONS ON MINERAL RESOURCES

4.9.2.5.1. PROPOSED RMP AND ALTERNATIVE A

Soils resource decisions that require an approved erosion control strategy (surveyed and designed by a certified engineer and approved by the BLM) prior to construction and maintenance on slopes 21-40% would be a long-term, indirect, economically adverse impact on the mineral resources industry by potentially increasing the costs of mineral exploration, extraction, and development associated with these requirements when compared to Alternative D (No Action).

Soils resource decisions that do not allow surface disturbance on slopes greater than 40% (unless it is determined that it would cause undue or unnecessary degradation to pursue other placement alternatives (if available)) would be a long-term direct, economically adverse impact on the mineral resources industry. Adverse impacts would include a potential decrease in the number of wells or other mineral developments permitted, which in turn would lead to decreased royalties to the federal government and/or the State of Utah, and a potential loss of revenue for minerals operators.

The Proposed RMP and Alternative A would impact mineral resources less than Alternative D (No Action), which would allow No Surface Occupancy or other minerals-related surface disturbances on slopes in excess of 40%.

4.9.2.5.2. ALTERNATIVE B

Soils resource decisions under Alternative B that require an approved erosion control strategy (surveyed and designed by a certified engineer and approved by the BLM) prior to construction and maintenance on slopes greater than 20% would be a long-term, indirect, adverse impact to mineral resources. Impacts include potential increased costs of mineral exploration, extraction, and development.

This decision would impact mineral resources less than current management, which allows No Surface Occupancy or other surface disturbance on slopes in excess of 40%.

4.9.2.5.3. ALTERNATIVE C

Soil resource decisions under Alternative C would be similar to those for the Proposed RMP and Alternative A.

4.9.2.5.4. ALTERNATIVE D (NO ACTION)

Soils resource decisions that prohibit surface disturbance on slopes greater than 40% would be a long-term, indirect, adverse impact to mineral resources. Impacts include increasing the costs associated with mineral exploration, extraction, and development.

4.9.2.5.5. ALTERNATIVE E

The impacts on minerals resources would be the same as discussed under Alternative C because the management decisions would be the same.

4.9.2.6. IMPACTS OF SPECIAL DESIGNATIONS DECISIONS ON MINERAL RESOURCES

Special designations could adversely impact the level of mineral leasing and minerals development and extraction within these areas because of the need to protect the identified values by prohibiting or limiting surface disturbances.

Oil and gas leasing under Standard stipulations would not impact mineral resources as this allows for maximum development. Oil and gas leasing under Timing and Controlled Surface Use is restrictive and could limit mineral development during certain time periods or in identified areas. No Surface Occupancy (NSO) precludes development within an area except for the outermost perimeter because, although NSO allows for directional drilling, generally, current technology can only laterally penetrate about 2,000–3,000 feet of substrate. So, for larger areas, NSO effectively precludes most mineral development because areas beyond the 2,000-3,000 foot limit would be inaccessible. Areas closed to mineral leasing would prohibit all minerals-related surface disturbances.

4.9.2.6.1. AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECS)

The following Table 4.9.9 shows the number of acres under NSO and Closed leasing categories within the proposed ACECs for each alternative. (There are additional acres within these ACECs that are open to leasing with standard terms and conditions and moderate constraints; these acreages are not shown in the table below.)

Table 4.9.9. Minerals Leasing NSO and Closed Restrictions within Proposed ACECs, by Acres and Alternative

ACEC	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Bitter Creek	0	560	0	58,203	Unspecified	59,628
Browns Park	15,202	24,411	8,992	24,411	31,725	41,144

Table 4.9.9. Minerals Leasing NSO and Closed Restrictions within Proposed ACECs, by Acres and Alternative

ACEC	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
Coyote Basin	0	99	110	5,325	Unspecified	5,325
Four Mile Wash	0	0	0	50,280	Unspecified	50,280
Lower Green River - Lower Corridor	8,394	8,470	0	8,470	8,394	8,470
Green River - Lower Expansion	0	1,700	0	1,700	0	1,700
Middle Green River -	0	0	0	0	Unspecified	0
Lears Canyon	1,375	1,375	1,375	1,375	1,375	1,375
Main Canyon	0	0	0	57,392	Unspecified	57,392
Nine Mile Canyon	17,198	20,487	7,848	11,433	7,848	22,372
Pariette Wetlands	10,437	10,437	10,437	10,437	10,437	10,437
Red Creek Watershed	364	364	364	364	2,540	5,217
Red Mountain-Dry Fork	1,988	24,285	24,285	24,285	24,285	24,285
White River Corridor	0*	8,993	0*	13,273	Unspecified	24,024
Total	**54,958**	**101,181**	**53,411**	**266,948**	**86,604**	**311,649**

*Excluding areas currently managed as NSO within line of sight or up to one-half mile from the centerline of the river, whichever is less.

4.9.2.6.2. Wild and Scenic Rivers

Table 4.9.10 shows the number of miles of river recommended suitable for inclusion in the NWSRS for each river and for each alternative. The table also displays the classification of the river.

Table 4.9.10. River Segments That Would Be Determined Suitable and Total River Miles by Alternative

River/River Segment	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D[1] (No Action)	Alternative E
White River – Segment 1; "Scenic"	0	24	0	24	0	0[2]
White River – Segment 2; 'Wild'	0	10	0	10	0	10
White River – Segment 3; "Scenic"	0	0	0	10	0	10
Nine Mile Creek – Segment A; "Scenic"	0	0	0	13	0	13
Nine Mile Creek – Segment B; "Recreational"	0	0	0	6	0	6
Upper Green River; "Scenic"	22	22	22	22	22	22
Lower Green River; "Scenic"	30	30	30	30	30	30
Middle Green River; "Recreational"	0	0	0	36	0	36
Evacuation Creek; "Scenic"	0	0	0	21	0	21
Bitter Creek; "Scenic"	0	0	0	22	0	22
Argyle Creek; "Recreational"	0	0	0	22	0	22
Total River Miles	**52**	**86**	**52**	**216**	**52**	**192**
Total BLM Shoreline Miles	**39**	**57**	**39**	**112**	**39**	**104**

[1]In addition, 87 miles of river involving the White River (Segments 1, 2, and 3), Evacuation Creek, and Bitter Creek would remain eligible with this alternative.

[2]Alternative E would not recommend Segment 1 suitable, but would manage and protect the segment as eligible pending completion of a review of the permit for dam construction.

Note: Mileage is approximate.

Under a "Wild" classification, river corridors would be closed to new mineral leases and mineral entry (claim staking) to protect the free-flowing river, its outstandingly remarkable values, and the river classification (wild). These closures would prevent further exploration and development of mineral and energy resources. If any existing claims or leases exist within a designated river corridor, they would be managed to minimize impacts to the wild and scenic river resource, while allowing the operation to occur consistent with laws and regulations. Under a "Scenic" river classification, new mining claims and mineral leases can be allowed. Mining would be

regulated under the 43 CFR 3809 regulations to minimize impacts to river values as the operation develops. This classification would not prohibit mineral and energy development, but likely impose restrictions for the protection of wild and scenic river values. With a "Recreational" river classification, new mining claims and mineral leases are allowed. Under all classes, new and existing claims and leases would be mitigated to reduce impacts to the free-flowing nature of the rivers, their outstandingly remarkable values, and their classifications.

4.9.2.6.3. Wilderness Study Areas (WSAs)

Under the Proposed RMP and all alternatives, all 53,058 acres in the six existing WSAs would be closed to fluid mineral leasing, solid mineral leasing, and mineral material sales, subject to valid existing rights. Locatable mineral entry would be managed under the 43 CFR 3802 regulations to prevent impairment of the wilderness values of the WSAs. These decisions would prevent entry and development of mineral and energy resources, except on 13,832 acres of the Winter Ridge WSA where valid existing leases would still be developed.

4.9.2.7. Impacts of Special Status Species Resource Decisions on Mineral Resources

The Proposed RMP and all alternatives require some degree of spatial or temporal limitations on many surface-disturbing activities, in order to protect sensitive species and their important habitats. In the case of mineral and energy development, specific conditions of approval or lease terms are often required in order to mitigate the adverse affects of development activities on special status species. In order to quantify the overall effect of spatial and temporal limitations on energy and mineral development, an accessibility analysis is located at the end of this chapter that graphically depicts the cumulative effect of spatial and temporal limitations on accessibility to mineral and energy development by industry. Not all spatial and temporal limitations would apply to every lease; it would be very rare for any one lease to have so many limitations as to render it inaccessible for energy development.

Spatial and temporal limitations would have an adverse impact on minerals and energy development by increasing exploration costs, but the degree and magnitude of such an increase depends on several factors. In most cases the economic costs associated with mineral and energy development would not increase substantially as a result of spatial and temporal limitations. Because most of the VPA available to mineral and energy development is currently leased (approximately 70% of available areas), few operators would likely realize increased exploration costs due to spatial and temporal limitations. Even though an operator may temporarily have to refrain from development in one area of the lease because of spatial and temporal restrictions, opportunities to drill other portions of the lease may still be available. In the case of numerous overlapping stipulations, the timeframe in which drilling operation can occur given constraints (drilling window) may be very limited, which could cause adverse economic impacts. But if the drilling window were very broad, then adverse economic impacts would be relatively minor in terms of the total number of operators potentially impacted. Operators have complied with spatial and temporal restrictions and over the years have developed strategies to minimize the economic risks associated with development.

Overall, it is estimated that a small number of operators would experience adverse economic effects if drilling operations must be stayed during special status species protection periods or if drilling operation must be moved to another area on the lease. Lease stipulations or lease notices would assist in educating operators to plan drilling schedules during the open drilling period.

4.9.2.7.1. PROPOSED RMP

4.9.2.7.1.1. Raptors

Under the Proposed RMP, raptor management would be guided by the use of *"Best Management Practices for Raptors and Their Associated Habitats in Utah"* (BLM 2006, Appendix A), using seasonal and spatial buffers, and mitigation, to maintain and enhance raptor habitat, while providing for other resource uses.

Impacts to mineral and energy resources would include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. It is difficult to quantify the effects of raptor protection guidelines on mineral and energy development. Spatial and temporal buffers may preclude mineral and energy development in some cases, thereby temporarily reducing the potential number of wells drilled or other mineral developments and temporarily decreasing/delaying royalties paid to the federal government and the State of Utah. Several factors determining the economic impacts are involved, such as the year the lease was issued, the size of the proponent's lease, and the proponent's "priority list." A database of raptor nests and their activity status is kept at the Vernal Field Office. This database would be referenced as part of the site-specific environmental analysis required prior to drilling a well or developing an area for mineral or energy. It can provide the proponent with information and guide the management of its lease, thereby decreasing development costs caused by waiting for a particular nest's appropriate temporal and spatial restriction.

Depending on field conditions, the BLM may be able to eliminate restrictions via exceptions. During site-specific analyses, the spatial or temporal restrictions may be determined to be unnecessary if there are circumstances that would mitigate potential development impacts to raptors, such as terrain or vegetative screen.

Exceptions to spatial and temporal buffers would directly benefit mineral resources by allowing development if protection of the nests is ensured by completion of a site specific assessment form, written documentation from a BLM Field Office biologist confirming that the implementation of the modifications would not impact the success of the nest or the suitability of the site for future nesting, and monitoring which would include strategy employment and implementation of a post-project/mitigation plan. This would increase the potential number of wells drilled or other mineral development, increase the domestic supply of oil and natural gas or other minerals, and increase royalties to the federal government and/or the State of Utah.

4.9.2.7.1.2. Greater Sage-grouse

Management of Greater Sage-grouse under the Proposed RMP would be similar to Alternative C. It is likely that management decisions under the Proposed RMP would have a greater impact on

mineral and energy development than Alternative D (No Action). Impacts to mineral and energy resources include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. Economic impacts to mineral and energy development would depend on the same factors considered for raptors (see above) and vary by alternative.

4.9.2.7.2. ALTERNATIVE A

4.9.2.7.2.1. Raptors

In general, raptor protections under Alternative A would be more restrictive to mineral and energy development than Alternative D (No Action). Alternative A would establish spatial and seasonal buffers for raptors under the auspices of best management practices (BMPs) (Appendix A), which would include implementation of buffers comparable to the USFWS *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Appendix A), with exceptions allowed by the BLM as long as the protection of raptor nests is ensured. Restrictions are specific to both occupied and unoccupied nests (see Table 4.9.11). The effects on mineral and energy development would be the same as described for the Proposed RMP.

4.9.2.7.2.2. Greater Sage-grouse

Implementation of the Strategic Management Plan for Greater Sage-grouse would result in impacts to mineral and energy development similar to that described for the Proposed RMP.

Table 4.9.11. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under the Proposed RMP

Species	Dates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bald Eagle	1/1–8/31												
Golden Eagle	1/1–8/31												
Northern Goshawk	3/1–8/15												
Northern Harrier	4/1–8/15												
Cooper's Hawk	3/15–8/31												
Ferruginous Hawk	3/1–8/1												
Red-tailed Hawk	3/15–8/15												
Sharp-shinned Hawk	3/15-8/31												
Swainson's Hawk	3/1-8/31												
Turkey Vulture	5/1-8/15												
Peregrine Falcon	2/1–8/31												
Prairie Falcon	4/1–8/31												
Merlin	4/1-8/31												
American Kestrel	4/1-8/15												
Osprey	4/1-8/31												
Boreal Owl	2/1-7/31												
Burrowing Owl	3/1-8/31												
Flammulated Owl	4/1-9/30												
Great Horned Owl	2/1–9/31												
Long-eared Owl	3/1-8/15												
N. saw-whet owl	3/1-8/31												
Short-eared Owl	3/1-8/1												
Mexican Spotted Owl	3/1–8/31												
N. Pygmy owl	4/1-8/1												
W. Screech owl	3/1-8/15												
Common Barn-owl	2/1-9/15												

Table 4.9.11. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under the Proposed RMP

Species	Dates	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Greater Sage-grouse	3/1–6/15											■													

Table 4.9.12. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under Alternative A

Species	Dates	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Bald Eagle	1/1–8/31	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
Golden Eagle	1/1–8/31	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒								
Northern Goshawk	3/1–8/15					■	■	■	■	■	■	■	■	■	■	■									
Northern Harrier	4/1–8/15														▒	▒									
Cooper's Hawk	3/15–8/31						■	■	■								■								
Ferruginous Hawk	3/1–8/1					▒	▒	▒	▒	▒	▒	▒	▒	▒	▒										
Red-tailed Hawk	3/15–8/15						■								■	■									
Sharp-shinned Hawk	3/15-8/31						▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒								
Swainson's Hawk	3/1-8/31					■	■								■	■	■								
Turkey Vulture	5/1-8/15									▒	▒	▒	▒	▒	▒	▒	▒								
Peregrine Falcon	2/1–8/31			■	■	■	■	■	■	■	■	■	■	■	■	■	■								
Prairie Falcon	4/1–8/31														▒	▒	▒								
Merlin	4/1-8/31							■	■	■	■	■	■	■	■	■	■								
American Kestrel	4/1-8/15							▒	▒	▒	▒	▒	▒	▒	▒	▒									
Osprey	4/1-8/31														■	■	■								
Boreal Owl	2/1-7/31			▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒										
Burrowing Owl	3/1-8/31					■	■	■	■	■	■	■	■	■	■	■	■								
Flammulated Owl	4/1-9/30							▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒						
Great Horned Owl	2/1–9/31										■	■	■	■	■	■	■	■	■						
Long-eared Owl	3/1-8/15					▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒									
N. saw-whet owl	3/1-8/31					■	■	■	■	■	■	■	■	■	■	■	■								

Table 4.9.12. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under Alternative A

Species	Dates	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Short-eared Owl	3/1-8/1																								
Mexican Spotted Owl	3/1–8/31																								
N. Pygmy owl	4/1-8/1																								
W. Screech owl	3/1-8/15																								
Common Barn-owl	2/1-9/15																								
Greatger Sage-grouse	3/1–6/15																								

4.9.2.7.3. ALTERNATIVE B

4.9.2.7.3.1. Raptors

Raptor protections under Alternative B would be less restrictive to mineral and energy development than Alternative D (No Action). Impacts to mineral and energy resources include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. Management of raptors under Alternative B would consider the least restrictive management options (see Section 4.9.2.7.1.1, Proposed RMP, Raptors; Table 4.9.12).

4.9.2.7.3.2. Greater Sage-grouse

Management of Greater Sage-grouse under Alternative B would be similar to Alternative D (No Action). It is not likely that management decisions under Alternative B would have a greater impact on mineral and energy development than Alternative D (No Action). Impacts to mineral and energy resources include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. Economic impacts to mineral and energy development would depend on the same factors considered for raptors (see Section 4.9.2.7.1.1 Proposed RMP, Raptors) and vary by alternative. The number of acres closed to mineral and energy development due to Greater Sage-grouse protections is included under each of the alternatives. The impacts of management decisions for Greater Sage-grouse are similar to those of raptors.

4.9.2.7.4. ALTERNATIVE C

4.9.2.7.4.1. Raptors

Management of raptors under Alternative C would implement spatial and seasonal buffers for raptors as recommended in Appendix A, BMPs. This is more restrictive than management of raptors under Alternative D (No Action), and would likely impact mineral resources more than Alternative D (No Action). Impacts to mineral and energy resources include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. Under this alternative, there is the potential that fewer wells would be permitted, given the more stringent protection guidelines (see Section 4.9.2.7.1.1 Proposed RMP, Raptors; Table 4.9.13).

4.9.2.7.4.2. Greater Sage-grouse

Management of Greater Sage-grouse under Alternative C would be more restrictive than Alternative D (No Action), but it is not likely that management decisions under Alternative C would have a greater impact on mineral and energy development than Alternative D (No Action). Impacts to mineral and energy resources include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. Economic impacts to mineral and energy development would depend on the same factors considered for raptors (see Section 4.9.2.7.1.1 Proposed RMP, Raptors) and vary by alternative. The number of

acres closed to mineral and energy development due to Greater Sage-grouse protections is included under each of the alternatives. The impacts of management decisions for Greater Sage-grouse are similar to those of raptors.

4.9.2.7.5. ALTERNATIVE D (NO ACTION)

4.9.2.7.5.1. Raptors

Alternative D (No Action) would maintain the spatial and seasonal buffers in the Diamond Mountain area for the twenty special status or sensitive raptor species listed in the Diamond Mountain RMP. Raptor buffers in the Book Cliffs area would remain unspecified. Impacts to mineral and energy resources include an increase in the existing development costs due to accommodating existing spatial and seasonal buffers and temporary delay in royalties paid to the federal government and/or the State of Utah (see Section 4.9.2.7.1.1 Proposed RMP, Raptors; Table 4.9.14).

4.9.2.7.5.2. Greater Sage-grouse

Management of Greater Sage-grouse under Alternative D (No Action) would continue. Impacts to mineral and energy resources include an increase in development costs and temporary delay in royalties paid to the federal government and/or the State of Utah. Economic impacts to mineral and energy development would depend on the same factors considered for raptors (see Section 4.9.2.7.1.1 Proposed RMP, Raptors) and vary by alternative.

4.9.2.7.6. ALTERNATIVE E

The impacts of Alternative E management decisions on minerals resources would be the same as Alternative C because the decisions are the same.

Table 4.9.13. Seasonal Restrictions in Established Buffer Zones Applied to Mineral Resources under Alternative B

Species	Dates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bald Eagle	1/1–8/31												
Golden Eagle	1/1–8/31												
Northern Goshawk	3/1–8/15												
Northern Harrier	4/1–8/15												
Cooper's Hawk	3/15–8/31												
Ferruginous Hawk	3/1–8/1												
Red-tailed Hawk	3/15–8/15												
Sharp-shinned Hawk	3/15-8/31												
Swainson's Hawk	3/1-8/31												
Turkey Vulture	5/1-8/15												
Peregrine Falcon	2/1–8/31												
Prairie Falcon	4/1–8/31												
Merlin	4/1-8/31												
American Kestrel	4/1-8/15												
Osprey	4/1-8/31												
Boreal Owl	2/1-7/31												
Burrowing Owl	3/1-8/31												
Flammulated Owl	4/1-9/30												
Great Horned Owl	2/1–9/31												
Long-eared Owl	3/1-8/15												
N. saw-whet owl	3/1-8/31												
Short-eared Owl	3/1-8/1												
Mexican Spotted Owl	3/1–8/31												
N. Pygmy owl	4/1-8/1												
W. Screech owl	3/1-8/15												
Common Barn-owl	2/1-9/15												

Table 4.9.13. Seasonal Restrictions in Established Buffer Zones Applied to Mineral Resources under Alternative B

Greater Sage-grouse	3/1–6/15																								

Table 4.9.14. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under Alternatives C and E

Species	Dates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bald Eagle	1/1–8/31												
Golden Eagle	1/1–8/31												
Northern Goshawk	3/1–8/15												
Northern Harrier	4/1–8/15												
Cooper's Hawk	3/15–8/31												
Ferruginous Hawk	3/1–8/1												
Red-tailed Hawk	3/15–8/15												
Sharp-shinned Hawk	3/15-8/31												
Swainson's Hawk	3/1-8/31												
Turkey Vulture	5/1-8/15												
Peregrine Falcon	2/1–8/31												
Prairie Falcon	4/1–8/31												
Merlin	4/1-8/31												
American Kestrel	4/1-8/15												
Osprey	4/1-8/31												
Boreal Owl	2/1-7/31												
Burrowing Owl	3/1-8/31												
Flammulated Owl	4/1-9/30												
Great Horned Owl	2/1–9/31												
Long-eared Owl	3/1-8/15												
N. saw-whet owl	3/1-8/31												
Short-eared Owl	3/1-8/1												

Table 4.9.14. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under Alternatives C and E

Mexican Spotted Owl	3/1–8/31																								
N. Pygmy owl	4/1-8/1																								
W. Screech owl	3/1-8/15																								
Common Barn-owl	2/1-9/15																								
Greater Sage-grouse	3/1–6/15																								

Table 4.9.15. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under Alternative D (No Action)

Species	Dates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bald Eagle	All Year												
Golden Eagle	All Year												
Northern Goshawk	4/15–8/20												
Northern Harrier	4/1–7/15												
Cooper's Hawk	5/1–8/15												
Ferruginous Hawk	All Year												
Red-tailed Hawk	4/1–7/15												
Sharp-shinned Hawk	6/20–8/15												
Swainson's Hawk	4/1–7/15												
Turkey Vulture	5/15–8/15												
Peregrine Falcon	All Year												
Prairie Falcon	4/1–7/15												
Merlin	4/15–6/25												
American Kestrel	5/1–6/30												
Osprey	4/1–7/15												
Burrowing Owl	4/1–7/15												
Great horned Owl	2/1–5/15												

Table 4.9.15. Seasonal Restrictions within Established Buffer Zones Applied to Mineral Resources under Alternative D (No Action)

Species	Dates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Long-eared Owl	3/15–6/15												
Short-eared Owl	4/10–6/15												
Mexican Spotted Owl	3/1–8/1												
Greater Sage-grouse (Book Cliffs)	3/15–6/15												
Greater Sage-grouse (Diamond Mountain)	3/1–6/30												

4.9.2.8. Impacts of Wildlife Decisions on Mineral Resources

4.9.2.8.1. Proposed RMP

Wildlife resource decisions that restrict activities in deer and elk winter range from December 1 through April 30 would have long-term, indirect, adverse impacts on mineral resource development. Potential impacts would include increasing the costs associated with mineral exploration, extraction, and development, as well as reducing the opportunities for mineral development. The impacts would not be substantially more than current management because timing restrictions, but shift 30 days forward from criteria currently used in the Book Cliffs area. The restricted period in the Diamond Mountain area would be the same under the Proposed RMP.

The decision to analyze impacts (in coordination with the UDWR) that would be mitigated would potentially benefit mineral resource extraction and development in the short-term by allowing some exploration to continue during restricted timeframes. By not implementing timing restrictions, mineral extraction and development would proceed at a faster pace with lower economic costs and risks.

4.9.2.8.2. Alternative A

Wildlife resource decisions that restrict activities in deer and elk winter range from November 15 through April 30 would have the same impacts on mineral resource development as the Proposed RMP, but extend the effect an additional 15 days. As with the Proposed RMP, impacts would include increasing the costs associated with mineral exploration, extraction, and development, as well as reducing the opportunities for mineral development. The decision to analyze impacts (in coordination with the UDWR) that would be mitigated would have the same effect as described under the Proposed RMP.

4.9.2.8.3. Alternative B

Wildlife resource decisions to implement timing restrictions on activities that could adversely impact deer and elk winter range would have long-term, indirect, beneficial impacts to mineral resources. Timing restriction for protection of wildlife species under Alternative B would be less restrictive than the other alternatives. By reducing timing restrictions, mineral extraction and development could proceed at a faster pace with lower economic costs and risks.

Under this alternative, disturbance activities that would displace deer and elk from more than 10% of their total winter habitat at any given time would not be allowed from December 15 through March 15. Waivers would be granted if deer and elk are not present; topography or other attributes screen the activity sufficiently so that the proposed activity would not displace the subject species; or disturbance resulting from the proposed activity would be mitigated. Such waivers are not present under Alternative D (No Action). Also under this alternative, no more than 10% of deer and elk winter habitat would be subject to surface disturbance and remain unclaimed at any given time compared to 2.4% for Alternatives A and C and an unspecified amount in Alternative D (No Action).

4.9.2.8.4. ALTERNATIVE C

Wildlife resource decisions to implement timing restrictions on activities that could adversely impact deer and elk winter range would have long-term, indirect, adverse impacts to mineral resources. Impacts include increasing the costs associated with mineral exploration, extraction, and development.

The impacts of this decision would be the same as for Alternative A and only slightly different than Alternative D (No Action). Also under this alternative, 560 acres per township (prorated based on percentage of the BLM-managed crucial deer winter range within the township [approximately 2.4%]) of deer and elk winter habitat would be subject to surface disturbance compared to 10% for Alternative B, 10% for Alternative A, and an unspecified amount in Alternative D (No Action). Because Alternative D (No Action), does not specify what percentage of new surface-disturbing activity would be allowed in deer and elk winter habitat it is unclear if wildlife resource decisions under this alternative would restrict mineral resources development more or less than Alternative D (No Action).

4.9.2.8.5. ALTERNATIVE D (NO ACTION)

Wildlife resource decisions to implement timing restrictions on activities that would adversely impact deer and elk winter range would have long-term, indirect, adverse impact to mineral resources. Impacts include increasing the costs associated with mineral exploration, extraction, and development.

Alternative D (No Action) does not specify what percentage of new surface-disturbing activity would be allowed in deer and elk winter habitat. Therefore it is unclear whether this particular factor in wildlife resource decisions would restrict mineral resources development more or less than any of the other alternatives.

4.9.2.8.6. ALTERNATIVE E

The impacts of wildlife decisions on minerals would be the same as discussed under Alternative C because the decisions are the same.

4.9.2.9. IMPACTS OF VISUAL MANAGEMENT DECISIONS ON MINERAL RESOURCES

Mineral development activities would be subject to the Visual Resource Management (VRM) Class objectives of the area within which development would occur. Areas managed for landscape change as VRM Class III and Class IV allow a wider range of impacts on scenery, and generally would have negligible impacts on mineral development in the VPA. Areas with higher scenic values, or areas managed for little to no landscape change (VRM Class I and Class II) allow little or no alteration to the line, form, color and texture that characterize the existing landscape and would have a greater impact to mineral development in the VPA. Table 4.9.16 shows the number of acres within each VRM class by alternative.

Table 4.9.16. VRM Class Acreages by Alternative

VRM Class	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D (No Action)	Alternative E
VRM I	57,776	63,136	53,058	145,781	53,086	334,516
VRM II	231,911	294,773	114,030	362,660	113,686	259,694
VRM III	786,612	716,186	199,179	580,846	199,192	535,586
VRM IV	643,641	645,845	1,353,967	630,653	1,353,976	590,140
Total	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**	**1,719,940**
VRM I and II	**289,687**	**357,909**	**166,794**	**508,441**	**166,772**	**594,210**
VRM III and IV	**1,430,253**	**1,362,031**	**1,553,146**	**1,211,499**	**1,553,168**	**1,125,730**

4.9.2.9.1. PROPOSED RMP

Under the Proposed RMP, the number of acres included in VRM Classes I and II would increase by approximately 74%, compared to Alternative D (No Action).

An increase in the number of acres in VRM Classes I and II could have an adverse impact on mineral resource development. Direct, adverse impacts would include increased production costs associated with mineral development and the exclusion of mineral development from particular areas. An increase in the number of acres in VRM Classes I and II would also lead to a decrease in the number of locations where potential wells could be drilled. The loss of locations could indirectly lead to a decrease in the available supply of oil and natural gas to western markets.

Indirect impacts of visual resources decisions on mineral development would be adverse. A decrease in the number of potential oil and gas wells would lead to a decrease in royalties paid to the federal government and/or the State of Utah.

4.9.2.9.2. ALTERNATIVE A

Under Alternative A, the number of acres included in VRM Classes I and II would increase by approximately 115%, compared to Alternative D (No Action).

An increase in the number of acres in VRM Classes I and II could have an adverse impact on mineral resource development. Direct, adverse impacts would include increased production costs associated with mineral development and the exclusion of mineral development from particular areas. An increase in the number of acres in VRM Classes I and II would also lead to a decrease in the number of locations where potential wells could be drilled. The loss of locations could indirectly lead to a decrease in the available supply of oil and natural gas to western markets.

Indirect impacts of visual resources decisions on mineral development would be adverse. A decrease in the number of potential oil and gas wells would lead to a decrease in royalties paid to the federal government and/or the State of Utah.

4.9.2.9.3. ALTERNATIVE B

Under Alternative B, the number of acres included in VRM Classes I and II would not change significantly (0.01% increase), compared to Alternative D (No Action). Impacts would be similar to Alternative D (No Action).

4.9.2.9.4. ALTERNATIVE C

Under Alternative C, the number of acres included in VRM Classes I and II would increase by approximately 205%, compared to Alternative D (No Action).

An increase in the number of acres in VRM Classes I and II would have an adverse impact on mineral resource development. Direct, adverse impacts would include increased production costs associated with mineral development and the exclusion of mineral development from particular areas. An increase in the number of acres in VRM Classes I and II would also lead to a decrease in the number of locations where potential wells could be drilled. The loss of locations could indirectly lead to a decrease in the available supply of oil and natural gas to western markets.

Indirect impacts of visual resources decisions on mineral development would be adverse. A decrease in the number of potential oil and gas wells would lead to a decrease in royalties paid to the federal government and/or the State of Utah.

4.9.2.9.5. ALTERNATIVE D (NO ACTION)

Under Alternative D (No Action), the number of acres included in VRM Classes I and II would not change.

Direct, adverse impacts would continue to include increased production costs associated with mineral development, the exclusion of mineral development from a particular area and a decrease in the number of locations where potential wells could be drilled. The loss of locations could indirectly lead to a decrease in the available supply of oil and natural gas to western markets.

Indirect impacts of visual resources decisions on mineral development would be adverse. A decrease in the number of potential oil and gas wells would lead to a decrease in royalties paid to the federal government and/or the State of Utah.

4.9.2.9.6. ALTERNATIVE E

Under Alternative E, the number of acres managed under VRM Classes I and II objectives would increase by approximately 256%, compared to Alternative D (No Action).

An increase in the number of acres in VRM Classes I and II would have an adverse impact on mineral resource development, with direct, adverse impacts that would include increased production costs associated with mineral development and the exclusion of mineral development from areas where minerals activities would not meet VRM objectives. An increase in the number

of acres in VRM Classes I and II would also lead to a decrease in the number of locations where potential wells could be drilled. This loss of potential drilling locations could indirectly lead to a decrease in the available supply of oil and natural gas to western markets.

Indirect impacts of visual resources decisions on mineral development would be adverse. A decrease in the number of potential oil and gas wells would lead to a decrease in royalties paid to the federal government and/or the State of Utah

4.9.2.10. Summary of Impacts from Alternatives

4.9.2.10.1. Alternative A

Resource decisions made under Alternative A would, in general, have a long-term, indirect, adverse impact on mineral resource development in the VPA. Resource decisions would be slightly more restrictive to minerals development than Alternative D (No Action). There would be an increase in the potential number of oil and gas wells that could be drilled in each of the six RFD areas. Resource decisions would be less restrictive to minerals development than those made for Alternative C and more restrictive than those made for Alternative B.

4.9.2.10.2. Alternative B

Resource decisions made under Alternative B would have both long-term, indirect, adverse, and long-term direct beneficial impacts on mineral resource development in the VPA. There would be an increase in the potential number of oil and gas wells that could be drilled in each of the six RFD areas. In general, resource decisions would be less restrictive to mineral resources development than those made for each of the other alternatives. Cultural and wildlife resource decisions would have a long-term direct, beneficial impact on mineral resource development. All other resource decisions would have an indirect, adverse impact on mineral resource development but not substantially more so than each of the other alternatives. Resource decisions would be substantially less restrictive than those for Alternative C.

4.9.2.10.3. Alternative C

Alternative C decisions would have a long-term, indirect, adverse impact on mineral resource development in the VPA. There would be a slight decrease in the potential number of oil and gas wells that could be drilled in each of the six RFD areas. In general, resource decisions would be more restrictive than those made for each of the other alternatives.

4.9.2.10.4. Alternative D (No Action)

Resource decision made under Alternative D (No Action) would have a long-term, indirect, adverse impact on mineral resource development in the VPA. Resource decisions would be less restrictive than those made for Alternatives C and E, more restrictive than Alternative A, and only slightly more restrictive than Alternative B.

4.9.2.10.5. ALTERNATIVE E

Alternative E resource decisions would have a long-term, indirect, adverse impact on mineral resource development in the VPA. There would be a decrease in the potential number of oil and gas wells that could be drilled in five of the six RFD areas, and minerals resource decisions would be more restrictive than those under the other alternatives because of stipulations to protect non-WSA lands with wilderness characteristics.

4.9.3. MITIGATION MEASURES

Under the Proposed RMP and all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to Alternative D (No Action). Similarly, neither the Proposed RMP nor any of the alternatives would substantially restrict mineral development. Neither the Proposed RMP nor any of the alternatives would result in impacts that would necessitate mitigation of oil, gas, and mineral resources; therefore, mitigation measures would not be necessary.

4.9.4. UNAVOIDABLE ADVERSE IMPACTS

Under the Proposed RMP and all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to Alternative D (No Action). Similarly, none of the alternatives would substantially restrict mineral development. Accordingly, neither the Proposed RMP nor any of the alternatives would result in unavoidable adverse impacts to mineral development.

4.9.5. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Once fossil fuel and mineral resources are extracted and the short-term beneficial uses (e.g., increased supply of minerals to meet demand, decreased production costs, increased royalties) are realized, the resources would no longer be available for long-term or future production.

4.9.6. IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

The extraction and development of mineral resources from the VPA would result in an irreversible loss of those minerals due to the finite nature of the resource.

5.0 CONSULTATION AND COORDINATION

5.1. INTRODUCTION

During the planning and decision-making process for this Vernal Proposed Resource Management Plan (PRMP)/Final Environmental Impact Statement (FEIS), the Bureau of Land Management (BLM) made formal and informal efforts to consult and coordinate with other Federal agencies, State and local governments, Indian tribes, and the interested public, in accordance with the requirements of the National Environmental Policy Act (NEPA), the Federal Land Policy Management Act (FLPMA), and all applicable Council on Environmental Quality (CEQ) and Department of Interior regulations, policies and procedures. NEPA, FLPMA, and applicable regulations and policy require that all federal agencies involve the interested general public in their decision making, consider reasonable alternatives to the preferred alternative/Proposed RMP, and prepare environmental documents that disclose the potential impacts of the preferred alternative/Proposed RMP and the reasonable alternatives.

Such public involvement, consultation, and coordination have been at the heart of the planning process leading to the Vernal Field Office PRMP/FEIS to ensure that (1) the most appropriate data have been gathered and employed for the analyses and (2) agency and public sentiment and values are considered and incorporated into decision making. This was accomplished through *Federal Register* notices, formal public and informal meetings, individual contacts, news releases, planning bulletins, the planning website, and public comments and responses thereto on the draft RMP/EIS.

The BLM initiated the planning process on March 2001 by publishing in the *Federal Register* a Notice of Intent (NOI) to conduct land-use planning for the Vernal Field Office. The NOI invited the participation of the affected and interested agencies, organizations, and members of the general public in determining the scope of and the significant issues to be addressed in the planning alternatives and analyzed in the EIS. The scoping for this project began on March 12, 2001 remained open until December 31, 2001. As part of the resource inventory to determine baseline, members of the interdisciplinary (ID) team formally and informally contacted various relevant agencies to request data to supplement the BLM's existing resource database.

On January 14, 2005, the BLM published in the Federal Register a Notice of Availability of the Draft RMP/EIS to announce and solicit public comment on the alternatives and impacts and effects of those alternatives on the human environment. The BLM distributed to relevant agencies and the interested public the Draft RMP/EIS for review and comment. The comment period ended April 4, 2005. The comments and the BLM's responses thereto are addressed in this Proposed RMP/Final EIS (PRMP/FEIS or Proposed RMP).

On December 13, 2005, the BLM published in the Federal Register a Notice of Availability of the Draft RMP/EIS to list proposed Areas of Critical Environmental Concern and specific associated resource use limitations for public lands in Daggett, Duchesne, Uintah and a small portion of Grand Counties, UT. They provided a 60-day comment period on the potential ACECs. The comment period ended February 11, 2006. The comments and the BLM's responses thereto are addressed in this PRMP/FEIS.

In order to adequately address the management of non-WSA lands with wilderness characteristics, a Supplemental EIS (SEIS) and a fifth alternative (Alternative E) was published by the BLM in 2007. A Notice of Availability was of the SEIS was published in the Federal Register on Oct. 5, 2007. The 90-day public comment period to solicit public comment on the impacts of Alternative E ended on January 3, 2008.

The following sections of this chapter describe the public involvement, consultation, and coordination process including key consultation and coordination activities undertaken to prepare a comprehensive PRMP/FEIS for the Vernal Field Office.

5.2. Consultation and Coordination with Tribes, State and Local Governments, and Federal Agencies

In the development of this PRMP, the BLM is required to consult and coordinate with other Federal agencies, State and local government agencies and officials, both elected and appointed, and federally recognized Indian tribes. More specifically, Federal law, including FLPMA, NEPA, the National Historic Preservation Act of 1966 (NHPA) (16 USC Sec. 470 et seq.), the Fish and Wildlife Coordination Act (16 USC Sec. 661 et seq.), the Endangered Species Act of 1973 (ESA) (16 USC Sec 1531 et seq.), and other applicable law, regulations, policy, and executive orders, directs the BLM to coordinate and consult with Native Americans, the State Historic Preservation Office (SHPO), the U.S. Fish and Wildlife Service (USFWS), and the Environmental Protection Agency (EPA) during the planning/NEPA decision-making process. This section documents the specific consultation and coordination efforts undertaken by the BLM throughout the entire process of developing the PRMP/FEIS.

Coordination with other agencies and consistency, to the extent possible, with other plans were accomplished through frequent communications, meetings, and cooperative efforts among the BLM planning and interdisciplinary team and involved federal, state, and local agencies and organizations. The cooperating agencies that were formally involved assisted the BLM throughout the planning process in the development of the PRMP/FEIS. A list of cooperating agencies and their representatives is presented in Table 5.1.

The Vernal Field Office has completed its consultation on the Proposed RMP Final EIS with the Utah State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act. SHPO's concurrence is included in Appendix P and they concur with BLM's determinations for the Section 106 consultation process specified in 36 CFR 800.4.

SHPO concurred with BLMs determination that in many cases there was no potential to cause effect by the decisions in this plan and in some cases there was potential to effect, but there would be no adverse affect on historic properties.

Table 5.1. Cooperating Agencies and their Representatives

Bureau of Indian Affairs	Ute Indian Tribe
Forrest S. Cuch	Curtis Cesspooch
State of Utah	
John Harja Val Payne	
Uintah, Duchesne, and Daggett Counties	**County Commissioners**
Daggett County	Stewart Leith Floyd Briggs Henry J. Gutz
Duchesne County	W R (Rod) Harrison Kent Peatross Kirk Wood
Uintah County	Darlene Burns David Haslem Mike McKee
Agency Liaison	
BLM Primary Liaison	Lauren Mermejo, State Planning Coordinator

5.2.1. Native American Interests and Tribes

Protective measures for culturally sensitive Native American resources are established through consultation and coordination with the appropriate Native American tribes or entities. Pursuant to NEPA, the NHPA, FLPMA, the American Indian Religious Freedom Act (AIRFA), Executive Order 13007, and BLM Manuals 8160, *Native American Coordination and Consultation*, and H-8160-1, *General Procedural Guidance for Native American Consultation*, the BLM has engaged in consultation with Native American representatives throughout the planning process. The applicable laws and guidance require that the consultation record demonstrates, "that the responsible manager has made a reasonable and good faith effort to obtain and consider appropriate Native American input in decision making" (H8160-1, 2003:4). Recommended procedures for initiating the consultation process include project notification, preferably by certified mail, follow-up contact (i.e. telephone calls), and meetings when appropriate (H8160-1, 2003:15). Native American consultation is an ongoing process that would continue after the PRMP is completed.

Native American organizations were invited to participate at all levels of the planning process for the RMP. The BLM State Director notified tribes of the BLM's intent to prepare the RMP and the Vernal Field Office invited tribes to consult regarding the entire range of cultural and natural resource impacts (Table 5.2).

The RMP/EIS scoping process was initiated in November 2002 when then–BLM Utah State Director Sally Wisely mailed letters to 32 tribal organizations. The BLM requesting information regarding any concerns the tribal organizations might have within the planning area, specifically requested input concerning the identification and protection of culturally significant areas and

resources located on lands managed by the Vernal and Price Field Offices, and offered the opportunity for meetings. Between November 2002 and May 2003, all 32 tribes were contacted by SWCA ethnographer Molly Molenaar, under contract with and on behalf of BLM, to 1) ensure that the appropriate tribal contact had received the consultation letter and 2) determine the need for additional or future consultation for the study areas identified in the consultation letter. Meetings were arranged when requested.

Of the 32 organizations contacted for this report, four requested meetings to discuss the traditional cultural resources study: Pueblo of Laguna, Hopi Tribe, Southern Ute Tribe, Uintah and Ouray Ute Indian Tribe. The Southern Ute Tribe requested that a meeting invitation be extended to all Ute Tribes contacted for this project and a meeting was held in Grand Junction, Colorado on April 10, 2003. Attending this meeting were representatives from the Ute Mountain Ute, White Mesa Ute, Uintah and Ouray Ute Indian Tribe, and the Southern Ute Tribe. Two meetings were held with the Hopi Cultural Preservation Office on January 19, 2003 and May 23, 2003. A meeting was held with the NAGPRA Committee at the Pueblo of Laguna tribal offices on April 28, 2003. Based on telephone conversations, correspondence, and meetings, 12 Native American organizations requested to be contacted for future projects in the Price Field Office and 12 Native American organizations requested to be contacted for future projects in the Vernal Field Office. Three organizations said that they did not need to be contacted for future projects and 16 organizations did not respond to the initial consultation letter or telephone calls made by Ms. Molenaar. *It is important to note that failure to respond to a request to consult does not necessarily mean that a Native American organization is not interested in current or future consultation with the Price and Vernal Field Offices.*

The remaining organizations contacted expressed concerns that are summarized below but did not specify as to whether or not they would like to be contacted for future projects for the field offices. *It is important to note that failure to respond to a request to consult does not necessarily mean that a Native American organization is not interested in current or future consultation with the Price and Vernal Field Offices.*

Table 5.2. Native American Organizations Requesting to Be Contacted for Future Projects in the Price Field Office

Jicarilla Apache Tribe	Navajo Nation
Paiute Indian Tribe of Utah	Pueblo of Acoma (NAGPRA cases only)
Pueblo of Laguna	Pueblo of Santa Clara
Pueblo of Zia	Uintah and Ouray Ute Indian Tribe
Southern Ute Tribe	White Mesa Ute Tribe
Ute Mountain Ute Tribe	Hopi Tribe

Table 5.3. Native American Organizations Requesting to Be Contacted for Future Projects in the Vernal Field Office

Jicarilla Apache Tribe	Navajo Nation
Pueblo of Acoma (NAGPRA cases only)	Pueblo of Laguna
Pueblo of Santa Clara	Pueblo of Zia
Uintah and Ouray Ute Indian Tribe	Southern Ute Tribe
White Mesa Ute Tribe	Ute Mountain Ute Tribe
Hopi Tribe	Pueblo of Nambe (assumption)

Table 5.4. Native American Organizations Requesting No Further Consultation on Projects in the Price and Vernal Field Offices

Pueblo of Picuris	Pueblo of Sandia
Te-Moak Tribe of Western Shoshone Indians	

Table 5.5. Native American Organizations that Did Not Submit a Final Response

Kaibab Paiute Tribe	San Juan Southern Paiute Tribe
Pueblo of Cochiti	Pueblo of Isleta
Pueblo of Jemez	Pueblo of Pojoaque
Pueblo of San Felipe	Pueblo of San Ildefonso
Pueblo of San Juan	Pueblo of Santa Ana
Pueblo of Santo Domingo	Pueblo of Taos
Pueblo of Tesuque	Pueblo of Zuni
Confederated Tribes of Goshute Nation	Shoshone-Bannock Tribes

Table 5.6. Native American Organizations that Did Not Specify the Need for Future Consultation (see Summary of Results for comments)

Duck Valley Shoshone-Paiute Tribe	Duckwater Shoshone Tribe
Eastern Shoshone Tribe	Ely Shoshone Tribe
Skull Valley Band of Goshute Indians	

5.2.2. SUMMARY OF RESULTS

The following is a list of requests, comments and concerns submitted to the BLM during the consultation process. Complete summaries for each tribe and the BLM response to requests can be found in the section entitled, Native American Consultation Review.

The Paiute Indian Tribe of Utah representative, Dorena Martineau (Cultural Resources Director) requested avoidance of "significant cultural resources whenever possible" on lands managed by the Price Field Office. She requested to consult with BLM, Price Field Office, on future projects.

The Jicarilla Apache Tribal representative Adelaide Paiz (Acting Director, Historic Preservation Office) voiced a concern for the protection of plants and medicinal herbs in the mountainous regions of Utah. Because it is not known how far north into Utah the Jicarilla Apache traveled, Ms. Paiz requested to consult with the BLM Price and Vernal Field Offices.

The Navajo Nation representative, Marklyn Chee (Archaeologist, Historic Preservation Office) expressed a concern for the protection of the waters of the Green River. The Navajo will not usually consult on federal lands north of the Henry Mountains. However, the Green River that flows through both the BLM Price and Vernal Field Offices are a significant water source to the Navajo. When the Green River is impacted, the cultural integrity of the spring water is affected, which in turn affects traditional procurement use values of the Navajo. Mr. Chee requested to consult with the BLM, Price and Vernal Field Offices, for future projects. He is particularly concerned with new discoveries, sites, and burials where NAGPRA will be initiated.

The Pueblo of Acoma representative Todd Sissons (Acoma Historic Preservation Office Head Researcher and NAGPRA Consultant) requested to be contacted for NAGPRA cases in the Price and Vernal Field Offices.

The Pueblo of Laguna NAGPRA Committee requested a meeting to discuss the traditional cultural resources study. Ms. Molenaar met with the committee at the Laguna tribal headquarters on April 28, 2003. During the meeting, the following requests were made by committee members:

- A request to consult for future projects in both the Price and Vernal Field Offices.
- A request to review the traditional cultural resources study draft report. After reviewing the draft document, the Laguna NAGPRA Committee will determine the need for additional meetings and field visits.
- A request for a written policy between Native Americans and the BLM that considers monetary compensation for field visits to project areas.
- A comment that federal agency request for consultation and comment for proposed projects (i.e., Right-of-Way applications), initial consultation letters, and appropriate follow-up contact. Letters are not considered sufficient consultation.
- A request was made for a large map of the project area and any videos of the project area.
- A request that the draft report include information about the laws that require Government-to-Government consultation between the federal agencies and Native Americans.

The Pueblo of Santa Clara representative Gilbert Tafoya (Land Claims, Rights and Protection Officer) mailed a written request to Sally Wisely (BLM Utah State Director) claiming affiliation to prehistoric cultural groups in the Price and Vernal Field Office areas. In a later telephone conversation with Ms. Molenaar, Mr. Tafoya voiced concerns about the BLM's ability to protect confidential, culturally significant information. Specific sites are identified, flagged, and recorded thus drawing attention to the sites and possibly attracting looting. Mr. Tafoya requested to review the draft report and then determine the need for further consultation.

The Pueblo of Zia representative Celestino Gachupin (Cultural and Natural Resources Director) requested to consult on future projects with the BLM, Price and Vernal Field Offices but would

not participate in the proposed study. Zia claims cultural affiliation with both field office district lands through oral history, specifically migration stories.

The Duck Valley Shoshone-Paiute Tribe representative Ted Howard (Environmental Coordinator) made a comment that tribes are living cultures, something that the government does not always understand. He said that agencies refer to sites as if they are past places, but they are dynamic and a sacred site can be rekindled at any time. Mr. Howard also voiced a concern about the federal government's ability to protect confidential information about sacred areas. Mr. Howard said that the tribe would not participate in the study and did not specify as to whether the tribe would like to be contacted for future projects.

The Duckwater Shoshone Tribe representative Ian Zabarte (Environmental Coordinator) commented on the overwhelming number of initial consultation letters received every month. The tribe does not have the staffing to issue formal responses for all projects. Mr. Zabarte said that the tribe would not be able to participate in the study and did not specify as to whether the tribe would like to be contacted for future projects.

The Skull Valley Band of Goshute Indians representative Mel Brewster submitted a cultural patrimony claim map to Ms. Molenaar and a report, *The Skull Valley Band of Goshute Indians: Historic Preservation Plan for Assumption of State Historic Preservation Office Responsibilities within the National Historic Preservation Program.* During an informal meeting with Ms. Molenaar, Mr. Brewster requested that federal agencies offer monetary compensation when requesting comment and consultation for federal projects. The Skull Valley Band does not have the staffing or funding to respond to federal agency requests to consult.

According to the cultural patrimony claim map, the Skull Valley Band does not consider lands managed by the Price and Vernal Field Offices to be part of their traditional territory. However, the preservation plan offers the Skull Valley Band's definition for correct and timely consultation and coordination of the Government-to-Government consultation process that should be considered for future projects in other BLM Field Offices.

The Te-Moak Tribe of Western Shoshone Indians representative Jennifer Bell (Environmental Coordinator) requested that the BLM, Price and Vernal Field Offices, contact the Confederated Tribe of Goshute Indians for future projects. The Te-Moak Tribe does not need to be contacted for future projects in the Price and Vernal BLM offices.

The Hopi Tribe representative Leigh Kuwanwisiwma (Director, Hopi Cultural Preservation Office) mailed a response letter to Sally Wisely (BLM, Utah State Director) claiming cultural affiliation with prehistoric cultural groups in the Price and Vernal Field Office areas. Mr. Kuwanwisiwma had the following comments and concerns:

- Opposition to BLM Instructional Memoranda 98-131-2 which prohibits reburial of Native American human remains and funerary objects subject to the Native American Graves Protection and Repatriation Act (NAGPRA) and excavated from BLM lands, on BLM lands.
- Opposition to any proposed ground disturbing activities with the potential to disturb the human remains of Hopi ancestors on BLM lands until the memoranda is revised or rescinded.

- A request that the revision or revocation of the memoranda be addressed as a traditional cultural concern in the preparation of land-use plan revisions.
- A concern that the Hopi Tribe's cultural values, religious beliefs, traditional practices and legal rights are being affected by BLM actions, specifically the instructional memoranda mentioned above and the Price Field Office's inaction regarding the appropriate protection of exposed burials on BLM lands under their jurisdiction.
- A request for a summary of cultural resource surveys of the project area (Daggett, Uintah, Duchesne, Carbon, and Emery Counties).
- A request to be involved in future projects.

In a telephone conversation with Ms. Molenaar, Terry Morgart (Legal Researcher) said that although the Hopi Council resolution claims affiliation with Basketmaker, Pueblo I and II, Archaic and Paleo-Indian Cultures, the Hopi clans have not used the Price and Vernal landscape in a long time. Hopi would therefore not be an active participant in the study but requested to comment on the final report. Hopi would, however, continue to be involved in NAGPRA cases issued by the Price and Vernal Field Offices.

The Southern Ute Tribe, Uintah and Ouray Ute Indian Tribe, Ute Mountain Ute Tribe, and White Mesa Ute Tribe met with BLM Utah State Archaeologist and Price Field Office representatives in Grand Junction, Colorado on April 10, 2003 to discuss the land-use plans and traditional cultural resources study. The tribes had the following comments and requests:

- Uintah and Ouray Ute Indian Tribal representative Betsy Chapoose (Director, Cultural Rights and Protection) requested that the Vernal Field Office make a concerted effort to consult with the tribe on all aspects of projects, not just cultural resources. Ms. Chapoose requested that the BLM consider holding community meetings on the reservation to discuss future projects.
- Ms. Chapoose requested that the BLM provide specific information on future project study areas (i.e., Class III cultural resource reports) and provide "site types" that may appear in the project area.
- Ms. Chapoose requested that the BLM re-consider their position on compensation for tribal knowledge, especially when a tribal elder, spiritual leader, or tribal expert in cultural resources is asked for this knowledge. She said that the issue of compensation for tribal knowledge concerning cultural resources should be addressed in the management plan.
- Ms. Chapoose said that the project area (Price and Vernal Field Office areas) for the proposed study is too large to offer specific information regarding traditional cultural properties and requested a larger map and additional cultural resource reports prepared for past projects.
- Southern Ute Tribal Representative Neil Cloud (NAGPRA Representative) voiced a concern about the BLM's ability to protect confidential information about culturally significant sites.
- Mr. Cloud requested that a follow-up meeting be held in a few months, stated that the project area is too large for a reasonable response and requested additional information about cultural resources in both field office areas.

- Ute Mountain Ute Tribal representative Terry Knight (Cultural Resources Director) commented that the BLM should protect culturally sensitive areas on federal lands by entering into agreements with tribes before projects begin.
- Mr. Knight requested that the BLM consider compensation for tribal knowledge and said that elders should be paid a rate comparable to level of expertise.

5.2.2.1. JICARILLA APACHE TRIBE

In a telephone conversation with Ms. Molenaar on November 25, 2002, Adelaide Paiz (Acting Director, Historic Preservation Office) said that the Jicarilla Apache would like to maintain consulting party status for future federal projects on lands managed by the Price Field Office. Ms. Paiz said that the Jicarilla Apache have an interest in the BLM Price Field Office lands because their nomadic ancestors roamed in the Utah area. When asked if she could identify areas of concern for the tribe, she said she would be interested in consulting and protecting the mountainous regions for future projects in the Price Field Office. She said that the mountain areas are exploited for plants and medicinal herbs more than the plains region in Utah. When asked if she could name any plants and herbs, she said that it is hard to identify specific plants because these plants usually spread to different locations and cannot be found in the same place year after year. She said that if meetings are held for this project, the Jicarilla would like to be invited to attend, although attendance at such a meeting would depend on money and staff availability. She said that a joint meeting with other tribes would be acceptable as the Jicarilla are in frequent contact with the Navajo and Southern Ute groups concerning land use issues.

On April 10, 2003, a meeting was held between the BLM and Ute Tribes at the request of the Southern Ute NAGPRA Coordinator. The Jicarilla Apache were invited to this meeting but were unable to send a representative.

In a telephone conversation with Ms. Molenaar on May 27, 2003, Ms. Paiz said that the Jicarilla Apache would like to stay on the Price and Vernal lists of tribes to be contacted in the future and would also like to be placed on the Vernal list for future projects because it is not known how far north the Apache traveled.

5.2.2.2. NAVAJO NATION

In a telephone conversation with Ms. Molenaar on January 8, 2003, Marklyn Chee (Navajo Nation Historic Preservation Office Archaeologist) said that the tribe will not usually consult on federal lands north of the Henry Mountains. However, the Green River that flows through both the BLM Price and Vernal Field Offices are a significant water source to the Navajo. When the Green River is impacted, the cultural integrity of the spring water is affected, which in turn affects traditional procurement use values. Mr. Chee said that he has drafted an electronic response letter to federal agency's requests for Section 106 consulting party status and would be emailing response letters to federal agencies in the near future.

In a telephone conversation with Ms. Molenaar on May 27, 2003, Mr. Chee said that the Navajo Nation would like to remain on the list of tribal contacts for the Price and Vernal Field Offices even though he indicated in a previous conversation that the tribe will probably not request to consult on projects on lands north of the Henry Mountains. He is particularly concerned with new discoveries, sites and burials, where NAGPRA will be initiated.

5.2.2.3. KAIBAB PAIUTE TRIBE

As of the date of this report, neither SWCA nor the BLM has received a final response from the Kaibab Paiute Tribe.

5.2.2.4. PAIUTE INDIAN TRIBE OF UTAH

In a telephone conversation with Ms. Molenaar on March 27, 2003, Dorena Martineau (Cultural Resources Director) said that the Paiute Indian Tribe of Utah will request consulting party status on future projects on lands managed by the BLM Price Field Office only, even though the tribe has consulted in the past with federal agencies in the Vernal area. Ms. Martineau said that the tribe requests avoidance of significant cultural resources whenever possible and said that Ralph Pikyavit (Kanosh Band, Cultural Resources Director) may have additional information about specific plants that need to be protected. Ms. Martineau said that the tribe would not participate in the traditional cultural resources study.

5.2.2.5. SAN JUAN SOUTHERN PAIUTE TRIBE

As of the date of this report, neither SWCA nor the BLM has received a final response from the San Juan Southern Paiute Tribe.

5.2.2.6. HOPI TRIBE

In a telephone conversation with Ms. Molenaar on December 30, 2003, Terry Morgart (Hopi Cultural Preservation Office Legal Researcher) said that he would submit a written response to Ms. Wisely stating that the Hopi Tribe considered the Vernal and Price areas to be peripheral territory. Hopi would not request to be a consulting party for the resource management plans. However, the preservation office would request a copy of the final traditional cultural resource report prepared for the Price and Vernal Field Offices. He said that the Hopi would also request the revocation of the BLM Reburial Policy.

On January 2, 2003, Leigh Kuwanwisiwma (Director, Hopi Cultural Preservation Office) mailed a response letter to Sally Wisely (BLM, Utah State Director) claiming cultural affiliation to prehistoric cultural groups in the Vernal and Price BLM Field Office areas.

5.2.2.7. PUEBLO OF ACOMA

In a telephone conversation with Ms. Molenaar on May 27, 2003, Todd Sissons (Acoma Historic Preservation Office Head Researcher and NAGPRA Consultant) said that Acoma is usually involved as a consulting party on federal lands in Utah for the Southeastern part of the state. However, Acoma sometimes requests to be involved in discovery (NAGPRA) cases in the Price and Vernal areas. Mr. Sissons requested that the Pueblo of Acoma stay on the list of tribal contacts for the Price office and should be contacted for NAGPRA cases in both the Price and Vernal field offices.

5.2.2.8. PUEBLO OF COCHITI

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Cochiti.

5.2.2.9. PUEBLO OF ISLETA

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Isleta.

5.2.2.10. PUEBLO OF JEMEZ

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Jemez.

5.2.2.11. PUEBLO OF LAGUNA

On November 21, 2002, Laguna Governor Harry Early mailed a letter to Sally Wisely (BLM Utah State Director) requesting a meeting between the BLM and the Laguna NAGPRA Committee. On April 28, 2003, Ms. Molenaar attended a meeting with the Laguna NAGPRA Committee representatives to discuss the traditional cultural resources study for the Price and Vernal Field Offices. The NAGPRA Committee requested to consult for future projects on lands managed by both field offices but did not wish to contribute to the traditional cultural resources study until a draft document had been produced and distributed to tribes for review. On May 6, 2003, Ms. Molenaar mailed copies of the meeting notes to Laguna NAGPRA Committee Representatives for comment. The NAGPRA Committee approved of the meeting notes.

5.2.2.12. PUEBLO OF NAMBE

In a telephone conversation with Ms. Molenaar on March 19, 2003, Ernest Mirabel (Nambe NAGPRA Committee) said that Nambe has been involved in previous projects in the Vernal area and requested more information about the proposed study. Copies of the initial consultation letter and map were mailed to Mr. Mirabel on the same day but a final response has not been forthcoming from the Pueblo of Nambe.

5.2.2.13. PUEBLO OF PICURIS

In a telephone conversation with Ms. Molenaar on April 3, 2003, Richard Mermejo (Cultural Resources Director) said that Picuris would not request consulting party status for projects on lands managed by the BLM, Price and Vernal Field Offices. He said that Picuris would prefer that tribes residing close to the project area take the lead role in the consultation process, including NAGPRA cases.

5.2.2.14. PUEBLO OF POJOAQUE

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Pojoaque.

5.2.2.15. PUEBLO OF SAN FELIPE

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of San Felipe.

5.2.2.16. PUEBLO OF SAN ILDEFONSO

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of San Ildefonso.

5.2.2.17. PUEBLO OF SAN JUAN

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of San Juan.

5.2.2.18. PUEBLO OF SANTA CLARA

On December 2, 2002, Gilbert Tafoya (Land Claims, Rights and Protection Officer) mailed a letter to Sally Wisely (BLM Utah State Director) stating that Santa Clara elders indicated that their people had traveled in the project area for hunting, trading, or other reasons and therefore, Santa Clara has concerns for traditional cultural properties on lands managed by the Price and Vernal Field Offices. Mr. Tafoya requested a copy of the draft report once it becomes available.

In a telephone conversation with Ms. Molenaar on March 10, 2003, Gilbert Tafoya (Land Claims, Rights and Protection Officer) said Santa Clara would prefer to read the draft report before requesting to be involved in the proposed study. If he finds the report lacking or does not agree with its contents specific to TCPs, tribal consultation, and cultural resources, he will then request a meeting.

Mr. Tafoya said in the past, Santa Clara has released confidential, culturally significant information for similar federal projects only to find out years later that the information was not kept confidential. He said that he has concerns about identifying specific sites in an area because the government usually draws more attention to the site by putting up ribbons and barriers for its protection but this draws attention to the site instead and attracts looters.

Another concern voiced by Mr. Tafoya was that federal agencies often request information from the Pueblo of Santa Clara only to completely disregard the concerns raised and information given when making final project decisions.

5.2.2.19. PUEBLO OF SANTA ANA

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Santa Ana.

5.2.2.20. PUEBLO OF SANTO DOMINGO

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Santo Domingo.

5.2.2.21. PUEBLO OF SANDIA

In a telephone conversation with Ms. Molenaar on February 26, 2003, Mike Ferguson (Lands Director) said that he requested input from tribal elders concerning the traditional cultural resource study and was told that the tribal elders had no concerns in the project area. He said that he would like to contact the elders one more time and verify their response. He said that if he did

not call again then the BLM could assume that the Pueblo of Sandia does not have cultural resource issues in the project area.

5.2.2.22. PUEBLO OF TAOS

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Taos.

5.2.2.23. PUEBLO OF TESUQUE

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Tesuque.

5.2.2.24. PUEBLO OF ZIA

In a telephone conversation with Ms. Molenaar on May 12, 2003, Celestino Gachupin (Cultural and Natural Resources Director) said that Zia would not participate in the proposed study. He said that they did not know of any significant traditional cultural properties in the Price and Vernal Field Offices but said that they do consider themselves to be culturally affiliated to the study area through their migration stories. He said that Zia would prefer that tribes located closer to the project area take the lead in tribal consultation for future project planning in the study area but would like to remain on the contact list for the Price and Vernal Field Offices.

5.2.2.25. PUEBLO OF ZUNI

As of the date of this report, neither SWCA nor the BLM has received a final response from the Pueblo of Zuni.

5.2.2.26. DUCK VALLEY SHOSHONE-PAIUTE TRIBE

In a telephone conversation with Ms. Molenaar on March 28, 2003, Ted Howard (Environmental Coordinator) said that the tribe probably does not need to be involved in the proposed study for the BLM, Price and Vernal Field Offices. He did, however, request another copy of the initial consultation letter and map for the proposed study.

Mr. Howard also said that his tribe is very cautious about giving information to the government about their sacred areas. He said that they have MOUs in place so that they can keep this information within the tribe so that it does not get published in the public record. He said that tribes are living cultures, something that the government does not always understand. He said that agencies refer to sites as if they are past places, but they are dynamic and a sacred site can be rekindled at any time.

5.2.2.27. DUCKWATER SHOSHONE TRIBE

In a telephone conversation with Ms. Molenaar on February 20, 2003, Ian Zabarte (Environmental Coordinator) said that the tribe would like to respond to all requests to consult but they are overwhelmed with the number of requests they receive every month. He said that the tribe does not have the staffing to respond to the number of letters received and would therefore not be able to participate in the study. Mr. Zabarte did not specify as to whether the tribe would like to be contacted for future projects.

5.2.2.28. EASTERN SHOSHONE TRIBE

In a telephone conversation with Ms. Molenaar on January 8, 2003, Reba Teran (Eastern Shoshone Cultural Center), said that the tribe would not be involved in this project due primarily to recent budget cuts. The Business Council considers only the most significant cultural resource studies, particularly study areas that may contain spiritual rock cairns. She said that, unfortunately, there is no budget for the Preservation Office. She said that the Eastern Shoshone Spiritual Leaders who used to travel on behalf of the tribe now have to travel with their own funds in order to be involved in cultural resource projects. Ms. Teran did not specify as to whether the tribe would like to be contacted for future projects.

5.2.2.29. ELY SHOSHONE TRIBE

In several telephone conversations with Ms. Molenaar, Dana McDade (Tribal Coordinator) said that she would prepare a written statement to BLM, Utah State Office concerning Ely Shoshone's interest in the Price and Vernal Field Office lands. As of the date of this report, neither SWCA nor BLM has received a final response from the Ely Shoshone Tribe.

5.2.2.30. CONFEDERATED TRIBES OF GOSHUTE NATION

As of the date of this report, neither SWCA nor BLM has received a final response from the Goshute Nation.

5.2.2.31. SHOSHONE-BANNOCK TRIBES

As of the date of this report, neither SWCA nor BLM has received a final response from the Shoshone-Bannock Tribes.

5.2.2.32. SKULL VALLEY BAND OF GOSHUTE INDIANS

On January 28, 2003, Ms. Molenaar visited Mel Brewster (Tribal Archaeologist) at the Skull Valley tribal offices in Salt Lake City, Utah. Mr. Brewster gave Ms. Molenaar copies of letters to federal agencies concerning Goshute indigenous lands, including a cultural patrimony claim map, and a definition for consultation from the Goshute Historic Preservation Plan. According to the cultural patrimony claim map, the Skull Valley Band does not consider lands managed by the Price and Vernal Field Offices to be part of their traditional territory.

5.2.2.33. TE-MOAK TRIBE OF WESTERN SHOSHONE INDIANS

In a telephone conversation with Ms. Molenaar on November 25, 2002, Jennifer Bell (Environmental Coordinator) said that the Eastern half of Utah is not considered to be the traditional territory of the Te-Moak Shoshone and requested that BLM contact the Goshute for this project. When asked if the tribe should be included in consultation for future projects in the Vernal and Price areas, Ms. Bell said the Te-Moak would defer to the Goshute, and did not need to be contacted for future projects in the BLM Price and Vernal Field Offices. Ms. Molenaar requested that the Te-Moak Tribe submit a written response to the BLM, Utah State Office Director, Sally Wisely, stating that they did not need consultation on future projects in the Price and Vernal BLM districts.

5.2.2.34. UINTAH AND OURAY UTE INDIAN TRIBE

In a telephone conversation with Ms. Molenaar on March 11, 2003, Betsy Chapoose said that she would attend a meeting with the BLM concerning cultural resource issues and the development of the resource management plans for the Price and Vernal Field Offices. On April 10, 2003, Ms. Chapoose represented the Uintah and Ouray Ute Indian Tribe at a meeting with the BLM in Grand Junction, Colorado.

5.2.2.35. SOUTHERN UTE TRIBE

In a telephone conversation with Ms. Molenaar on November 21, 2002, Jim Jefferson (Cultural Preservation Coordinator) said that the Southern Ute Tribe should be left on the list of tribal contacts for the Price and Vernal Field Offices. He voiced a concern about the potential for looting of archaeological sites once they are identified.

In a telephone conversation with Ms. Molenaar on February 26, 2003, Neil Cloud (NAGPRA Representative) requested a meeting with the BLM to discuss the proposed study and the development of the resource management plans. On April 10, 2003, Mr. Cloud represented the Southern Ute Tribe at a meeting with the BLM in Grand Junction, Colorado.

5.2.2.36. WHITE MESA UTE TRIBE

In a telephone conversation with Ms. Molenaar on March 28, 2003, Elayne Attcity (Councilwoman) said that she would attend the joint meeting with the Ute Tribes and the BLM to discuss the proposed study and the development of the resource management plans. On April 10, 2003, Mr. Cloud represented the White Mesa Ute Indian Tribe at a meeting with the BLM in Grand Junction, Colorado.

5.2.2.37. UTE MOUNTAIN UTE TRIBE

In a telephone conversation with Ms. Molenaar on February 20, 2003, Terry Knight (Cultural Resources Director) said that he would attend the joint meeting with the Ute Tribes and the BLM to discuss the proposed study and the development of the resource management plans. On April 10, 2003, Mr. Knight represented the Ute Mountain Ute Indian Tribe at a meeting with the BLM in Grand Junction, Colorado.

In addition, the NHPA and the regulations at 36 CFR Part 800 govern BLM's cultural resource management program. The regulations provide specific procedures for consultation between the BLM and the State Historic Preservation Office (SHPO). The BLM has initiated formal consultation with SHPO during the development of the RMP concerning cultural resources. A copy of the Draft RMP/EIS was sent to the SHPO for review and comment, and it also will receive a copy of this PRMP/FEIS.

5.2.3. ENVIRONMENTAL PROTECTION AGENCY

The BLM coordinated with the EPA through multiple meetings and communications. The EPA's air quality protocols are used as guideline standards for this document. This PRMP/FEIS also responds to EPA's comment letter on the DRMP/EIS.

The BLM provided the Environmental Protection Agency (EPA) with a copy of the DRMP/EIS and the Supplemental Draft. The EPA has submitted comments on both documents. The EPA rated the preferred alternative as Environmental Concerns-Insufficient Information, "EC-2".

The EPA expressed concern about the lack of information associated with BLM's analysis of air quality impacts, livestock and grazing management, and oil shale development within the planning area. The EPA also questioned the analysis of the environmental hazards and health risks to communities near mineral development. Additional analysis and information regarding air quality, grazing, oil shale development, and potential risks to communities have been included in Chapter 4 of the PRMP/FEIS based on EPA comments.

5.2.4. U.S. Fish and Wildlife Service

The BLM consulted with the USFWS as required prior to initiation of any project by a federal agency that may affect federally listed special status species or its habitat in accordance with Section 7 of the ESA and with the Fish and Wildlife Coordination Act, 16 USC Sec 661 et seq. This RMP/EIS is considered a major planning action, and the BLM initiated formal consultation with the USFWS on August 28, 2001.

In December 2001, the BLM requested assistance from the USFWS in identifying threatened, endangered, proposed, and candidate plant and animal species that may be located in the Vernal planning area. A letter was sent by the BLM State office to the USFWS initiating informal consultation for the Price, Vernal, and Richfield planning efforts. The USFWS responded by providing BLM with a list of species that may be present in or may be affected by projects in the subject planning area. Tables 3.1.5.15.1 and 3.1.5.15.2 present a comprehensive list of sensitive species that may be present in the planning area and whether they could be affected by the proposed and alternative actions. The results of this consultation have been incorporated into this EIS.

This PRMP constitutes a Biological Assessment (BA), which has been provided to the USFWS for review and comment. The BLM determined that the implementation of the PRMP/FEIS is "not likely to adversely affect" /or/ "may affect" the species on which this consultation occurred. The USFWS may concur with the BLM's determination via memorandum, or prepare a biological opinion, which advises the BLM on the actions that must be taken to protect federally listed special status species.

The BLM has also consulted with the Utah Division of Wildlife Resources (UDWR).

5.2.5. State Agency Coordination

NEPA requires that the agency work closely with cooperating and other responsible and trustee state agencies in preparing an EIS. The primary tool for this coordination is the preparation of the draft alternatives (Chapter 2) for review by state agencies and subsequently the preparation of the draft EIS. The BLM sent preliminary drafts to the State of Utah Divisions of Oil, Gas, and Mining; State Parks; Geological Survey; Wildlife Resources; and the State Historic Preservation Office (SHPO) and the School and Institutional Trust Lands Administration (SITLA).

5.2.6. COOPERATING AGENCY INVOLVEMENT

Cooperating agency status has been extended to federal, state, and local agencies with regard to the Vernal RMP/EIS planning effort. Daggett, Duchesne and Uintah Counties signed a Memoranda of Understanding (MOU) in 2001 and 2002 to be cooperating agencies. The State of Utah also signed a cooperating agency agreement in 2001. The Ute Tribe signed a cooperating agency agreement in September 2004. Cooperating agencies that have participated in the development of the Draft RMP/EIS include: U.S Fish and Wildlife Service, State of Utah, Daggett County, Duchesne County, and Uintah County.

BLM held more than 70 meetings with the cooperating agencies throughout the planning process, all of which have occurred between November 2001 and June 2003. RMP/EIS-related topics discussed in these meetings included socioeconomics, Wild and Scenic River suitability, ACEC relevance and determination, travel plans, and the development of alternatives. A list of these meetings can be found in at the end of this chapter in Section 5.9.

5.3. CONSISTENCY WITH OTHER PLANS

This PRMP/FEIS has been prepared by the Vernal Field Office with assistance from the BLM Utah State Office and the cooperating agencies. This is the third in a series of four NEPA documents released to the public during the federal land-use planning process. The Draft RMP (the first NEPA document) was sent to the public in January 2005 with an associated 90-day comment period until April 4, 2005. Complete records of public comments are on file in the Vernal Field Office, Vernal, Utah.

The BLM planning regulations require that RMPs be consistent with officially approved or adopted resource-related plans, and the policies and procedures contained therein, of other Federal agencies, State and local governments, and Indian Tribes, so long as the guidance and RMPs also are consistent with the purposes, policies and programs of Federal laws and regulations applicable to public lands.

43 U.S.C. §1712(c) (9) states that the Secretary of the Interior (through the land-use plans of the federal agencies under it) shall "coordinate the land use inventory, planning, and management activities of or for such lands with the land-use planning and management programs of other Federal departments and agencies and of the States and local governments within which the lands are located." It further states that "the Secretary shall assure that consideration is given to those State, local, and tribal plans that are germane in the development of land-use plans for public lands [and] assist in resolving, to the extent practical, inconsistencies between Federal and non-Federal Government plans…" This language does not require the BLM to adhere to or adopt the plans of other agencies or jurisdictional entities, but rather to give consideration to these plans and make an effort to resolve inconsistencies to the extent practical.

The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). Where State and local plans conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled.

Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. In order to ensure such consistency, finalized plans were solicited from Federal, State, and local agencies as well as Tribal governments listed in Section 1.5. These same agencies received copies of the Draft RMP/EIS for review and comment, and will receive copies of this PRMP/FEIS. As stated previously, Section 202 of FLPMA requires the BLM to coordinate land-use planning activities with other Federal agencies, State and local governments, and Indian Tribes. FLPMA also requires BLM to ensure that consideration is given to non-BLM plans that are pertinent to the development of the RMP, assist in resolving inconsistencies between Federal and non-Federal government plans, and to provide for meaningful public involvement of other Federal agencies, State and local government officials, and Indian Tribes in the development of the RMP. There are no known inconsistencies between the Proposed RMP and officially approved and adopted resource-related plans of the Federal agencies, State and local governments, and Indian Tribes. Coordination and consultation continued throughout the planning process and would further continue with implementation of the RMP.

Table 5.7 outlines the planning consistency of the Proposed RMP with the approved management plans, land-use plans, and controls of other agencies with jurisdiction in or adjacent to the planning area. The authorized officer will continue to collaborate with federal agencies, state and local governments, and Indian tribes on implementation of the RMP and on pursuing consistency with other plans and will move toward integration of such plans to the extent that they are consistent with federal laws, regulations, and policy directives. Additional discussion is contained in Chapter 1.

The Vernal Field Office RMP is consistent with the following agency plans: Ashley National Forest Land-use plan; Dinosaur National Monument Plan; 1996. Green River Management Plan; Joint Management Plan; VFO and Ashley National Forest; Browns Park National Wildlife Refuge Plan; Ouray National Wildlife Refuge Plan; and Division of State Parks and Recreation, Steinaker and Red Fleet State Plans. **No comments were received to indicate inconsistency of these plans with the Proposed RMP.**

Table 5.7. Plan Consistency Review

Daggett County General Plan (1996)				
Discussion		**Consistent**	**Partially Consistent**	**Not Consistent**
Economic Development	Due to the dependence of the County businesses on public lands, it is important that economic decisions for the County are made with a firm understanding of public land issues.	X		
Multiple Use	The County supports continuing multiple-use management practices on public lands. County residents have used public lands and resources for a variety uses (e.g., grazing, recreation, timber, mining, oil/gas development, agriculture, hunting, fishing, wildlife viewing, and water resource development). The County feels that multiple use means a balanced allocation of available resources among uses and users. The County acknowledges that in some cases competing uses may conflict. In these situations, the County's position will be to support those uses consistent with maintaining/preserving the County's rural lifestyle and character. The County feels that federal and state public land managers should identify and address local social and economical impacts as part of their resource allocation decision-making processes.	X		
Private/Public Land Ownership	The County feels that the amount of acreage owned and managed by federal and state agencies is sufficient for the "public interest". The County encourages state and federal agencies to privatize public lands, particularly those suitable for agricultural uses and natural resource use and/or development. The County feels that federal or state agencies involved in private-to-public land ownership/lease/management transactions should identify, and make available for private purchase/lease/management an equivalent amount (acreage or value) of public land as a condition of the initial transaction. These lands, and the accompanying surface and subsurface resources, should be transferred to private ownership with minimal use restrictions.	X		

	The County acknowledges the rights of property owners to dispose of private property to any willing purchaser, including federal or state agencies.			
Public Lands Access	The County maintains that adequate access on public lands must be available to residents. The County will continue to participate in the current RS-2477 discussions and all other relevant federal and state land/road management decisions. The County also supports general public access through private lands to public lands as historically provided and allowed. BLM Response: The Proposed RMP makes no commitments to respect to any valid existing rights, particularly those concerning RS-2477.	X		
Public Lands Federal and State Agencies	The County's economic growth and stability depends on public lands and associated resources for continued use and availability for industries such as agriculture, mining, tourism, and recreation. The County supports multiple-use management of public lands and encourages a balance between consumptive and non-consumptive uses.	X		
Public Land Resource Use and Development	The County enjoys an abundance of natural resources such as wildlife, timber, minerals, oil/gas, and beautiful scenery. Responsible use of these resources benefits the County economically. The County's believes that federal and state management plans continue to allow should allow for the responsible development of natural resources and the expansion of related industries. The County supports the development and use of additional natural resources as they become available or as new technology allows.	X		
Recreation and Tourism	The County continues to participate with local federal and state public land management agencies in their respective recreation and tourism promotion and planning efforts. The County will actively participate in federal and state planning processes that include relevant recreation and tourism elements.	X		

	The County feels that proposals prepared by federal and state agencies, and/or individuals operating as concessioners or permittees, should include an impact analysis for County provided services.			
Value Added Agriculture	The County recognizes the important contribution that agriculture makes to the area's economy and wants to maintain and support this industry. County support for the area's agricultural industry.	X		
Wildlife/Fisheries	The County enjoys a diverse wildlife and fish population. This resource provides a variety of recreational opportunities for residents and visitors. The County supports additional wildlife management and habitat improvement programs to the extent that these programs complement other County interests. The County supports rangeland improvement programs that allocate forage increases evenly between wildlife and livestock interests. The County also supports the re-introduction of additional wildlife species as long as doing so does not jeopardize other types of resource use and development. The County feels that local government leaders and interested citizens should be advised of wildlife management issues and invited to provide input to the process before decisions are made and plans implemented. The County feels that Animal Unit Months (AUMs) should be based on, and maintained at, current livestock/big game ratios. The County feels that agency-determined increases in wildlife numbers and/or expanded habitat areas (including reintroduction areas) should not come as a result of decreases in livestock numbers and/or grazing allotments. In areas where wildlife and livestock interests are in direct conflict, the County feels that livestock interests should take priority. The County continues to support responsible management of its nationally renowned fishery resources. <u>BLM Response</u>: Grazing decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401. Proposed RMP		X	

	decisions on public lands would continue to promote a healthy, active grazing industry. Forage allocations for livestock and wildlife are fully allocated on public lands. Numerous RMP decisions under other identified resources allow for the restoration and maintenance of rangeland and watershed health. For example, the Proposed RMP provides the umbrella to allow implementation-level actions for hazardous fuel reductions, fire rehabilitation, vegetation treatments, riparian improvements, range and wildlife habitat improvements, UPCD projects—including Healthy Lands Initiative projects, seed collection, etc. Minor, if any, adjustments to current permitted livestock AUMs are made in the Proposed RMP. Prior voluntary relinquishments and/or retirements have been recognized.			
General Plan for the Community of Dutch John (2001)				
Discussion		**Consistent**	**Partially Consistent**	**Not Consistent**
Historical Values	The Dutch John Community promotes the preservation of historical documents, markers, monuments, sites and eventually buildings.	X		
Recreation	Trails and walkways outside of the general boundaries of the community which lead to the mountains and hills, the waterfront, and the horse corrals are desired by the Community. Other recreational facilities such as a community waterfront park located on the lake to the west of Dutch John and an equestrian center located in the same area as the existing corrals. The waterfront park will have to be coordinated with the appropriate public agencies since the site is located on public lands. Winter trails for skiing and snowmobiling should also be a part of this effort. BLM Response: For those lands within the scope of the RMP, BLM is consistent with the General Plan for the Community of Dutch John.	X		
Sensitive Lands	Certain areas within the community and within future expansion areas have characteristics which present special problems for development and which are valuable resources to the community. The loss of these areas will adversely affect the quality of life in the community and efforts must be made to preserve these resources. Vegetation removal must be minimized, as well as soil and slope instability, erosion and water runoff, and impairment of aesthetic qualities, including scenic vistas. There is also a need to maintain and provide recreational access corridors within, or along side of drainage ways.	X		

	Sensitive lands include the following amenities: visual, natural resources, flood hazards, wetlands, drainages, open space, seismic, steep slopes, utility corridors, unstable soils, water recharge and culinary water zones. BLM Response: For those lands within the scope of the RMP, BLM is consistent with the General Plan for the Community of Dutch John.			
Transportation	The community has a responsibility to ensure that new roads are developed correctly and that existing roads are used in ways to ensure safety for its citizens and efficiency of vehicular movement. All development proposals, large and small, should be required to provide for new roads as shown on the plan. Developments should dedicate rights-of-way and appropriately develop roads within each project consistent with this plan. BLM Response: For those lands within the scope of the RMP, BLM is consistent with the General Plan for the Community of Dutch John.	X		
Duchesne County General Plan (1997)				
Discussion		**Consistent**	**Partially Consistent**	**Not Consistent**
Air Quality	The County's air quality will be protected by standards described in the Utah State Implementation Plan approved by the EPA, whose authority is the Clean Air Act of 1990. High-level air quality is necessary to prevent restrictions on future economic development. Baseline air quality data must be established for the Uintah Basin with full participation of the County. Decisions must be based on this data. Air in the County must be protected from degradation by outside sources.	X		
Cultural & Historical	Cultural resources shall be protected and preserved. Cultural identity includes traditional ways of life such as harvesting cedar posts, livestock grazing, agriculture and access which must be protected. Any alteration of landforms, waterways, closure of roads and other such matters shall be carried out only after full consideration of the County's prehistoric and historical cultural heritage. Where significant prehistoric and historic sites and constructs can be protected, they may be developed for education and tourism.	X		

	The National Historic Preservation Act (NHPA) is the basis for cultural and historical preservation and defines the responsibility of federal agencies for protection and preservation of cultural and heritage resources. BLM Response: The Proposed RMP takes into account the identified permitted and non-permitted traditional uses of public lands.			
Energy and Mineral Resources	Access to public lands for mineral development must be increased in the economic interest of the county citizens and government. Mineral exploration and development are consistent with the multiple use philosophy for management of public lands. These activities constitute a temporary use of the land that will not impair its use for other purposes in the future. All oil and mineral exploration activities shall comply with appropriate laws and regulations. Identification of energy and mineral potential and location is important for planning future energy needs and resource management. Agencies shall plan, fund, and encourage by way of policy management decisions relative to energy resources. All management plans must address and analyze the possibility for the development of minerals where there is a reasonable expectation of their occurrence within the planning area. After environmental analysis, and as provided for in the governing resource management plan, all tracts will be available and offered for lease or open to be claimed as provided by law. The County recognizes that, while all BLM administered land within the county is currently available for lease, decisions are made regarding oil and gas leases through the land-use planning process. Alternatives identify areas where leasing may occur with standard lease terms, timing and controlled surface use stipulations or no surface occupancy. Additionally, some areas may be considered for no leasing in the future. All permits and applications must be processed on a timely basis, in accordance with Onshore Oil and Gas Order Number 1. Procedures and required contents of application must be provided by the applicant at the time of application. Development of the solid, fluid, and gaseous mineral resources of the state should be encouraged. The waste of fluid and gaseous minerals within developed areas should be prohibited. Requirements to mitigate or reclaim mineral development	X		

	projects should be based on credible evidence of significant impacts to natural or cultural resources.			
Feral or Wild Horses	No forage allocations or permits shall be provided for wild or fugitive horses on public lands in the County. All feral or fugitive horses found roaming on public lands in Duchesne County are trespassing and shall be removed.	X		
Fishing	Land management agencies shall make every effort to provide additional opportunities for fishing on public lands in the County.	X		
Geological, Paleontological, and Archeological Resources	All significant artifacts found in the area should remain in the County. The County recognizes that vertebrate fossils may be collected from BLM administered lands under a permit issued to qualified individuals and that such fossils remain the property of the federal government and must be placed in a suitable repository (such as a museum or university) identified at the time of permit issuance. Recreational collectors may collect and retain reasonable amounts of common invertebrate and plant fossils for personal, non-commercial use. Resource management plans must provide opportunity for amateur collectors and students of these sciences to study, explore and collect related items as provided by law. Public land management agencies should promote these resources with educational material, signage, and information centers where appropriate.	X		
Introduced, Sensitive, Threatened and Endangered Species	No threatened and endangered species shall be proposed for listing in the County until verifiable scientific data has been available to the public that there is a need for the designation, that protections cannot be provided by other methods, and the area in question is truly unique compared to other area lands. Buffer zones for the protection of threatened and endangered species or other special designations are not acceptable. The County does not believe that it is the intention of the Act to restore all original habitats once occupied by a specific species, but only the amount needed to protect the species from extinction. These designations or reintroduction often grow beyond the stated boundaries and		X	

	scope and result in detrimental effects on the area economy, life style, culture and heritage. The Fish and Wildlife Service shall exclude areas from critical habitat designation if the economic damage is considered too great. Designation or reintroduction plans, guidelines, and protocols must not be developed or implemented without full County involvement and public disclosure. Any analysis of proposed designations or reintroductions must be inclusive and analyze needed actions associated with the proposal to prevent growth beyond the scope and boundaries. Recovery plans must provide for indicators to track the effectiveness of the plan and identify at the point recovery has been accomplished. Such designations shall provide access for reservoirs, maintenance of irrigation facilities, fire, and weed and pest control. Devaluation of private property by the Endangered Species Act is a "taking" under the 5th Amendment of the U.S. Constitution and compensation must be paid. BLM Response: The BLM is required to follow existing laws, such as the Endangered Species Act and NEPA.			
Land Exchanges, Acquisitions, and Sales	Private property shall be protected from coerced acquisition by federal, state and local governments. The County shall be compensated for loss of private lands or tax revenues due to land exchanges. Private lands shall not be converted to state or federal ownership in order to compensate for government activities outside of the County. Any conversion from private property to public lands shall result in no net loss of private property. No net loss shall be measured both in terms of acreage and fair market value. A private property owner has a right to dispose of or exchange property as he/she sees fit within applicable law. BLM Response: Land exchanges, acquisitions, disposal, and sales, etc., are regulated by FLPMA.		X	

Livestock Grazing & Forage Allocations	Public land agencies shall maintain livestock grazing permits and grazing allocations at present levels until a study of rangeland improvement justifies increased or decreased grazing. The County recognizes grazing permits on public lands as an asset, which may be transferred by the permit owner. When grazing permits are withdrawn from a livestock operator due to grazing violations, the permit shall not be reallocated to other uses and shall be made available for continued livestock use before the commencement of the next grazing season. Access shall be maintained and improved as management needs require. Livestock allocations shall not be converted to wildlife allocations as long as the land supports the grazing Animal Unit Months (AUM's) assigned to the allotment. Management decisions shall be based on the individual range allotment condition and not on the overall condition of surrounding lands. Increases in available forage resulting from the conservation practices of livestock permit-holders shall not be allocated or credited to other uses. Forage allocation reductions resulting from forage studies, drought, or natural disasters shall be implemented on an allotment basis. Reductions shall be applied proportionately to all allocations unless it can be proven that a specific type of grazing animal is causing the land health degradation. The County recognizes that, in the event of fire, drought or natural disaster, a variety of emergency or interim actions may be necessary to minimize land health degradation, such as temporary reduced forage allocation for livestock and wildlife. Weed control efforts that affect forage allocations shall be discussed by the land management agency with livestock representatives, neighboring landowners, and the County weed specialist. Public land management agencies shall endeavor to inspect riparian and sensitive areas with livestock permittees approximately one week before livestock are admitted to the grazing allotment. If riparian areas are damaged or degraded		X	

	before the livestock enter the grazing allotment, the management agency and representatives shall make a record of the condition and appropriate mitigation shall be acceptable to all parties. A copy of the signed report shall be filed with the agency and provided to the permit-holder. Increases in available forage resulting from practices or improvements implemented by managing agency will be allocated proportionately to all forage allocations, unless the funding source specifies the benefactor. Changes in season of use or forage allocation must not be made without full and meaningful consultation with permittee. The continued viability of livestock operations and the livestock industry shall be supported on federal and state lands within the County by management of the lands and forage resources and the optimization of animal unit months for livestock in accordance with the multiple-use provisions of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701 et seq., the provisions of the Taylor Grazing Act of 1934, 43 U.S.C. 315 et seq., and the provisions of the Public Rangelands Improvement Act of 1978, 43 U.S.C. 1901 et seq. BLM Response: See response to Wildlife and Fisheries of the Daggett County General Plan.			
Multiple Use	It is the County's position that public lands be managed for multiple use, sustained yields, prevention of waste of natural resources, and to protect the health and welfare of the public. It is important to the County economy that public lands be properly managed for fish, wildlife, livestock production, timber harvest, recreation, energy production, mineral extraction and the preservation of natural scenic, scientific and historical values.	X		
Noxious Weeds	Farmers, ranchers, land management agencies and governments work together in a coordinated effort to control noxious weeds in Duchesne County. These interests shall develop common management goals, facilitate effective treatment, and coordinate efforts along logical geographic boundaries. An integrated weed management plan shall be implemented for preventing, containing, or controlling undesirable plant species or groups of species using all available strategies and techniques prescribed by the State Noxious Weed Act.	X		

Off Highway Vehicles (OHV)	Public land agencies shall limit OHV's to trails, roads, or areas specifically designated by the agency for that purpose. Public land agencies shall accommodate livestock permit holders, resource developers and managers who have a legitimate need to enter a specific area on public lands by making OHV licenses available.	X		
Public Access and RS 2477 Roads	Access to and across public lands, including RS2477 Roads and rights-of-way should remain open. Access and transportation needs shall be considered, evaluated and analyzed in the land-use planning process (in order to accommodate and be consistent with other uses). No roads, trails, rights-of-way, easements or other traditional access for the transportation of people, products, recreation, energy or livestock may be closed, abandoned, withdrawn, or have a change of use without full public disclosure and analysis. Future access must be planned and analyzed to determine its disposition at the completion of its intended life. Access to all water related facilities such as dams, reservoirs, delivery systems, monitoring facilities, livestock water and handling facilities, etc., must be maintained. This access must be economically feasible with respect to the method and timing of such access. The County has undertaken efforts over the past several years to identify and plot the location of all Class B and Class D roads that are legitimately part of the County's transportation system. The County has prepared a map of its current transportation system in areas within the stewardship of the Bureau of Land Management, setting forth all roads claimed by the County as part of its transportation system. That map is expressly adopted and incorporated into this policy document by this reference as though fully set forth herein. The map includes but is not limited to all roads claimed by Duchesne County pursuant to RS-2477. Title V rights of way on public lands are granted in perpetuity and do not diminish any RS 2477 claim or right of way.	X		

Recreation and Tourism	Public land agencies shall evaluate proposed plans and actions for impacts on existing recreational activities. Public land agencies shall evaluate their plans and actions for potential future recreational activities. Public land agencies shall support the County in developing desirable recreation facilities. Recreational activities are compatible with resource development if properly planned and managed. BLM Response: The Proposed RMP makes no commitments to respect to any valid existing rights, particularly those concerning RS-2477.	X		
Soils	Apply scientifically effective practices to maintain and improve the quality and quantity desirable plant cover to protect watersheds, timber, and rangelands from soil erosion. Install structural measures to prevent soil erosion, as needed.	X		
Special Designations	The objectives of special designations can be met by well-planned and managed development of natural resources. No special designations shall be proposed until the need has been determined and substantiated by verifiable scientific data available to the public. It must be demonstrated that protection cannot be provided by other means and that the area in question is truly unique. Special designations can be detrimental to the County's economy, life style, culture, and heritage. Special designations must be made in accordance with the spirit and direction of the laws and regulations that created them. County support for the addition of a river segment to the Wild and Scenic Rivers System shall be withheld until: (i) It is clearly demonstrated that water is present and flowing at all times; (ii) It is clearly demonstrated that the required water-related value is considered outstandingly remarkable within a region of comparison consisting of one of the three physiographic provinces in the state. The rationale and justification for the	X		

	conclusions shall be disclosed; (iii) The effects of the addition on the local and state economies, private property rights, agricultural and industrial operations and interests, tourism, water rights, water quality, water resource planning, and access to and across river corridors in both upstream and downstream directions from the proposed river segment have been evaluated in detail by the relevant federal agency; (iv) It is clearly demonstrated that the provisions and terms of the process for review of potential additions have been applied in a consistent manner by all federal agencies; and (v) The rationale and justification for the proposed addition, including a comparison with protections offered by other management tools, is clearly analyzed within the multiple-use mandate, and the results disclosed. All valid existing rights, including grazing leases and permits shall not be affected. County support for the designation of an Area of Critical Environmental Concern shall be withheld until: (i) It is clearly demonstrated that the proposed area contains historic, cultural or scenic values, fish or wildlife resources, or natural processes, which are unique or substantially significant; (ii) The regional values, resources, processes, or hazards have been analyzed by the federal agency for impacts resulting from potential actions which are consistent with the multiple-use, sustained-yield principles, and that this analysis describes the rationale for any special management attention required to protect, or prevent irreparable damage to the values, resources, processes, or hazards; (iii) The difference between special management attention required for an ACEC and normal multiple-use management has been identified and justified, and that any determination of irreparable damage has been analyzed and justified for short and long-term horizons; (iv) It is clearly demonstrated that the proposed designation is not a substitute for a wilderness suitability recommendation; and (v) The conclusions of all studies are submitted to the county for review, and the results, in support of or in opposition to, are included in all planning documents. (vi) Any impacts on private property rights are evaluated and mitigated.			
Forest Resources and Woodlands	All forestlands shall be managed for multiple use and sustained yield. Forest management plans shall be written and effective management techniques adopted to promote a stable forest economy and enhanced forest health, in accordance with the National Healthy Forest Initiative. Opportunities for harvesting forest products shall be promoted. Management strategies shall protect timber resources from fire (in accordance with the National	X		

	Fire Plan), insects, and disease. Harvesting techniques shall be employed that will prevent waste of forest products. Sound fuel load management techniques shall be used to minimize fire potential at the urban interface and prevent catastrophic events. Forest management techniques shall be implemented that will increase watershed health and long-term water quantity yield and quality. Management programs must provide opportunities for citizens to harvest forest products for personal needs, economic value and forest health.			
Water Resources	Any proposed action must include an analysis of the effects on water quality, stream flow, the amount of water yields, and the timing of those yields. Privately held water rights shall be protected from federal and/or state encroachment or coerced acquisition. Duchesne County shall oppose any movement toward nationalization or federal control of Utah water rights and resources. Potential reservoir sites and delivery system corridors shall be identified in land-use plans and protected from federal or state action that would prohibit or restrict future use for those purposes. Said plans would include provisions for adding or deleting potential reservoir sites and delivery system corridors when deemed appropriate. Any proposed sale, lease or exchange of water rights involving a public land management agency shall address the interests of Duchesne County, and such a sale must include appropriate mitigation. Agency actions shall recognize all legal canal, lateral, and ditch easements and rights-of way. Livestock grazing and other multiple uses are compatible with watershed management. All reasonable water conservation efforts shall be supported. Water conserved as a result of these efforts shall be allocated to those persons or entities whose efforts created savings, within the limits of their water rights.	X		

	Many wetlands are created by fugitive water from irrigation systems. When law requires mitigation of impacts from conservation and other projects, the creation of artificial wetlands shall be considered only after all other mitigation possibilities have been exhausted. Creation or maintenance of an artificial wetland is contrary to the intent of conservation. The management of the watershed should allow for continued multiple use. It should preserve the quality and quantity of water as well as environmental values.			
Wilderness Designations	Wilderness designation is inconsistent with the multiple use mandate. Additional wilderness designation shall be opposed. Such designations shall provide access for reservoirs, maintenance of irrigation facilities, fire, and weed and pest control. Valid existing rights are to be protected in wilderness areas. Proper monitoring of the affect of a wilderness area on the community and economic stability of the county shall be required. BLM Response: The BLM must follow Section 201 of FLPMA.		X	
Wildlife	Wildlife management agencies, public land management agencies and the County shall work together to manage big game populations. Wildlife populations shall not be increased nor shall new species be introduced until forage allocations have been provided and an impact analysis completed for the effects on other wildlife species and livestock. Increases or reduction in forage allocation resulting from forage studies, drought/natural disasters or improvements will be shared proportionately by wildlife, livestock and other uses. Wildlife target levels and/or populations must not exceed the forage assigned in the RMP forage allocations. Predator and wildlife numbers must be controlled to protect livestock and other private property and to prevent population decline in other wildlife species.	X		

	Resource-use and management decisions by federal land management and regulatory agencies should support state-sponsored initiatives or programs designed to stabilize wildlife populations that may be experiencing a scientifically proven decline in numbers.			
Duchesne County General Plan (1997) Resolution # 07-15				
Discussion		**Consistent**	**Partially Consistent**	**Not Consistent**
The County General Plan be amended at the end of the public lands section for the following area: Twin Knolls & Wrinkles Road	The County goals are to achieve and maintain a continuing yield of mineral resources; livestock grazing; water resources; traditional access to outdoor recreational opportunities; open all roads that appear on the County's most recent transportation map, and provide for such additional roads and trails as may be necessary from time to time; protect prehistoric rock art, three dimensional structures and other artifacts and sites recognized as culturally important and significant by the State Historic Preservation Officer; manage so as to not interfere with the property rights of private landowners located in these regions; manage the regions so as to not interfere with the fiduciary responsibility of the State School And Institutional Trust Lands Administration ("SITLA") with respect to trust lands located in that region; managing part or all of the regions for wilderness characteristics would violate FLPMA, contradict the state's public land policy and contradict the foregoing County plans of regions; imposing any of the area of critical environmental concern (ACEC) designation alternatives currently under consideration in the price resource management plan revision process, would contradict the County's plan for managing the regions; including any river segment in the national wild and scenic river system would violate the National Wild And Scenic Rivers Act and related regulations, contradict the state's public land policy, and contradict the contradict the County's plan for managing the regions; a visual resource management class I or II rating for any part of the regions would contradict the state's public land policy and contradict the contradict the County's plan for managing the regions. <u>BLM Response</u>: Duchesne County has cooperating agency status in the development of the Proposed RMP. The BLM is bound by applicable laws and regulations for the resources cited.		X	

Uintah County General Plan (10/2005)				
Uintah County General Plan (10/2005)	**Discussion**	**Consistent**	**Partially Consistent**	**Not Consistent**
Agriculture	Encourage, create and maintain an environment that is conducive to owner-operator agricultural businesses. Development guidelines should include home occupation provisions appropriate for residential areas. Encourage responsible natural resource use and development. Maintain County land-use plans and regulations that complement the County's agricultural economic development interests and objectives.	X		
Economic Development	Encourage communities to pursue economic development initiatives and activities that are compatible with the interests of neighboring communities and complement the economic development efforts and objectives of the County. Explore additional transportation options (including air, rail, pipeline and interstate roadway system) to expand economic development opportunities and markets.	X		
Forage Allocation/Livestock Grazing	The proper management and allocation of forage on public lands is critical to the viability of the Basin's agriculture, recreation and tourism industry. The viability of a large number of the Basin's agriculture and livestock operation is dependent on access to grazing on public lands. Management of forage resources directly affects water quality and water supplies. Forage allocated to livestock may not be reduced for allocation to other uses. Current livestock allocation will be maintained. Increases in available forage resulting from conservation practice, improved range condition, or development of improvements by the livestock permittee or other allocated use will be credited to that use. Increases in available forage resulting from practices or improvements implemented by managing agency will be allocated proportionately to all forage allocations, unless the funding source specifies the benefactor. Upon termination of a permit, livestock permittee will be compensated for the remaining value of improvements or be allowed to remove such improvements that		X	

	permittee made on his/her allotment. Forage reductions resulting from forage studies, fire, drought, or other natural disasters will be implemented on an allotment basis and applied proportionately based on the respective allocations. Permittee may sell or exchange permits. Such transaction shall be promptly processed. Changes in season of use or forage allocation must not be made without full and meaningful consultation with permittee. The permittee must be the first point of contact. Livestock allocations must be protected from encroachment by wild horses and wildlife. Permanent increases or decreases in grazing allocations reflecting changes in available forage will be based on the vegetative type of that forage and applied proportionately to livestock or wildlife based on their respective dietary need. BLM Response: See response to Wildlife and Fisheries of the Daggett County General Plan.			
Natural Resources	Encourage the responsible use and development of natural resources and support associated industries and businesses. Support the development of additional natural resources as opportunities arise and as new technology is available. Support continued natural resource research, exploration and development within the region. This includes encouraging associated industries and businesses to locate within the County. Promote and maintain adequate access to natural resources. Promote public interest and awareness of the County's dependence on natural resource(s) and the potential impacts of resource management decisions and associated regulations on the County's economy. Encourage and support cooperative planning processes among local, state and federal land and resource management agencies, and private land owners. Continue County participation in all relevant public land planning processes.	X		

	Promote agency awareness of County issues and interests. Secure and maintain "cooperating agency" status (and/or equivalent) and involvement as relevant resource issues and projects arise. Address public lands and resources in the County's land-use plan. Involve relevant public land management agencies in plan development and implementation activities. Evaluate all proposed developments and associated land uses to determine their potential effects on water quality, air quality, historic/cultural resources and recreation resources. In some cases, mitigation plans may be necessary. Approved projects should be closely monitored. Include the following site-specific natural resource/environmental considerations in County land-use planning and development application review activities: (1) natural hazards (slopes, floodplains, etc.), (2) topography, (3) soil types, (4) wildfire interface, (5) depth to water table, (6) surface drainage patterns, (7) groundwater recharge/discharge areas (including springs), (8) the quantity and quality of surface and underground water resources, and (9) community culinary water sources and sewage/solid waste facilities. Encourage industrial, commercial and residential land uses and development to locate in areas where impacts to air and water quality can be minimized. Consider protection of water resources (and sources) as a part of all County land use and development decisions. Adequate measures should be taken for watershed protection. Encourage the expansion of resource-based, value-added programs. Support small, owner-operated resource-related operations and businesses.			

	Continue support for the County's noxious weed program and participation in the Cooperative Weed Management Association.			
Natural Resource Exploration and Development	Continue the County's progressive, proactive approach to economic growth and development through natural resource exploration and development. Recruit natural resource-based exploration and development businesses that are consistent with, and complementary to, the County's lifestyle and character. Encourage and support natural resource-based entrepreneurial opportunities in the private sector. Maintain County land-use plans and regulations that complement the County's natural resource exploration and development interests and objectives. Encourage responsible natural resource use and development. When deemed to be in the best interest of Uintah County, encourage natural resource exploration and development proposals that are sensitive to County outdoor recreation and open space preservation objectives.	X		
Public Land General Policies	Maintain and utilize the County's Public Lands Plan, County Resource Management Plan, County Transportation System Map, and subsequent resource and site-specific implementation plans and studies as dynamic documents. The County will work with federal and state agencies to ensure the County's positions and policies as adopted therein are understood and recognized as part of all relevant agency planning and decision-making processes. Continue active County participation in agency planning processes. Secure and maintain "cooperating agency" status (and/or equivalent) and involvement as relevant issues and projects arise. Promote local concerns and interests as an integral part of public land planning processes and public land management decisions. Encourage and support public land uses consistent with responsible development and efficient use of renewable and non-renewable resources.	X		

	Provide County-prepared positions and/or responses on all relevant federal and state land and resource planning and decision making processes. Continue to utilize the County's Public Lands Committee as an advisory group regarding public land and resource issues.			
Public and Tribal Land Access	Coordinate with the Ute Tribe and federal and state public land and resource management agencies to complete the County's access management plan. Specific elements to be incorporated in this plan include the County's transportation system map, goals and policies regarding public lands access routes, and specific guidelines regarding motorized/non-motorized uses. Encourage continued cooperation among public land agencies, the Ute Tribe, business interests, property owners and Uintah County to address access, right-of-way and road maintenance issues. Prepare a public lands-specific transportation/access plan to complement the County's Transportation System Map.	X		
Recreation and Tourism	Encourage responsible natural resource use and development. Encourage land-use planning and mapping activities designed to identify appropriate locations for (indoor and outdoor, public and private) recreation sites and facilities. Facilities should be designed in a manner conducive to active and passive recreational activities and should provide opportunities for visitors and County residents alike. When deemed to be in the best interest of the County, encourage development proposals that are sensitive to County outdoor recreation and open space preservation objectives.	X		

Recreation Trails	Partner with interested communities, agencies and organizations to prepare and adopt a County/community-level recreation trails and alternative transportation corridor plan. Encourage public/private and County/agency partnerships in the development and implementation of site-specific trail and associated recreation plans. An example of this type of effort is the Buckskin Hills Recreation and Trails Plan. Explore alternative trail corridor acquisition and trail construction funding strategies. Encourage and support public outreach efforts designed to educate the public and property owners regarding the pros and cons of developing recreational trails and public access corridors. Develop and adopt adequate trail and public access corridor use guidelines. Once trails are developed, monitor uses and users to ensure adjacent properties are not adversely affected.	X		
Roads and Transportation Planning	Develop and maintain a master transportation plan to identify and accommodate the current and future transportation needs of the County. Review all development proposals to determine conformity and consistency with the County's adopted transportation plan and related land dedication and roadway construction regulations and standards. Require all new roads and streets to be consistent with the approved County transportation plan with regard to classification, right-of-way, design and construction. Develop, maintain and enforce standards for dedicated County roads. This may include categories for road maintenance and service (e.g., low maintenance, winter maintenance and full maintenance.) Require County approval prior to the construction of all (private and/or public) access points onto County roads. Conditions of approval include, but are not limited to, appropriate design, compatible grades, adequate drainage, number and location of access points, and adequate sight distances.	X		

	Require all development proposals and site plans to demonstrate compliance with the following County transportation design guidelines: (1) Controlled access from private property to County collector and arterial roadways will be discouraged. (2) Access to and from concentrated commercial/industrial land uses and residential subdivisions shall be designed to minimize interference with collector and arterial road traffic flow. (3) New development shall provide adequate off-street parking for their projected needs. (4) Shared use of appropriately designed and designated parking facilities among adjacent property owners will be encouraged. (5) Where commercial development is allowed along improved County roads, access to such development shall be encouraged via frontage/backage roads designed and improved at the expense of the developer. Require all private roads warranting dedication by the County as a County road to be built to County specifications prior to dedication. All such roads will then be formally identified/recognized by the County and dedicated as an official County road.			
Transportation	Explore additional transportation options (including air, rail and interstate roadway system) to expand economic development opportunities and markets. Encourage additional public transportation options and opportunities through private/public partnerships and programs. Encourage development of community/County partnership agreements to address community growth issues and related transportation needs.	X		
Water Resources	Continue County participation in all relevant water resource planning processes. Promote agency awareness of County issues and interests. Secure and maintain "cooperating agency" status (and/or equivalent) and involvement as relevant water resource issues and projects arise. Protect and enhance water quality and quantity by promoting the efficient management and use of water resources. Support water conservation programs and activities.	X		

	Encourage vegetation and resource management plans and programs that promote healthy water systems. Protect water rights and interests. It is the County's position that water available to the County should be used within the County. Continue to support wellhead, watershed and water source protection programs and activities as determined to be in the best interest of the County. The County is opposed to land use designations that are not compatible with water resource development and/or may limit hydro opportunities. Encourage the reuse of water. As feasible and deemed to be in the public's best interest, the County will continue to support and encourage water treatment and reclamation programs as utilized by the Ashley Valley Sewer Management Plant. Evaluate all proposed developments and associated land uses to determine their potential effects on water resources (and sources). Specific elements to consider include, but are not limited to, topography, soil type, vegetative cover, depth to water table, surface drainage patterns, groundwater recharge/discharge areas (including springs), and the quantity and quality of potentially affected surface and underground water resources (and sources). In some cases, mitigation plans may be necessary. Approved projects should be closely monitored. Require development proposals to identify potential impacts to existing irrigation systems. Require, as appropriate, all development and land use proposals to demonstrate the availability of an adequate, safe water supply and a safe, reliable method of sewage disposal. Discharge should not be detrimental to surface or underground water sources. Encourage large-scale industrial, commercial and residential land uses and development to locate in areas where impacts to water resources can be minimized.			

Uintah County Objectives (8/2003)				
	Discussion	**Consistent**	**Partially Consistent**	**Not Consistent**
Air Quality	Maintaining the Basin's air quality at its current level is critical to the health and well being of its residents. A high level of air quality is important to future economic development as it reduces the possibility of restrictions being placed on that development due to air quality standards being exceeded. Air quality baselines must be established for the Basin with the full participation of the County. All air quality related plans and decisions must be based on deviation from a baseline standard established for the Uintah Basin. To maintain high air quality the County must protect the Basin's air from degradation from non-Basin sources. The County will take any actions necessary to protect Basin air quality from degradation by non-Basin sources.	X		
Cultural and Heritage Resources	It is the County's position that: Many sites represent a unique culture and are closely related to early religious settlement of the area. They continue to have historical significance and are held by many residents as reverent or consecrated sites and are the essence of their entity. These sites must remain accessible and be preserved. The preservation and perpetuation of heritage and culture is important to the area economy as well as to the life styles and quality of life of the Basin residents. The maintenance of these resources and their physical attributes such as trails, cabins, livestock facilities, etc., is critical to present and future tourism development. The land, its people, and their heritage form an inseparable trinity for the majority of the area residents and this relationship must be considered in all proposed actions. Livestock grazing, the resulting lifestyles, and the resulting imprint on the landscapes of the west is one of the oldest enduring and economically important cultural and heritage resources in the west and must be preserved and perpetuated. It is the County's position that the National Historic Preservation Act (NHPA) is the basis for cultural and historical preservation and defines federal agency's responsibility for protection and preservation of cultural and heritage resources and the agency's responsibility to the County.	X		

Energy and Mineral Resource	Continued access to energy and mineral resources associated with public lands is paramount to the well being of County residents and its economy, the state of Utah and national security. Any proposal or action taken by state or federal agencies that will result in restriction on reasonable and economical access to these resources shall/will be opposed. Identification of energy and mineral potential and location is important to planning for future energy needs and resource management planning. The County supports such activity and requests that appropriate agencies plan, fund, and encourage by way of policy, management decisions for such activity. All management plans must address and analyze the possibility for the development of minerals where there is a reasonable expectation of their occurrence within the planning area. After environmental analysis, and as provided for in the governing resource management plan, all tracts will be available and offered for lease or open to be claimed as provided by law. All permits and applications must be processed on a timely basis. Procedures and required contents of application must be provided to the applicant at the time of application.	X		
Horses	The presence of uncontrolled and improperly managed Wild horses on public land within the County are cause for great concern. The possibility of the spread of equine diseases from uncontrolled and improperly managed wild horse herds on public lands are a threat to the Basin's domestic horse industry and other aspects of the Basin economy. Increases in wild horse numbers adversely affects the Basin economy by reducing forage available for wildlife and livestock. The only authorized herd management area in Uintah County is the Hill Creek Herd Management Area and the wild horse population of that area is not to exceed 195 head. Proposals for introduction of horses outside of the Hill Creek Herd Management Area must be fully analyzed in an RMP or by the NEPA process and must provide for full participation by the County. Wild Horses assigned to herd units must be identified in such a way as to insure that feral or fugitive horses are not assimilated into wild horse herds on public lands. All unauthorized feral horses are in trespass and must be	X		

	removed from public lands in the County. Any future herds legally established must consist of wild horses that are verified as to having Spanish barb characteristics and are not feral or fugitive horses. Horse Management Plans must include provisions for periodic gather of all horses in the unit to limit populations to planned levels, to remove trespass horses, and to test for equine diseases as prescribed by the Utah State veterinarian. Herd Management Plans must contain provisions to provide for the maintenance of the health of wild horses and the prevention of the spread of equine diseases. No herds will be located in areas that do not provide barriers, natural or otherwise, which would prevent herd movement from the herd area, trespass to private lands, or mingling with domestic herds.			
Introduced, Threatened, Endangered and Sensitive Species, Recovery Plans, Experimental Populations, and Related Guidelines and Protocols	These designations or reintroductions often grow beyond boundaries and scope and result in detrimental effects on the area economy, life styles, culture and heritage. No such designations or reintroductions should be made until it is determined and substantiated by verified scientific data that there is a need for such action, that protections cannot be provided by other methods and the area in question is truly unique when compared to other area lands. Designation or reintroduction plans, guidelines, and protocols must not be developed or implemented without the full involvement of the County and full public disclosure. Any analysis of such proposed designations or reintroductions must prevent growth beyond the scope and boundaries that were analyzed in the proposal. Recovery plans must provide for indicators to track the effectiveness of the plan and identify at what point recovery is accomplished. <u>BLM Response</u>: The BLM is required to follow existing laws, such as the Endangered Species Act and NEPA.	X		
Land Exchanges, Acquisitions, and Sales	There shall be no net loss of the private land base and that the federal and state government holds a sufficient amount of land to protect public interest. No "net loss" should be measured, both in acreage and fair value, without approval of the County Commission.		X	

	A private property owner has a right to dispose of or exchange his property as he/she sees fit within applicable law. A private property owner should be protected from federal, state and county encroachment and/or coerced acquisition. The County will be compensated for any net loss of private lands with public lands of equal value and compensated for any loss of tax base resulting from these exchanges by the appropriate acquiring agency. BLM Response: Land exchanges, acquisitions, disposal, and sales, etc., are regulated by FLPMA.			
Off Highway Vehicles (OHV)	OHV's have become an important segment of the Basin recreation industry and is an important tool and mode of transportation for farmers, ranchers, and resource development. It supports the current policy of open recreation areas. Will support limiting of OHV to existing roads and trails and the development of designated trail system only in areas that demonstrate documented and substantiated adverse impacts. These designations must occur only in situations where it has been substantiated that adverse impacts cannot be mitigated by other management methods. When the necessity for a closure has been established, additional trails and areas must be opened to offset the loss of that recreational opportunity. Public Land Management agencies must implement and maintain an aggressive OHV program to educate users on how to reduce resource impacts. This is to be followed by an aggressive enforcement program. The non-recreational use of OHVs, such as development and livestock operations, must be provided for in all areas unless restricted by law.	X		
Paleontological Archeology Geology	Remnants of early life forms, geological history and cultures have evolved as an important segment of a local economy and has become the signature of the local tourism trade. Considerable investment has been made in museums and visitors centers to promote these important resources.	X		

	All significant artifacts found in the area remain here. Resource Management Plans must provide opportunity for amateur collectors and students of these sciences to study, explore for, and collect related items as provided for by law. Public land management agencies should promote these resources with educational material, sign age, and information centers where appropriate.			
Public Access, RS-2477 Roads	The access across and to public lands is critical to the use, management, and development of those lands and adjoining private lands. No roads, trails, rights-of-way, easements or other traditional access for the transportation of people, products, recreation, energy or livestock may be closed, abandoned, withdrawn, or have a change of use without full public disclosure and analysis. Future access must be planned and analyzed to determine its disposition at the completion of its intended life This is to insure needed access is maintained or that such access is removed and resulting disturbances are reclaimed. Roads covered by RS-2477 should remain open and the County will take any action needed to protect these rights. This includes identification, inventory, and participation in any legal process to protect them. Access to all water related facilities such as dams, reservoirs, delivery systems, monitoring facilities, livestock water and handling facilities, etc., must be maintained. This access must be economically feasible with respect to the method and timing of such access. Unreasonable restrictions may result in the loss of use of such facilities and property rights. BLM Response: The Proposed RMP makes no commitments to respect to any valid existing rights, particularly those concerning RS-2477.	X		
Public Lands Positions	The County supports the wise use, conservation and protection of public lands and its resources including well-planned management prescriptions. It acknowledges the need, on occasion, to place strict requirements on the management of some resources in order to provide the needed protection.	X		

	To insure that the management is accomplished with the full participation of the County and is supported by tested and true scientific data and accomplished in a way that fully analyzed the impacts on the economy of the Uintah Basin, County tax base, culture, heritage, and life styles and rights of the area residents. That when a negative impact of a proposed action is unavoidable, the impacts on the County and/or its residents must be mitigated or compensated for. If action results in a taking, all applicable law must be applied. To insure that public access and rights-of-way for utilities and transportation of product must be maintained. This access must be provided for in the future when need is demonstrated. To insure that public lands are managed for multiple use and sustained yield and prevent the loss of resources and private property from catastrophic events and to protect the safety and health of the public. In support of our national energy needs and considering the nation's increasing dependency on foreign oil, all public lands must remain open to the greatest extent possible for the exploration and production of energy and other energy related products. All plans and management decisions must insure that special designations do not influence the use of resources on lands outside of those listed in the designation. The County opposes the use of a buffer zone management philosophy that dictates land use practices and influences decisions beyond the scope and boundaries of the designations. To support agriculture on private and public lands as part of our custom, culture, heritage, and as an important segment of our local economy, as well as providing for a secure national food supply. To provide policy, plans, and other documents for other governmental agencies			

	to use to insure that their resource management and planning is consistent with that of the County. Restrictions placed on any resource must be based on analysis of trends and only imposed after a complete analysis. Lands designated open for various specified uses should be available for such use on a timely basis. Proposed uses of such land must be promptly processed. If such use is not covered in a resource management plan, then these uses will be analyzed in a separate document or by amendment to the RMP. Extended delays or no action will not be used as a method to accomplish management goals.			
Recreation and Tourism	The area has outstanding potential for recreation and tourism. Resource development and recreation and tourism are compatible through proper planning and management. Potential developments should include family oriented activities and developments that are accessible to the general public, not limited to special interest groups. It supports cultivating recreational facility development and maintenance partnerships with other entities, agencies, and general special interest groups.	X		
Soils	Soil is the basic building block for virtually for all land uses. The protection of soils from wind and water erosion and maintaining its fertility is critical to sustaining a viable agricultural economy and maintaining high levels of air and water quality. The Natural Resource Conservation Service (NRCS) soil survey is the basis on which all public land soil related activities will be based. Soil related activities will be based on all available survey drafts until survey is published. Any deviation from this material or soil date developed outside of the survey must be coordinated with the NRCS.	X		
Special Designations	It is the County's position that: Special designations, such as wilderness, Areas of Critical Environmental Concern (ACEC), wild and scenic rivers, critical habitat, semi primitive and non-motorized travel, etc., result in single purpose or non-use and are detrimental to the area economy, life styles, culture, and heritage. Needed protections can be provided by well planned and managed development. No special designations should be proposed until it is determined and substantiated by verified scientific data, that there is a need for the designation, that protections cannot be provided by other methods, and the area in question is truly unique when compared to other area lands. Designations must be made in accordance with the spirit and direction of the acts and regulations that created them. Designations that are not properly planned or managed are inconsistent with	X		

	the mandates that public lands be managed for multiple use and sustained yield. BLM Response: Uintah County has cooperating agency status in the development of the Proposed RMP. The BLM is bound by applicable laws and regulations for the resources cited.			
Forests	All forested lands are to be managed for sustained yield and multiple use. Managers of public lands must protect watersheds with respect to water quality and to insure the water yield is not decreased or that it is improved. Fire, timber harvesting, and treatment programs must be managed as to prevent waste of forest products. Management programs must provide for fuel load management that will prevent catastrophic events and provide for reduced fire potential at the urban interface. Management programs must provide for citizens to harvest forest products for personal needs and provide harvesting opportunities for small businesses.	X		
Water Resources	Proper management of public land watershed, which supplies the majority of the agricultural, domestic, and industrial water use in this water-short area, is critical. An adequate supply of clean water is essential to the health of the County's residents and to the continued growth of the County's economy. Every aspect of the County's economy depends on a dependable and clean supply of water. Agencies must analyze the affect of their action on water quality, watershed yields and timing of those yields. Any action, lack of action, or permitted use that results in a significant or long term decrease in water quality or quantity will be opposed. It is important to protect water from significant long-term decreases in quality or quantity. Any agency action must analyze the impacts on facilities such as dams, reservoirs, delivery systems, monitoring facilities, etc., located on or downstream from land covered by the proposal. It will oppose any movement toward nationalization or federal control of Utah's water resources or rights. Privately held water rights should be protected from federal and/or state encroachment and/or coerced acquisition. It is imperative that the quality and quantity of water is not reduced below current levels.	X		

	It will support projects that will improve water quality and increase the amount and dependability of the water supply. All potential reservoir sites and delivery system corridors shall be protected from any federal or state action that would inhibit their future use for such purposes. Any proposed sale, lease or other exchange of water must adequately consider and satisfy the County's interest and concerns before the County will participate or support the proposal. It will not support any proposal that does not protect the County and compensate them for any losses to the County and/or its residents. It recognizes and will support the existence of all legal canals, laterals, or ditch rights-of- way. All federal and state mandates governing water or water systems should be funded by those agencies and developed in cooperation with the County. It supports livestock grazing and other managed uses of watersheds and holds that, if properly managed; multiple use is compatible with watershed management. It endorses the Utah State Water Laws as the legal basis for all water use within the County. Beneficial use is the basis for the appropriation of water in the state of Utah. It will support all reasonable water conservation efforts. Water saved as a result of these efforts should be allocated to those persons or entities whose efforts created the savings. Many wetlands are created by fugitive water from irrigation systems. When law requires mitigation of impacts from conservation and other projects, the creation of artificial wetlands should be considered only after all other mitigation possibilities have been measured. Creation of artificial wetland is contrary to the intent of conservation.			

Wilderness Designations	The only legal designations of Wilderness Study Areas (WSA) are those designated under section 603 of the Federal Land Policy and Management Act (FLPMA) and the opportunity to create additional wilderness ended in 1991, except as authorized by Congress. That some or all of the WSA designations pending before congress are legally and/or technically flawed and will pursue that position when the WSAs go before Congress for approval. That the 1999 Wilderness Study Area Planning Project and the wilderness Inventory and Study Procedures H6310-1 were legally and technically flawed. Any new wilderness designation must be provided for by Congress and created in cooperation with the County and the State. That all WSAs pending before Congress, which were not recommended for wilderness designation by the Secretary of Interior; be released and managed under multiple use. That any new wilderness designations in the County be a collaborative process by federal, state and county officials. Additionally, the County believes that wilderness designation is not an appropriate, effective, efficient, economic or wise use of land. These lands can be adequately protected through mitigation, minimizing negative impacts and proper reclamation. The creation of wilderness limits access for the elderly and the physically impaired. All wilderness management plans must provide for access for these individuals to the fullest extent possible. Wilderness management must provide for continued and reasonable access for holders of property rights within the area and provide for full use and enjoyment of these rights. Wilderness Study Areas released by Congress must be managed based on the principles of multiple use and sustained yield. The RMP must be amended, in a timely manner, to reflect the change in status.	X		

Wildlife	Properly managed wildlife populations are important to the Basin recreation and tourism economy and to the preservation of the culture and lifestyles of its residents. With proper management and planning, healthy wildlife population are not incompatible with other resource development. Wildlife numbers will remain at the allocated level until studies and analysis are completed to determine the ability of forage resources to support the increases and species population trends. No increases in wildlife numbers or the introduction of additional species may be made until the increase in forage or habitat has been provided for and the impacts on other wildlife species has been assessed. Reduction in forage allocation resulting from forage studies, drought, or other natural disasters will be shared proportionately by wildlife. Wildlife target levels and/or populations must not exceed the forage assigned to wildlife in the RMP forage allocations. In evaluating a proposed introduction of wildlife species, priority will be given to species that will provide for increased recreational activities. Predator and wildlife numbers must be controlled to a level that protects livestock and other private property from loss or damage and to prevent decline in populations of other wildlife species. That through wildlife habitat mitigation banking impacts of development can be mitigated in a more efficient and planned manner. When implemented, this system could provide much needed habitat for wildlife while providing for multiple use.	X		
Public Lands Implementation Plan (8/2003)				
Discussion		**Consistent**	**Partially Consistent**	**Not Consistent**
ACEC	Buffers established along any water course for the purpose of protecting scenic values must not exceed the maximum limits established in the Wild and Scenic Rivers section of this plan. ACEC must not be used for layering to achieve protections not provided for in the subject matter legislation or regulation. Example: extending protections for scenic values along a wild or scenic river that exceeds the limitations provided for in the WSA Act. <u>BLM Response</u>: The potential ACECs brought forward for designation into the Proposed RMP have gone through a rigorous and stringent process. Appendix G of the Proposed RMP outlines this process.		X	

Forage Allocation/Livestock Grazing	All Resource Management Plans must analyze and define the methods and list the amounts of forage allocated to the respective uses of that forage. To prevent damage to forage and habitat resources allocation of forage must be based on the type of forage consumed by the species in question and the quantity the species consumes. No reduction of forage allocation to livestock or changes in forage allocations shall be made unless specifically provided for by law and analyzed in, or by modifications of, a resource management plan. The retirement or relinquishment of grazing allocations is clearly discussed in a memorandum by the Department of Interior solicitor William Myers III on October 4, 2002. Based on this document the County requires that: There can be no permanent retirement or relinquishment of grazing permits absent congressional action. When such proposed actions cover land within a grazing district the BLM must analyze whether the lands are still "chiefly valuable for grazing and raising of other forage crops". 43 U.S.C. 315. If the BLM concludes the lands still remain chiefly valuable for these purposes, the lands must remain in the grazing district. As such, they would remain subject to application from other permittees. If the BLM determines that the lands are no longer chiefly valuable for grazing, BLM must express this determination and support it by proper findings in the record of decision that concludes the land-use planning process. The land use process must consider whether discontinuing livestock grazing would implicate congressional reporting requirements. Sec. 43 U.S.C. 1712(e)(2). Unless provided for by congressional action, any relinquishments or retirements of grazing permits provided for in a land-use plan must be identified as temporary unless provided for by congressional action. The plan and the record of decision must state that the action is subject to reconsideration, modification, and reversal. When such actions are proposed in a resource plan or in a management decision it must analyze the fact that once the secretary has established a grazing district under the Taylor Grazing Act the primary use of that land should be grazing. Any reductions in forage allocation or changes in season of use must be supported by proper findings and documentation of the need for the reduction or change. These findings must be specific to the permit in question.	X		

	The permittee must be the first point of contact when increases, reductions, or change in season of use are proposed. The County must be notified of such proposed changes. Land Management agencies must protect livestock allocations from encroachment from other consumption of that forage and act promptly when such encroachment exists.			
Horses	Plans that provide for the management or reintroduction of wild horses must fully analyze the agency's ability to prevent the movement of horses out of the assigned area, to control diseases and populations, and to prevent co- mingling with domestic horses. Wild horse characteristics should be maintained and not altered by breeding programs intended to make them more adoptable. Horses on public land must be of a color and conformation characteristics consistent with that of their Spanish Barb ancestors or the areas original wild horses. Public Land Management agencies must promptly remove feral and stray horses, as well as wild horses that are outside of their HMA boundaries, from public lands to prevent the spread of disease, inbreeding with managed wild horses and to protect forage allocated to wild horses, wildlife and livestock. Wild horses must be gathered every four years to provide for disease and population control. More frequent gathers must be provided for when the Utah State Veterinarian advises a gather is needed to control disease or when drought condition exist and a reduction in stocking rate is needed to protect forage resource or to prevent horses from exceeding their forage allocation. When gathered, or prior to the release of introduced horses, all horses must be marked or recorded by such method that will identify it as a wild horse when future gathers are conducted. The number of horses released after a gather will be at a number that will insure their populations do not exceed their forage allocation and/or target populations before the next planned gather date.	X		
Management of Natural Resources on Public Land	Natural resources on public lands must be available for development while at the same time providing reasonable protection and use of other resource values. Management strategies for renewable resources, such as wildlife, must not have absolute veto power over resource development. Uintah County's economy is based upon extractive mineral industries and agriculture and will continue to be in the foreseeable future. The County supports multiple use but because of its importance the minerals and agricultural industry should be given the highest priority possible. By utilizing proper management practices it has been demonstrated that minerals development is compatible with the use and development of other resources and that renewable resources can thrive at the same time. However, unwarranted overprotection of renewable resources at the expense of the agriculture and minerals industry is contrary to the best interest of its residents, Uintah County, and the nation.	X		

Mineral Development in Crucial Habitat	Protection will be provided for crucial habitat by controlling development activities during crucial periods. These periods will be established based on that species needs. In order to protect crucial habitat from permitted surface disturbance no more than 10% of such habitat will be subject to surface disturbance and remain unreclaimed at any given time. Activities that exceed the thresholds above will be approved by analysis in separate NEPA documents when environmental protection can be accomplished by avoidance or mitigation. Reclamation will be mutually discussed between the Authorized Officer and the lessee, operator, or permittee to consider a variety of options. Annual monitoring of the actual reclamation results will be an important component of this stipulation to insure compliance.	X		
Range and Wildlife Habitat Improvement Initiative and Mitigation Bank	The need exists and there are tremendous opportunities to improve range and wildlife habitats on public lands in Uintah County. Improvement of these important resources benefits all public land users and is crucial when a multiple use management concept is applied to these lands. Creating healthy ecosystems reduces conflict between public land users, restrictions on development, the need for expensive recovery and protection programs, and thus are economically feasible. Accomplishing the needed improvements will require public land management agencies, local governments, and users to work as partners to accomplish the goals. To achieve the above and to provide a system to provide for range and wildlife habitat improvement, as well as coordinate programs to provide for mitigation for impacts to these resources, the following programs will be implemented by Uintah County.	X		
Riparian	Standards for the management of riparian areas must be definitive and objective in nature. When standards for management provide for variances for a percentage of these areas accommodate stock crossings and watering areas, etc., these percentages will be applied to each segment of the riparian area within each grazing permit or stream segment, whichever is most appropriate.	X		
Soils	Due to the lack of definitive scientific data, at this time any protection provided to microbiotic crust is premature. Until such a time that substantiated scientific data indicates the need for such protection none will be applied. Avoidance of sensitive areas is recommended when it has be demonstrate that such areas are unique with respect to crust composition and area ecology. Such avoidance must be economically feasible, must not be detrimental to the outcome of the proposed activity and agreed upon by the project proponent. Any protections or	X		

	restrictions related to microbiotic crust or which the need is based on soils must be coordinated with the Natural Resources Conservation Services and be based on their standards and guidelines.			
Travel/ Transportation	Prior to taking any action that will result in changing the nature of use or closing roads, trails, ways, and/or open ATV areas, agencies must fully analyze the impacts of such actions. Determination of legal status with respect to RS 2477, easements, right of way, user rights, and enabling statutes. Impacts on other roads, trails or ways. Impacts on other facilities, such as improved campgrounds, camping areas, boat launches, etc. Impact on fish and game management, such as the ability to control fish and game populations and the increase of fishing and hunting pressure on more accessible areas and the affect on the quality of the outdoor experience in the more accessible areas. Impacts from loss of access on management capabilities including, but not limited to, fire protection, timber harvest, weed control, watershed management, the ability to use fire wood and other forest product permits for thinning and fuels reduction and wildlife. Any acknowledgment of existing rights, or granting of a rights of way or easements, must provide for a width adequate to allow for maintenance and to accommodate design dimension needed to provide for safe and efficient enjoyment of such grant. The width dictated by state and/or federal design standards as necessary to accommodate proposed uses shall determine the width provided by such grants or acknowledgments. Restriction placed on the use of Off Highway Vehicles (OHV) must provide for the following: Accesses by OHV for permitted users to conduct operation, such as livestock and development activities. Access by OHV for individuals who are physically impaired. Access for retrieval of big game within 24 hours of a kill, where a kill has been verified by a record on a license and the animal remains in the field. Uintah County does not recognize the authority of any federal or state agencies	X		

	to close any roads designated on Uintah County's RS 2477 map, as well as any Class B or D roads. Uintah County reserves the sole right to open, close, grant rights of ways, and/or restrict access or the time frame of access on any roads described or depicted on the appropriate Uintah County road maps.			
Water/Watersheds	Any proposed action or resource management plan that will affect watersheds, either by direct action or non-action, must analyze the impact on the watersheds with respect to water yields and water quality. This is to insure that the proposed action does not reduce watershed yields, change or negatively impact the timing of yields, or reduce water quality. Resource plans must provide for manipulation of plant cover, such as sage brush and timber, that will reduce such cover to levels that existed before protective action or management allowed increases beyond their natural occurrences. Watersheds must be evaluated to determine their present function compared to their historical functionality. Treatments must then be prescribed to provide for soil stabilization or bio mass manipulation required to return them to their historical conditions with respect to vegetative type, water yield, and water quality. Protective measures designed to protect water quality must be based on deviation from baseline levels. When waters are determined to be in the need of protection because conditions are exceeding quality standards or are approaching maximum allowable standards, protective actions will be based on scientific and verifiable data. Any public land management agency proposing action involving water or watersheds must seek County involvement. All water quality related management actions must be based on the Utah State Water Quality Standards and Utah's Non-Point Source Management Plan. Public Land Management agencies must consider all less restrictive management options before invoking closures or other actions that restrict access to public lands, inhibit their development, restrict livestock grazing, or other use.	X		
Wildlife	Wildlife species, populations, introductions, reintroductions, predators, hybrids, crucial habitats, increases, strategic management plans, guidelines, avoidance, restriction, threatened & endangered components were discussed by the County and specifically their impacts on local economies, including threats to livestock or other wildlife, compensation, protection and recreational opportunities.	X		
Wild and Scenic	WSR classifications must be appropriate and reflect the existing conditions and	X		

Rivers (WSR)	uses of bordering lands and the definitions contained in Sec.2(b)(1)(2)(3) of the Act. The County must be provided an opportunity to participate in the preservation and/or administration of any river proposed or designated in the WSR system (Sec. 5(c) of the Act). Such designations must be provided for protections of water rights and access to water contained in that right. No WSA may be designated that have the effect of reducing water rights or access to those rights. Boundaries or buffers for designated water courses shall not exceed 320 acres/mile measured from the ordinary high water mark [Sec. 3(b)] and 1/4 mile from the ordinary high water mark on each side of the river [Sec. 4(d), Sec. 8(b), Sec. 9(a)(iii)]. In addition to the boundary limitation provided in the Wild and Scenic Rivers Act, Congress and the Department of Interior have found these limitations to be adequate on sections of the lower Green River where protection of scenic value was requested by them [Cooperative Government to Government Agreement Concerning Transfer of Naval Oil Shale Reserve Number 2, Public Law 106-398 Sec. 3405 (2)(c)]. Any protection applied to streams or rivers must provide that such protections will in no manner affect, impair, or limit the ability of holders of water rights to utilize their water rights. This is consistent with Department of Interior and congressional actions where similar protections were requested by them. [Cooperative Government to Government Agreement Concerning Transfer of Naval Oil Shale Reserve Number 2, Public Law 106-398 Sec. 3405 (2)(c)].			
Amendment to Clarify Uintah County's Ongoing Plan for Managing Certain Non Wilderness Study Area Lands in Uintah County (6/11)				
Discussion		**Consistent**	**Partially Consistent**	**Not Consistent**
The Uintah County General Plan be amended at the end of the public lands section for the following areas: Wild Mountain, Moonshine Draw, Desolation Canyon, Bull	The County goals are to achieve and maintain a continuing yield of mineral resources; livestock grazing; water resources; traditional access to outdoor recreational opportunities; open all roads that appear on the County's most recent transportation map, and provide for such additional roads and trails as may be necessary from time to time; protect prehistoric rock art, three dimensional structures and other artifacts and sites recognized as culturally important and significant by the State Historic Preservation Officer; manage so as to not interfere with the property rights of private landowners located in these regions; manage the regions so as to not interfere with the fiduciary responsibility of the State School And Institutional Trust Lands Administration ("SITLA") with respect to trust lands located in that region; managing part or all	X <u>BLM Response</u>: Uintah County has cooperating agency status in the developmen		

Canyon, White River, Desolation Canyon Unit 1, Cripple Cowboy, Diamond Mountain, Stone Bridge Draw, Split Mountain Benches & South, Beach Draw, Vivas Cake Hill, Stuntz Draw, Bourdette Draw, Lower Bitter Creek, Sunday School Canyon, Dragon Canyon, Seep Canyon, Bitter Creek, Rat Hole, Wolf Point, Cliff Dweller, Sweet Water, Hideout Canyon, Hells Hole	of the regions for wilderness characteristics would violate FLPMA, contradict the state's public land policy and contradict the foregoing County plans of regions; imposing any of the area of critical environmental concern (ACEC) designation alternatives currently under consideration in the price resource management plan revision process, would contradict the County's plan for managing the regions; including any river segment in the national wild and scenic river system would violate the National Wild And Scenic Rivers Act and related regulations, contradict the state's public land policy, and contradict the contradict the County's plan for managing the regions; a visual resource management class I or II rating for any part of the regions would contradict the state's public land policy and contradict the contradict the County's plan for managing the regions.		t of the Proposed RMP. The BLM is bound by applicable laws and regulations for the resources cited.	
Consistency with State of Utah Code 63j-4-401				
ACECs	**State of Utah**: It is the policy of the State of Utah to withhold support for ACEC designation unless or until relevant and important values or significant natural hazards are clearly identified and the area requires special management protections not afforded by normal multiple-use management. ACECs should be no larger than necessary and management should be no more restrictive than necessary to prevent irreparable damage to relevant and important values or protect human safety. To the extent allowed by federal law, management prescriptions should comport with the plans and policies of the State and of the county where the proposed designation is located. These prescriptions should not result in management equivalent to that afforded congressionally designated wilderness areas.	**BLM**: The potential ACECs brought forward for designation into the Proposed RMP have gone through a rigorous and stringent process in accordance with FLPMA, the planning regulations at 43 CFR 1600, Land-use planning Handbook (H- 1601-1), and in accordance with BLM Manual 1613 and ACEC Policy and Procedures Guidelines (45 FR 57318). Appendix G outlines the process the interdisciplinary team underwent to determine whether a nominated ACEC had relevance and/or importance values. The size of the proposed ACECs is limited only to the area(s) of geography where the relevance and importance values are manageable to protect and prevent irreparable damage. In the Proposed RMP, the potential ACECs generally do not have redundant special designations		

		and/or other existing protections applied. The potential ACECs carried forward into the Proposed RMP necessitate an ACEC designation because special management protection is necessary (outside of normal multiple-use management) to specifically protect the relevance and importance values within the areas identified. The special management prescriptions that have been proposed are narrowly tailored to protect the identified relevant and important values; none of which are recognized as wilderness resources. For these reasons, the potential ACEC decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401.
Wild and Scenic Rivers	**State of Utah:** It is the policy of the State of Utah that federal land managers should refrain from applying a non-impairment management standard to river segments inventoried as "eligible" for inclusions in the national Wild and Scenic Rivers and all eligible segments should promptly be evaluated for suitability. The State of Utah will work with federal land managers to identify suitable segments and work towards a recommendation to congress for designation where careful analysis: (1) identifies and evaluates regionally significant segments, (2) addresses the impact designation will have on physical, biological, and economic resources, (3) demonstrates that suitable segments have water present and flowing at all times, and (4) not interfere with water resources development. Interim management of suitable segments should not interfere with development of valid existing water rights, including development of waters apportioned to the State under all interstate compacts or agreements, including the Bear River Compact and the Upper Colorado River Compact. To the extent allowable by federal law and where not in conflict with state law or policy, interim management of suitable segments and congressional recommendations for designation should be consistent with plans and policies of the county or counties where the river segment is located.	**BLM:** The State of Utah has worked as a Cooperating Agency throughout this planning process and has been intimately involved with the BLM's wild and scenic river planning process. The State has assisted Field Office specialists to help determine eligibility findings for each of the river segments, and has provided social and economic expertise and advice as the BLM determined which eligible segments to carry forward as suitable into the Proposed RMP. BLM has committed to working cooperatively among Federal, State, and local governments and communities during the post-planning wild and scenic river study phase when statewide recommendations for inclusion of river segments into the National Wild and Scenic Rivers System would go forward to Congress. Prior to this post-planning phase, BLM would work with affected partners to help identify in-stream flows necessary to protect the outstandingly remarkable values for which the subject river segments were found suitable via this planning process. Thus, because there are no effects of this planning decision on valid existing rights, and because suitability findings in this planning process do not create new water rights for the BLM, the land-use planning wild and scenic river suitability determinations are found by BLM to be

		consistent with the Utah Code 63j-4-401.
Grazing	**State of Utah:** It is the policy of the State of Utah that the citizens of the state are best served by applying multiple-use and sustained-yield principles in public land-use planning and management. Public lands should continue to produce food and fiber, and the rural character and landscape should be preserved through a healthy and active agricultural and grazing industry. Land management plans should maximize forage availability for domestic livestock and wildlife use. The State favors active management to restore and maintain rangeland health, increase forage, and improve watershed for the mutual benefit of local communities, domestic livestock, and wildlife. Adjustments in AUM levels may occur as required by range and watershed conditions, based on scientific, on-the-ground analysis. Grazing AUMs should be placed in suspension where range conditions will not sustain the current level of AUMs or where necessary to protect range and watershed health. Any suspended AUMs should be returned to active use when range conditions improve. The State generally opposes forced relinquishment or forced retirement of grazing AUMs but will continue to recognize voluntary relinquishments and retirements agreed to prior to RMP revisions.	**BLM:** Grazing decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401. Proposed RMP decisions on public lands would continue to promote a healthy active grazing industry. Forage allocations for livestock and wildlife are fully allocated on public lands. Numerous RMP decisions under other identified resources allow for the restoration and maintenance of rangeland and watershed health. For example, the Proposed RMP provides the umbrella to allow implementation-level actions for hazardous fuel reductions, fire rehabilitation, vegetation treatments, riparian improvements, range and wildlife habitat improvements, UPCD projects – including Healthy Lands Initiative projects, seed collection, etc. Minor, if any, adjustments to current permitted livestock AUMs are made in the Proposed RMP. Prior voluntary relinquishments and/or retirements have been recognized.
Wilderness Characteristics	**State of Utah:** It is the policy of the State of Utah to oppose management of public lands as wilderness except where congress designates lands as wilderness. Under State policy and FLPMA's multiple-use mandate, BLM ascribed management prescriptions for non-WSA lands inventoried as possessing wilderness characteristics should take into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife, and fish. Designation as VRM Class I, closure to oil and gas leasing, withdrawal from mineral entry, and closure to motorized and mechanized use affords protections comparable to those associated with formal wilderness designation and should be avoided for non-WSA lands with wilderness characteristics. Non-WSA lands with wilderness characteristics should be managed in a manner consistent with the multiple-use, sustained yield standard that applies to BLM	**BLM:** The Proposed RMP identifies certain "non-WSA lands with wilderness characteristics" in order to protect, preserve, and maintain their wilderness characteristics. BLM recognizes that it cannot, through the planning process, designate these lands as WSAs nor is it possible to manage them in accordance with IMP. For example, there is no provision to meet the "non-impairment criteria" mandated in IMP for WSA management. However, in following Section 201 of FLPMA, BLM has maintained its wilderness inventory and has determined that lands previously found not to possess wilderness characteristics during the FLPMA Section 603 inventory process in the late 1970's and early 1980's, now have been determined to possess them. The focus of management in the areas carried forward in the Proposed RMP is to primarily provide for

	lands other than congressionally designated wilderness or WSAs.	an experience of solitude and primitive recreation. This is enhanced by maintaining the naturalness of the geographic areas. However, management prescriptions do not mirror those for WSAs or designated wilderness since these two management objectives are sufficiently dissimilar that imposing similar prescriptions would not allow BLM to meet the planning objectives outlined in the Draft RMP/Draft EIS. WSAs and designated wilderness are rights-of-way exclusion areas, closed to fluid mineral leasing by law, and do not allow for surface-disturbing activities. In comparison, lands with wilderness characteristics have no set management by either law, rule, regulation, or policy. The Proposed RMP would allow for surface-disturbing activities where and when they are compatible with enhancing management objectives identified in the Proposed RMP. In order to ensure that BLM's planning decisions regarding the management of wilderness characteristics are consistent with Utah law, potential adjustments may be made in the Record of Decision to nomenclature. This editorial change would not affect management or goals and objectives.
RS-2477 Assertions	**State of Utah:** The State of Utah will defend its interest, and that of its political subdivisions, in rights-of-way accepted under the self-effectuating grant process set forth in Revised Statute 2477 (repealed by the Federal Land Policy and Management Act of 1976) and SUWA v. BLM, 425 F.3d 735 (10th Cir. 2005). The State of Utah expects and requests the BLM to fully consider all information concerning individual rights-of-way submitted to BLM. Further, the State of Utah expects and requests BLM's consideration of this information as part of the preparation and implementation of Resource Management or Management Framework Plans, and preparation or implementation of Transportation Plans as part of the ongoing inventory of resources on the public lands.	**BLM:** The Proposed RMP makes no commitments with respect to any valid existing rights, particularly those concerning RS-2477. Chapter 1 of this land-use plan states that resolution of this issue is outside the purview and scope of public lands planning efforts and must be adjudicated by a court of law or other legal means. Therefore, nothing in this plan extinguishes any valid rights-of-way or alters, in any way, the legal rights of the State of Utah to assert RS-2477 rights or to challenge any use restrictions imposed by the RMP that they believe are inconsistent with their rights.

5.4. PUBLIC OUTREACH AND PARTICIPATION

The public participation process for the RMP/EIS has been ongoing throughout the development of the RMP/EIS and will continue to the Record of Decision. It includes a variety of efforts to identify and address public concerns and needs. In addition to formal public participation activities, informal contacts occur frequently with public land users, industry, and interested persons through meetings, field trips, telephone calls, or letters. All public participation applicable to the RMP/EIS has been documented and analyzed as part of the planning process and kept on file in the Vernal Field Office.

5.4.1. SCOPING AND NOTICE OF INTENT TO PLAN (NOI)

This planning process began in March 2001 with the publication in the Federal Register of a Notice of Intent to plan (NOI). The NOI announced the BLM's intent to conduct land-use planning for the public lands administered by the Vernal Field Office by preparing an RMP and associated EIS. The NOI began what is known as the scoping process and invited the general public as well as Federal, State, and local government agencies and Indian tribes to identify potential issues and submit concerns regarding the intended planning effort.

The scoping period began on March 12, 2001 and ended December 31, 2001. In order to solicit public input regarding the development and scope of RMP\EIS alternatives, five scoping meetings were held throughout Utah in late October and early November 2001. Information obtained during the public scoping and information obtained by BLM and submitted by cooperating agencies, other federal, state and local agencies, and Indian tribes is utilized to form the scope of the RMP/EIS. Scoping meetings were held at the following locations: in Duchesne, Utah, on October 17, 2001; in Vernal, Utah, on October 18, 2001; in Salt Lake City, Utah, on October 25, 2001; in Manila, Utah, on November 1, 2001; and in Green River, Utah, on November 8, 2001.

In addition to the NOI, BLM conducted additional outreach for specific program information, including by mailing directly to a BLM-maintained mailing list several planning bulletins to solicit specific information regarding issues such as public meetings, dates, travel planning, fluid mineral leasing, areas of critical environmental concern (ACECs), wild and scenic river segments (W&SR), and wilderness characteristics. The BLM-maintained mailing list for this planning effort has been and will continue to be reviewed and updated until the BLM issues the PRMP/FEIS and ROD.

5.4.2. NOTICE OF AVAILABILITY (NOA) OF DRAFT RMP/EIS

In January 2005, the BLM filed with the U.S. Environmental Protection Agency (EPA) its Draft RMP/EIS for the Vernal Field Office. On January 14, 2005 the BLM and EPA published a Notice of Availability in the *Federal Register*; the later date marked the beginning of the formal 90-day public review comment period. The DRMP/EIS states that BLM is revising its current land-use plan and proposes several alternative ways of managing public lands within the Moab Planning Area. The DEIS was designed to provide a comprehensive look at the impacts to natural and cultural resources from various planning alternatives. The formal 90-day public comment period ended on April 4, 2005. The BLM notified approximately 990 individuals regarding the release of the DRMP/EIS. Also, provided hard copies and CDs of the DRMP/EIS

directly to cooperating agencies, other federal, state, and local agencies, tribal representatives, the Utah BLM Resource Advisory Committee members Hard copies and CDs also were made available to the public, and the DRMP/EIS was placed on the BLM's website. The Vernal FO received approximately 360 letters, emails and faxes on the DRMP/FEIS.

On December 13, 2005, the BLM published in the Federal Register a Notice of Availability of the Draft RMP/EIS to list proposed Areas of Critical Environmental Concern and specific associated resource use limitations for public lands in Daggett, Duchesne, Uintah and Grand Counties, UT. They provided a sixty-day comment period on the potential ACECs. The comment period ended February 11, 2006. The Vernal FO received approximately 2094 letters, emails and faxes on the ACEC NOA.

On May 24, 2007 the BLM published a Notice of Intent (NOI) to prepare a Supplemental Draft RMP/EIS. Supplement to the DRMP/DEIS presents an analysis of the effects of managing non-Wilderness Study Area (WSA) lands with wilderness characteristics in a protective manner. On October 5, 2007 the BLM and EPA published a Notice of Availability in the *Federal Register*; for the Supplement to the DRMP/DEIS the date marked the beginning of the formal 90-day public review comment period. The comment period ended on January 3, 2008. The Vernal FO received approximately 191 letters, emails and faxes on the SEIS.

5.4.3. MAILING LIST

As directed by 43 CFR 1610.2(d), the BLM has established and maintained a list of "individuals and groups known to be interested in or affected by a resource management plan." This list was initially developed by the Vernal Field Office mailing list and supplemented/updated throughout the planning process. Scoping meeting participants were given the option to be added to the mailing list. In addition, individuals were able to add themselves to the project mailing list by registering on the project website, as well as through requests to be placed on the mailing list by contacting the BLM.

The mailing list was used during the distribution of postcards and updates throughout the planning process. Postcards were mailed to the entire list, announcing the availability of the Draft RMP/EIS, Supplemental DRMP/EIS, and the Proposed RMP/Final EIS. There are currently over 1,400 individuals, organizations, and agencies included on the mailing list.

5.4.4. WEBSITE

Information regarding the Vernal land-use plan was made available to the public on a website found at http://www.blm.gov/ut/st/en/fo/vernal/planning.html/. The website serves as a virtual repository for documents related to development of the Vernal RMP including news releases and bulletins, background documents, schedule, the land-use planning process, preliminary issues, maps, photos, and the draft and final RMP/EIS. The documents are available in pdf format to ensure that they are available to the widest range of users. During the scoping period, the website allowed members of the public to add themselves to the project mailing list or to submit comments/concerns to be considered in the scoping process. In addition, during the public comment period on the DRMP/EIS, the website served as one of the ways in which the public could submit comments.

5.4.5. PUBLIC MEETINGS

During the 90-day public comment period, the BLM held public meetings in five cities in two states in an effort to inform the interested and affected public about the DRMP/EIS. Table 5.8 lists the open house locations and dates. The open houses were geared to provide information to the public on the content of the Draft RMP/EIS as well as to provide guidance on commenting on the document and answer questions. Each open house included a visual presentation that provided an overview of the planning process and a comparison of major elements contained in the alternatives. Attendees were then encouraged to visit with BLM representatives and managers regarding questions or concerns about the Draft RMP/EIS. The public was provided with the opportunity to submit written comments at the open houses.

Table 5.8. DRMP/EIS Open House Locations and Dates

Location	Date
Vernal, Utah	February 8, 2005
Duchesne, Utah	February 9, 2005
Manila, Utah	February 10, 2005
Grand Junction, Colorado	February 22, 2005
Salt Lake City, Utah	February 25, 2005

Public meetings were not held on the release of the ACEC NOA or Supplemental DRMP/EIS.

5.5. PUBLIC COMMENTS ON THE VERNAL DRMP/EIS AND SUPPLEMENTAL DRMP/EIS

5.5.1. PROCESS AND METHODOLOGY

According to NEPA, the BLM is required to identify and formally respond to all substantive public comments. The BLM developed a systematic process for responding to comments to ensure all substantive comments were tracked and the content seriously considered. A description of this system follows.

First, BLM developed a **coding structure** to help sort comments into logical groups by topics and issues. Codes were derived from resources covered in the DEIS or by common issues. Submissions (letters, emails, faxes, etc) were given a unique identifier for tracking purposes and then each submission was carefully reviewed to capture all comments, if substantive (more description of this process is set forth below). All comments received can be tracked to the original submission.

Second, BLM created a **Comment Database**. For each comment in a unique submission, BLM captured the name and address of the commenter, assigned a code to the comment, and captured the text of all substantive comments.

The coding and comment database processes aimed at assisting the ID-team in determining if the substantive issues raised by the public warranted modification of one or more of the alternatives or further analysis of issues and impacts. With the information provided through the public review process, the BLM reconsidered the draft alternatives, made changes as appropriate, and

developed the Proposed Resource Management Plan and Final EIS (PRMP/FEIS). Factual or grammatical errors which led to a change in text are not summarized but were incorporated into the PRMP/FIES.

Finally, BLM used the comment database to prepare a narrative summary of the substantive comments. Opinions, feelings, and preferences for one element or one alternative over another, and comments of a personal and/or philosophical nature were all read, analyzed, and considered, but because such comments are not substantive in nature, BLM did not respond to them.

5.5.2. COMMENT ANALYSIS

During the 90-day formal DRMP/EIS public comment period, the Vernal Field Office received approximately 360 submissions at public meetings, by fax, by email, and by regular mail from the public, cooperating agencies, other federal agencies, Indian tribes, organizations, and businesses. The BLM carefully compiled, reviewed and analyzed, and addressed all of these submissions.

The 60-day formal comment period for the ACEC Notice of Availability yielded 2094 submissions. Similar to the DRMP/EIS, the substantive comments were compiled, analyzed, and addressed by the BLM. A summary of the comments received and the subsequent responses are provided in the attached CD.

The 90-day formal comment period for the Supplemental DRMP/EIS Availability yielded 191 submissions. Similar to the DRMP/EIS, the substantive comments were compiled, analyzed and addressed by the BLM. A summary of the comments received and the subsequent responses are provided in the attached CD.

In addition to comments received during the formal public comment period, the Vernal Field Office received additional submissions after the close of the comment period which BLM maintained in its files.

A summary of the comments received and the subsequent responses is provided in the attached CD. In some cases, the BLM has chosen to respond to specific non-substantive comments to clarify for the public the rationale behind management actions in the PRMP/FEIS.

5.5.3. PUBLIC COMMENTS

During the DRMP/EIS public comment period, the Vernal Field Office received approximately 3,110 substantive comments. The comment period for the ACEC NOA yielded 37 unique substantive comments. The comment period for the Supplemental DRMP/EIS yielded 583 substantive comments.

Where warranted, the BLM responded to substantive comments by making revisions to the PRMP/FEIS (text changes). If no change was warranted, the BLM responded to the substantive comment in writing (See attached CD). The BLM considered every comment in the content analysis process, whether it came repeatedly from many people with the same message(s) or from a single person raising a technical or personal point. In analyzing comments, the BLM emphasized the content of the comment rather than the number of times a comment was received. The BLM responded to all substantive comments.

Respondents invested considerable time and effort to submit comments. Comments covered a wide spectrum of thoughts, opinions, ideas, and concerns. The most commonly addressed themes included: travel, specials designations (ACECs, W&SRs) and wilderness values, recreation, and minerals/energy development.

While each person's viewpoint was diligently considered, the threshold analysis involved determining whether a comment was substantive or non-substantive in nature because NEPA requires that BLM respond only to substantive comments, BLM relied on the CEQ's regulations, to determine what constituted a substantive comment.

A **substantive comment** does one or more of the following:

- Questions, with a reasonable basis, the accuracy of the information and/or analysis in the EIS
- Questions, with a reasonable basis, the adequacy of the information and/or analysis in the EIS
- Presents reasonable alternatives other than those presented in the DEIS that meet the purpose and need of the proposed action and addresses significant issues
- Questions, with a reasonable basis, the merits of an alternative or alternatives
- Causes changes in or revisions to the proposed action.
- Questions, with a reasonable basis, the adequacy of the planning process itself.

The NEPA handbook identifies the following types of comments:

Comments on the Adequacy of the Analysis: Comments that express a professional disagreement with the conclusions of the analysis or assert that the analysis is inadequate are substantive in nature but may or may not lead to changes in the PRMP/FEIS. Interpretations of analyses should be based on professional expertise. Where there is disagreement within a professional discipline, a careful review of the various interpretations is warranted. In some cases, public comments may necessitate a reevaluation of analytical conclusions. If, after reevaluation, the BLM does not think that a change is warranted, the response should provide the rationale for that conclusion.

Comments Which Identify New Impacts, Alternatives, or Mitigation Measures: Public comments on a draft EIS that identify impacts, alternatives, or mitigation measures that were not addressed in the draft are substantive. This type of comment requires the AO to determine if it warrants further consideration. If it does, the AO must determine whether the new impacts, new alternatives, or new mitigation measures should be analyzed in either the FEIS; a supplement to the draft EIS; or a completely revised and recirculated draft EIS.

Disagreements with Significance Determinations: Comments that directly or indirectly question, with a reasonable basis, determinations regarding the significance or severity of impacts are substantive. A reevaluation of these determinations may be warranted and may lead to changes in the FEIS. If, after reevaluation, the AO does not think that a change is warranted, the response should provide the rational for that conclusion.

Non-substantive Comments simply state a position in favor of, or against, an alternative or a management action proposed in an alternative; merely agree or disagree with BLM policy; provide information not directly related to issues or impact analyses, or otherwise express an

unsupported personal preference or opinion. For additional clarification, types of non-substantive comments are as follows:

Expressions of Personal Preferences or Opinion: Comments which express personal preferences or opinions on the proposals are non-substantive and thus do not require further agency action. This includes comments in favor of or against the proposed action or alternatives, comments that only agree or disagree with BLM policy, or comments that raise, debate, or question a point of fact or policy. However, such comments are summarized whenever possible and brought to the attention of the AO.

The BLM has reviewed and considered all non-substantive comments that generally supported or opposed certain aspects of the plan, but has not provided formal responses to such comments. Although personal preferences and opinions may be considered by the BLM as it chooses the final agency's preferred action, they generally will not affect the analysis.

Other. In addition to the categories of comments from the NEPA Handbook described above, a category named "other' was added for this PRMP/FEIS. Requests for copies of the DRMP/EIS, requests to be added to the project mailing list, and comments which are outside the scope of the project are classified as "other" comments. The comments are considered non-substantive and generally do not require further agency action, though BLM responded to such requests for copies of the DRMP/EIS by providing such copies wherever possible.

The results of the content analysis were important to the development of the PRMP/FEIS. From the total submissions that BLM received on the DRMP/EIS, it extracted approximately 2,750 individual substantive comments. As required by law, BLM has summarized these comments in this PRMP/FEIS, and has presented them, along with a response, according to the organizational outline of the PRMP/FEIS, i.e., by issue or resource topic, in the attached CD.

Table 5.9. List of Government Agencies and Organizations that Submitted Substantive Comments on the DRMP/EIS

Commenter Type	Organization	Individuals
G	Bureau of Indian Affairs, Uintah and Ouray Agency	Chester D. Mills
G	Bureau of Reclamation	
G	Carbon County	Steven D. Burge, Michael S. Milovich, William D. Krompel
G	Daggett County	Chad L. Reed, Craig W. Collett, Stewart Leith
G	Daggett County	Chad L. Reed, Craig W. Collett, Stewart Leith
G	Dept. of Agriculture and Food	Leonard Blackham
G	Duchesne County	Larry S. Ross, W.R. Harrison, Kent R. Peatross
G	Duchesne County Chamber of Commerce, Economic Development Office	Irene Hansen
G	National Park Service, Dinosaur National Monument	Mary Risser

Table 5.9. List of Government Agencies and Organizations that Submitted Substantive Comments on the DRMP/EIS

Commenter Type	Organization	Individuals
G	National Park Service, Intermountain Region	Cheryl Eckhardt
G	Regional Council on Workforce Services, Uintah Basin	Mark Raymond
G	School and Institutional Trust Lands Administration	LaVonne J. Garrison
G	State of Utah	John M. Huntsman
G	Town of Rangely	Ann Brady
G	U.S. Fish and Wildlife Service, Ecological Services, Utah Field Office	Diana Whittington, Betsy Herrmann
G	UBAOG	
G	Uintah County-Vernal City Economic Development	Bill Johnson
G	Uintah, Daggett, and Duchesne Counties	Uintah, Daggett, and Duchesne Counties
G	US EPA Region VIII	Larry Svoboda
G	USFS—Ashley National Forest	Kevin Elliot
G	Utah DEQ – Division of Air Quality	
G	Utah State Office of Education	Margaret R. Bird
G	Ute Tribe of the Uintah and Ouray Reservation	Maxine Natchees, Lynn Becker
G	Ute Tribe of the Uintah and Ouray Reservation	Lynn Becker
G	Vernal Area Chamber of Commerce	Steven R. Wallis
G	Wyoming Natural Gas Pipeline Authority	Carla Hubbard
O	American Rivers	Quinn McKew
O	Californians for Western Wilderness	Michael Painter
O	Center for Native Ecosystems, The Wilderness Society and Native Plant Society	Erin Robertson, Suzanne Jones, Tony Frates
O	Cliffs Mining Services Company	Mark D. Dryer
O	Cripple Cowboy Cow Outfit, Inc.	Jon D. Hill
O	Dominion Exploration & Production, Inc.	David B. Oshel
O	Duchesne County Water Conservancy District	Randy Crozier
O	Ecology Center of Southern California	Anna Harlowe
O	Enduring Resources	Alex Campbell
O	EOG Resources, Inc.	Kurt D. Doerr
O	Howard County Bird Club	Kurt Schwarz

Table 5.9. List of Government Agencies and Organizations that Submitted Substantive Comments on the DRMP/EIS

Commenter Type	Organization	Individuals
O	IPAMS	Andrew A. Bremner
O	James W. Bunger and Associates, Inc.	James W. Bunger
O	Julander Energy	Renee C. Taylor
O	Julander Energy Company	Fred Julander
O	Kerr-McGee Oil and Gas Onshore LLC	Carroll Estes
O	Lexco	James M. Lekas
O	Maryland Alliance for Greenway Improvement and Conservation	Robert DeGroot
O	National Outdoor Leadership School	Jennifer Lamb
O	National Trust for Historic Preservation	Michael Smith
O	Newfield Exploration Co.	Gary D. Packer
O	Orion Reserves Limited Partnership	Frederick A. Larson
O	Outdoor Industry Assoc., National Outdoor Leadership School, Southern Utah Wilderness Alliance, The Wilderness Society, National Resources Defense Council, Outward Bound West, Colorado Plateau River guides, Living Rivers, Wasatch Mountain Club Dinosaur Expeditions, Grand Canyon Trust, Utah Rivers Council, River Runners Transport, Adrift Adventures, Uinta Mountain Club, Desolation Canyon Outfitters, Inc., Wild Utah Project, Holiday Expeditions	Myrna Johnson, Jen Lamb, Scott, Steve Greene; Johanna Smith; Mike Wald; John DeHoff; Will Weisheit; Tim McCarvill; Bill Mertens; Merritt Fry Hedden; Ed Morrison; Robin Tierney; Chad Hamblin; Jeff Stag; Julia Grumper; Jim Catlin; Dee Holladay
O	Outdoor Industry Association	Myrna Johnson
O	PacifiCorp	Michael G. Jenkins
O	Questar	J. Paul Matheny
O	Ranges West	
O	Southern Utah Wilderness Alliance	Liz Thomas, Ray Bloxham
O	The Nature Conservancy, Moab Project Office	Joel S. Tuhy, Dave Livermore
O	The Piney Valley Ranches Trust	Dennis A. Winn
O	Trout Unlimited	Corey Fisher
O	Uintah County Farm Bureau Federation	Gawain Snow
O	Uintah Mountain Club	Chad Hamblin, Lorna Condon, Scott Harthsorn, Gary Mott
O	Utah Environmental Congress	Kevin Mueller
O	Utah Farm Bureau Federation	Randy N. Parker
O	Utah Petroleum Association	Lee J. Peacock
O	Utah Professional Paleontology Council c/o	Sue Ann Bilbey

Table 5.9. List of Government Agencies and Organizations that Submitted Substantive Comments on the DRMP/EIS

Commenter Type	Organization	Individuals
	Utah Geological Survey	
O	Utah Rivers Council	Merritt Frey
O	Utah Wildlife Federation	William R. Burbridge
O	Vermillion Ranch Limited Partnership	Constance E. Brooks
O	Western Gas Resources, Inc.	Krista Mutch
O	Westport Oil and Gas Co.	Raleen Weddle
O	Westport Oil and Gas Company, L.P.	Carroll Estes
O	Wilderness Society, Wild Utah Project, Center for Native Ecosystems	Suzanne Jones

Note: G=Government, O=Organization

Table 5.10. List of Businesses, Government Agencies, and Organizations that Submitted Substantive Comments on the ACEC NOA

Commenter Type	Organization	Individuals
B	IPAMS	Andrew Bremner
G	Uintah County Commission	Michael McKee
O	The Wilderness Society	Nada Culver
O	Center for Native Ecosystems	Erin Robertson

Note: B=Business, G=Government, I=Individual, O=Organization

Table 5.11. List of Businesses, Government Agencies, and Organizations that Submitted Substantive Comments on the Supplemental DRMP/EIS

Commenter Type	Organization	Individuals
B	Anadarko	Brooke Bell
B	Bjork Lindley Little PC	Kathleen Schroder
B	C.E. Brooks & Associates, P.C.	Constance E. Brooks
B	EOG Resources, Inc.	Bret A. Sumner, Bonnie Carson
B	FIML Natural Resources, LLC	Mark D. Bingham, Carol Millenger
B	Fulbright & Jaworski L.L.P.	Bret A. Sumner
B	Independent Petroleum Association of Mountain Stat	Kathleen M. Sgamma

Table 5.11. List of Businesses, Government Agencies, and Organizations that Submitted Substantive Comments on the Supplemental DRMP/EIS

Commenter Type	Organization	Individuals
B	Moon Ranch, LLC	Gordon L. Moon, Lamont W. Moon
B	Questar	J. Paul Matheny
B	Utah Farm Bureau Federation	Randy Parker
G	C.E. Brooks & Associates, P.C.	Amelia Pergl
G	Daggett County	Stewart Leith
G	Duchesne County Commission	Mike Hyde
G	State of Utah	John Harja
G	Sweetwater Country Conservation District	Mary Thoman
G	Uintah County	
G	United States Department of the Interior	
G	United States Environmental Protection Agency	Larry Svoboda
G	Utah State Office of Education, School Land Trust	Larry Shumway
G	Ute Tribe- Energy & Minerals Department	Mike James
O		Steven Manning
O	BCS Project	David Sucec
O	Capital Trail Vehicle Association (CTVA)	Don Gordon, Mike Hall
O	Coalition to Preserve Rock Art	Jon Gum
O	Comcast	John Carter
O	Howard County Bird Club	Kurt R. Schwarz
O	National Outdoor Leadership School	Aaron Bannon
O	National Wildlife Federation	Kathleen C. Zimmerman
O	Public Lands Advocacy	Claire M. Moseley
O	The Nature Conservancy	Chris Montague
O	The Wilderness Society	Nada Culver
O	Theodore Roosevelt Conservation Partnership	Joel Webster
O	Uinta Mountain Club	Tom Elder, Diane Ackerman
O	Utah Archeological Research Institute, Inc.	Steven Manning
O	Utah Rock Art Research Association	Troy Scotter
O	Wild Horse Observers Association	Patience O'Dowd

Note: B=Business, G=Government, O=Organization

5.5.4. SUMMARY OF COMMENTS

During the three public comment periods for the DRMP/EIS, comments were received from government agencies, organizations, businesses, and individuals. Commenters focused on their own definitions of "multiple use" and "balance among resource uses and natural resource values". Comments ranged from those urging the BLM to impose maximum restrictions on resource uses to those expressing dissatisfaction with the restrictions imposed in the Preferred Alternative of the DRMP/EIS.

Many Commenters addressed the impact analyses on various resources. Those Commenters who alleged deficiencies in the impact analysis often were comparing the preferred alternative not to the No Action alternative (as required by the Council on Environmental Quality), but rather to the Commenter's version of an ideal environment.

There was a lot of critique on a specific alternative to which the BLM responded that the CEQ requires a reasonable range of alternatives. The BLM chose its final PRMP/FEIS management actions from this range of alternatives, not choosing one alternative as a whole.

There were also many requests by Commenters for clarification, correction, or what the support for a resource decision or impact was. BLM responded by referencing where this was located in the document, and if necessary, made clarifications or revisions within the document.

The interest of the public in the management of BLM lands in the Vernal planning area was manifest in the number and complexity of the submissions received.

5.5.4.1. DEIS/RMP COMMENT PERIOD

The greatest number of comments on the DEIS/RMP concerned livestock grazing, wildlife and fisheries, special designations, minerals and energy, air quality, socioeconomic resources, and special status species:

Livestock grazing comments included that the RMP/EIS was in violation of the Taylor Grazing Act, PRIA, FLPMA, Utah Rangeland Health Standards, County plans, and multiple use mandates. The BLM responded that they were in compliance with all of the federal requirements and during the planning process had worked with the counties. Comments questioned how and under what circumstances the AUMs would be decreased or increased. The BLM responded that an increase or decrease would only be done based on the health and quantity of forage. There were many comments on resource's impacts on grazing and grazing's impacts on resources. The BLM replied by referencing the section that this was addressed in within the PRMP/FEIS.

Wildlife and fisheries comments included questions about the inclusion of current plans in the document, such as county, UDWR, and USFWS. The BLM stated that it had considered all of these plans, parts were incorporated into the final document, and there would be a continued cooperation with these groups for future management. There was a concern about the reintroduction of species into the planning area. The BLM responded that these would only be done with a site-specific NEPA and in coordination with UDWR.

Special designation comments included many concerns regarding protection or restriction of designating lands with wilderness characteristics. BLM responded by stating their authority for managing these lands comes from FLPMA Section 202 and BLM'S Land-use planning Handbook. There were also a considerable amount of comments about rivers and segments that

should or should not be included in the proposed PRMP/FEIS for Wild and Scenic designation. BLM replied by stating if it had been carried forward or not, referenced Appendix C where the process of suitability is documented, and explained that it was in conformance with both BLM and NEPA standards. Many Commenters questioned the ACEC designations and where the documentation for these decisions was. BLM responded that they followed the BLM Manual process, which is shown in Chapter 4 and Appendix G and the rationale for individual ACECs would be provided in the Record of Decision.

Minerals and energy comments included that the RMP/EIS was not complying with the Energy and Policy Conservation Act to reduce impediments to energy development. The BLM responded that this had been discussed in the document and they believed that the mandate was met. There were many comments on resource's impacts on minerals and energy and mineral's and energy's impacts on resources. The BLM replied by referencing the section that this was addressed in within the PRMP/FEIS.

Air quality comments included the request for maximum emissions and cumulative impact analysis and questioning the analysis that was done. The BLM responded by explaining that NEPA no longer requires a worst case scenario. References were given to the sections and appendices that further illustrate the analysis done on the planning area. If there was something missing from the document, it was added to the PRMP/FEIS.

Socioeconomic comments included mostly concerns about aspects of the analysis, such as agriculture, tourism, oil, gas and mining, and local economies, being overstated, understated, or not incorporated at all. The BLM responded in many cases by revising or rewriting the section and adding new or updated information referenced by the commenter.

Special status species comments included comments concerned about how the Special Status Species stipulations and restrictions would impact oil, gas, and mining. The BLM responded with an explanation of the management in the RMP/EIS and that there would also be site-specific studies and exceptions reviewed when oil, gas, and mining developments were proposed. Commenters also inquired about management, impacts, and protection of specific Special Status Species. The BLM responded by referencing where this was located in the document, and if necessary, made clarifications or revisions within the document.

5.5.4.2. ACEC Comment Period

All comments in this comment period were addressing ACEC designations. Some Commenters stated that BLM was not adequately protecting ACECs. The BLM responded that there had been 35 nominations, 14 of which were found to meet the relevance and importance criteria, and were analyzed in the RMP/EIS. The BLM Manual 1613 provided the guidelines for this analysis which can be found in Chapter 4. Comments also questioned where the evaluation of the ACECs was in the document. The BLM referenced Chapter 4 of the PRMP/FEIS and the Record of Decision, where the rationale for the final decision to designate or not designate an ACEC can be found.

The overlapping of and difference between WSAs and ACECs was brought up by commenters for clarification. The BLM explained the difference between the two designations and that they were required to consider both policies for eligible lands. Furthermore, they could not designate WSAs as they do not have authority in the land-use planning process.

Commenters asked why the existing ACECs were carried forward without any communication to the public. The BLM answered that this is not required and that there was no change of circumstance with any of the existing ACECs.

Specific ACECs were discussed in comments as lacking protection because they were not carried forward as potential ACECs in the DRMP/EIS as well as lacking analysis of threats and impacts in the document. The BLM stated that protective measures of the specific ACECs and analysis of threats and impacts were added in Chapter 4.

5.5.4.3. SUPPLEMENT TO THE DEIS/RMP COMMENT PERIOD

The greatest number of comments on the DEIS/RMP concerned wilderness characteristics, grazing, cultural resources, process and procedure, and socioeconomics, in that order:

Wilderness characteristics comments primarily included concerns about how the non-WSA lands were determined, what right BLM had to do this, and what authority they had to manage these areas. The BLM responded that FLPMA Section 201 gives BLM the authority to inventory for wilderness characteristics. Section 302 of FLPMA gives BLM general management authority for the public lands. Section 202 of FLPMA gives BLM the authority for planning how the public lands are to be managed. Commenters also critiqued BLM's overlapping of ACECs. The BLM replied that layering is a planning tool required by FLPMA.

Grazing comments included concerns about the impacts of grazing on riparian areas. The BLM stated that Utah Rangeland Health Standards were met under all alternatives. Commenters questioned the grazing rights under Alternative E. The BLM responded that it did allow grazing as the BLM Policy for Wilderness Review includes grazing. Retirement of allocations was brought up by Commenters. The BLM explained that these would be handled on a case by case basis, how this process would proceed, and the retirements would not be permanent.

Cultural resource comments focused mainly on the analysis of risk to cultural resources within the planning area by OHV use, vandalism, and impacts of other resources. The BLM described that they had integrated the protection of resource values such as cultural resources with its responsibilities for land-use planning and resource management under FLPMA and IM-2007-030 to ensure that the affects of any activity or undertaking is taken into account. Any potential surface-disturbing activities based on future proposals will require compliance with Section 106 and site-specific NEPA documentation.

Process and procedure comments included requesting for justification of BLM's obligation to protect non-WSA lands with wilderness characteristics. The BLM responded that FLPMA Section 201 gives BLM the authority to inventory for wilderness characteristics. Section 302 of FLPMA gives BLM general management authority for the public lands. Section 202 of FLPMA gives BLM the authority for planning how the public lands are to be managed. The BLM also stated that although there were state laws in place and BLM had worked to comply, they are bound by the federal laws. Commenters were concerned about the negative impacts Alternative E would have on existing rights for oil and gas. The BLM clarified that all valid, existing rights would hold and that Alternative E was not the preferred alternative, but one of a range alternatives.

Socioeconomic comments mostly included concerns about the analysis of the impacts of the other resources on socioeconomics. From these many comments, the Proposed RMP/Final EIS

has an expanded discussion of the economic impacts of mineral decisions, socioeconomic benefits from protecting lands with wilderness characteristics, oil and gas development, and environmental justice.

5.5.5. PUBLIC COMMENTS AND RESPONSES

The following tables present a subset of the comments received by the Vernal BLM during the comment period. The first set of tables (Tables 5.12a through 5.12f) provides all the comments submitted by the three Cooperating Agencies – the State of Utah, Ute Indian Tribe, Duchesne County, Uintah County, and Daggett County. The three counties submitted some letters collaboratively. The comments from these letters can be found in table 5.12f. The tables are organized by which draft being commented on, commenter, comment number, the resource category being addressed, the comment, the BLM's response, and if it resulted in a change in document. The second set of tables (Tables 5.13a through 5.14dd) provides the comments that resulted in a change to the document. These tables include similar information to that provided in the first set of tables except they are grouped by resource category.

All comments received during the public comment period are available on a CD accompanying this document. This CD contains two tables in Adobe Portable Document Format (PDF). Both tables have the following columns: Commenter Name or Organization, Resource, Comment, Response. The first table is sorted and grouped by Commenter Name or Organization and the second table is sorted and grouped by resource.

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	AQ1	Table 3.2.5 Sensitive Areas to Be Considered in the Analysis: Brown's Park NWR and Ouray NWR are managed by the USFWS not the NPS.	Table 3.2.5 of the 2004 Air Report has been revised to clarify that the Brown's Park NWR and the Ouray NWR are managed by the USFSW and not the NPS, and is now Table 3.2.3.	Yes
Draft RMP/EIS	AQ2	The Uinta Basin is not within the air shed for which monitoring data is available in your document. Use of data from the Wasatch Front, an area which often has exceedances from local sources, is inappropriate.	BLM defers the selection of background air quality monitoring data to the Utah DEQ.	No
Draft RMP/EIS	AQ3	Additionally, the data used does not reflect the recent increase in oil and gas development emissions and associated increase in traffic-related emissions and fugitive dust. Baseline data from a Uintah Basin sources is required to accurately model the effects.	See comment response AQ2.	No
Draft RMP/EIS	AQ4	Also at question is the wind direction which may vary depending upon area of the Vernal Planning Area (VPA).	It is not clear what the commenter is referring. Predictive Meteorological Model (MM5) data as well as numerous surface, upper air, and precipitation data stations were used in the analysis.	No
Draft RMP/EIS	AQ5	Additional emission sources that were not mentioned include operations at oil wells such as the incidental flaring of produced gas, oil and gas production equipment, the Bonanza Power Plant and residential uses during the winter when inversions occur.	Flaring, completion, and drilling emissions were included in the analysis. The Bonanza Power Plant was assumed to be represented by background air quality monitoring data. Residential sources are assumed to be represented in the back-ground monitoring data.	No
Draft RMP/EIS	AQ6	The Goal of an Implementation Plan is listed, but receives no further mention.	Commenter does not provide enough information to respond to. The implementation plan will be completed after the Record of Decision for the plan is issued.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	AQ7	Cumulative effects should be quantitative and include past and existing emissions and particulate sources. To make projections, data on emissions is available from industry sources.	A cumulative air quality analysis was performed. Please see Chapter 4 of the DEIS and Chapter 5 of the Air Quality TSD.	No
Draft RMP/EIS	AQ63	The State of Utah is concerned that emissions generated by the drilling and processing of oil and gas wells in the Uinta Basin were not given more consideration.	The impact of oil and gas operations was a main focus of the air quality assessment.	No
Draft RMP/EIS	AQ64	The Vernal draft RMP and EIS does not address the cumulative impacts of the sources of air pollution throughout the area. One oil or gas well analyzed by itself might have a negligible effect on the surrounding air quality, but hundreds or thousands of wells in the area, collectively, will have a large impact. With approximately 6300 new wells anticipated during the RMP time frame, these emissions should be considered cumulatively.	As required by CEQ regulations, a cumulative analysis was performed, which took into consideration the effects of past, present and reasonable foreseeable actions, including oil and gas development.	No
Draft RMP/EIS	AQ65	Recent data regarding emission factors from wells in adjoining state indicate that average gas wells produce over one (1) Ton per year of Volatile Organic Compounds (VOC) per barrel per day (BPD). Associated equipment (dehydrators, heaters, etc.) produce over 10 Tons per year VOC per million cubic feet per day (MMCFD) and approximately one Ton per year of NOx per well per year. Oil wells produce on the average of 100-200 pounds of VOC per year per BPD. The draft RMP and EIS air quality analysis does not include any information regarding the impact of the proposed alternatives on ozone. VOC and NOx have been found to be precursors to the formation of	EPA Region VIII, in their comments on the Roan Plateau RMP DEIS, said: "Running a regulatory ozone model such as RPM-IV for purposes of the DEIS is impractical, and we understand that BLM's national Science & Technology Center may be reactant to estimate potential ozone impacts with a conservative method such as VOC/NO point source screening tables." This topic will be discussed further in a future meeting with the State of Utah and the Utah DEQ. Given the above, it is not clear how a	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		ozone. Ozone is a National Ambient Air Quality Standard (NAAQS) and must be addressed in this analysis.	possible ozone analysis would be done. This topic will be discussed at a forthcoming meeting with the State of Utah. See comment response AQ54.	
Draft RMP/EIS	AQ66	The 1990 Clean Air Act requires all states to write State Implementation Plans that address regional haze. The thousands of tons of pollution generated by projects proposed in this RMP could easily impact visibility in Class I areas in Utah and neighboring states. The RMP must address the effects of VOC and NOx emissions on regional haze.	NOx emissions were included in the analysis and potential visibility impacts were estimated. See comment response AQ65 regarding VOCs and ozone.	No
Draft RMP/EIS	AQ67	The state requests a cooperating agency working group be assembled to work through these issues before the Final EIS is completed.	BLM had an initial meeting with the State of Utah to hear their concerns on the air quality section of the RMP DEIS on June 24, 2005. The State expressed a desire for further meetings to discuss some issues in more detail. These meetings were held in May and June 2008 as part of the Four Corners Task Force.	No
Draft RMP/EIS	CR20	The State of Utah is concerned by the open-ended nature of the comment on page 2-7 which states that the BLM, as part of its normal management of cultural resources, will "reduce or eliminate imminent threats from natural or human-caused deterioration or conflict with other resources." What imminent threats? How will conflicts with the unstated threats be resolved? How cost-effective is it to reduce or eliminate natural deterioration? Most importantly, how will the balance between cultural resources protection and other legitimate resource uses be achieved, and how does this balancing process differ from the normal Section 106 consultation process	The statement on page 2-7 of the Draft RMP refers to the BLM's ongoing policy of cultural resource stewardship and adherence to the mandates of federal legislation such as, but not limited to, the National Historic Preservation Act. While Section 106 of the Act requires the BLM to consider the avoidance, minimization, or mitigation of impacts to National Register-eligible resources, Section 110 requires the BLM to pro-actively manage for preservation such resources, as known to exist, under their jurisdiction. This management requires addressing threats/impacts to the resources that compromise their eligibility	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		involving the State Historic Preservation Office? The state asks the BLM to consider the language recently added to the state historic law concerning the need for balance in the protection of cultural resources and to clarify the intent of this proposed management statement.	for the National Register. These threats may come from human-caused disturbances or natural processes. The feasibility and cost effectiveness of ameliorating natural deterioration would be assessed on a case-by-case basis and in consideration of whether or not the deterioration is altering the characteristics of the resource that render it eligible for the National Register. Note: The text from page 2.7 of the Draft RMP is now located in Table 2.1.4 (Cultural Resources) of the PRMP/FEIS under Management Common to All Alternatives.	
Draft RMP/EIS	CR21	Proposed cultural resources protections listed on page 2-43 indicate that oil and gas leasing would be "subject to timing and controlled surface use stipulations or no surface occupancy to protect cultural sites" for various areas within the VFO. No stipulations related to this are discussed in Appendix K. Please, clarify this proposal. How do timing restrictions protect cultural sites? How do these "stipulations" fit in with the Section 106 protection process, which involves the SHPO and discussions at the time of a proposal about mitigation methodologies? We are concerned that the BLM is prejudging cultural resource mitigation strategies through the use of unnecessarily restrictive stipulations.	Appendix K in the PRMP/FEIS has been revised regarding stipulations for cultural resources. Timing restrictions can aid in the protection of cultural resources from indirect effects caused by such things as increased on-site erosion from altered run-off patterns resulted from rutted roads created during wet weather conditions and increased site sedimentation from fugitive dust accumulation in dry conditions; however, these protections are expected to be limited. The primary focus for protection of cultural resources is not on seasonal restrictions but on surface disturbance restrictions under the controlled surface use and no surface occupancy stipulations.	Yes

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			Under all alternatives, the stipulations for CSO and NSO would be applied to leases in which there are specific cultural resources that have been found through the Section 106 process to be eligible for the National Register of Historic Places, and for which the mitigation, as necessary, has been identified as avoidance through the Section 106 consensus process. Protective measures for cultural resources are part of standard lease terms applicable to all surface-disturbing activities.	
Draft RMP/EIS	CR22	The discussion of the effects of minerals decisions on cultural resources (page 4-44) states, "short-direct effects would entail surface disturbance and even destruction of archaeological sites and features if relevant cultural resource laws and agency guidelines are not followed, or if errors occur during the development process." The next sentence indicates that long-term direct effects include the "physical alteration or elimination of archaeological sites as they are mitigated through data recovery or other on-site means when avoidance of the sites is not possible." These descriptions are muddled and compare apples and oranges. The first sentence states that cultural resources will be affected by a failure to follow the law. Because the provisions of the final RMP are approved under the general assumption that the BLM and others will follow the law, including the Section 106 process, does this sentence mean therefore state that there are no short-term effects from mineral development? The second sentence implies there are unspecified difficulties with data recovery as a mitigation tool. If	The presumption of the RMP/EIS is that the BLM and BLM authorized undertakings will comply with federal legislation, including Section 106 of the National Historic Preservation Act, and therefore, short-term effects on individual cultural resources determined eligible for the National Register of Historic Places would be minimal, if not non-existent. However, the RMP/EIS recognizes that occasional errors do occur wherein resources slated for avoidance are inadvertently impacted or previously unidentified resources, such as those below the ground surface, are encountered during construction in an area that was inspected for surface evidence of cultural materials. It is to these types of situations that the RMP statement in your comment refers. Data recovery is used to mitigate adverse effects to individual cultural resource sites, and therefore, is not considered to be an adverse effect to the subject site itself. However, data	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		avoidance of a site is not possible, data recovery and other mitigation processes are employed to eliminate the adverse impact of the planned disturbance. Therefore, the resultant physical alteration or elimination of the site is not a negative effect. The State of Utah believes the discussion of impacts to cultural resources that is currently in the document represents a bias away from the correct implications of Section 106 and cultural resource mitigation.	recovery that results in the elimination of the physical manifestation of the site does indeed alter in the larger cultural landscape by removing a component of it.	
Draft RMP/EIS	GC26	Some of the information presented in Table S.3 Alternatives Comparison, page S-4, and is not found in Table 2.3 Alternatives, page 2-57. Table S.3 indicates that the Upper and Lower segments of the Green River are recommended, in all Alternatives, for Wild and Scenic River designation. However, these segments are not identified in Table 2.3.	The segments have been identified in Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS.	No
Draft RMP/EIS	GC37	Figure 1 displays land ownership in the VFO. The map correctly identifies UDWR managed lands in the Book Cliffs and Diamond Mountain areas. However, the figure does not show UDWR managed lands in Duchesne and Wasatch counties.	Wasatch County is outside the boundaries of the Vernal Field Office. Consequently, UDWR managed lands for Wasatch County are not depicted in Figure 1. Utah SITLA and UDWR lands are given the same color key. Some UDWR lands in Duchesne County are not discernable due to the map scale.	No
Draft RMP/EIS	GC38	Actions contemplated in the third, fourth, and fifth paragraphs are of concern to the State Engineer because of their potential effect on Utah's Colorado River depletion allotment. Under the 1948 Upper Colorado River Basin Compact, Utah is allotted a depletion of 1,369,000 acre-feet per year from the Colorado River system. The actions contemplated by the BLM would increase the amount of water depleted. These depletions would be charged	The actions BLM is contemplating are intended to improve the watershed. Because the State of Utah has jurisdiction over water, any action BLM takes that would require getting a water right would be subject to approval by the State of Utah.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		against Utah's allotment. To promote the most efficient use of Utah's allotment, the BLM should identify and implement actions in which water saving can achieved to balance out their expected depletion increases. Actions such as the eradication of non-native phreatophytes and the removal of unneeded water impoundments should be explored and included in this RMP.	Actions such as the eradication of non-native species would be activity level planning prepared in conjunction with the goals and objectives contained in the RMP.	
Draft RMP/EIS	GC39	All maps should color only the lands managed by BLM. It is confusing and misleading for the reader to have large blocks colored as in Fig. 29 - VRM. The map may represent how the BLM recognizes the view shed, but it is not representative of the area over which the BLM has control.	BLM will work with contractor to change the maps. However, the maps contained in the document can be used by individual readers to correspond to larger, more detailed maps as needed. The maps contained in the document are intended only to show the broad scale landscape level decisions that would be implemented through the RMP.	No
Draft RMP/EIS	GC40	All maps need to have township-range descriptions. It is difficult to locate areas without identifiers.	Township and range information cannot be added to the maps at the scale used without obscuring underlying information. The maps contained in the document can be used by individual readers to correspond to larger, more detailed maps as needed. The maps contained in the document are intended only to show the broad scale landscape level decisions that would be implemented through the RMP.	No
Draft RMP/EIS	GC41	The shaded relief background used in Fig 1-37 makes some of the figures difficult to interpret. Figures that depict a multitude of assets, such as Minerals and Energy (Figs. 15-18) are complicated and hard to decipher. A more useful background would be a land ownership background, which includes township and range boundary lines.	See comment response GC39.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	HZ2	The RMP should address hazardous materials issues that may arise due to proposed oil, gas, and mineral development. Management of waste water withdrawn to recover methane resources should also be addressed. No waste waters should be discharged until a UPDES permit is obtained. Such discharges must not exceed 1200 mg/l TDS under current rules. However, salinity in the Colorado river would be much improved if no waters exceeding 300 mg/l TDS were discharged. Such waters should also be managed to prevent thermal loading to surface waters. No waters which exceed 270C, nor which raise the temperature of the receiving water body 40C or more, shall be discharged to a warm water fishery. No waters which exceed 200C nor which raise the temperature of the water body 20C or more shall be discharged to a cold water fishery.	The discussion of the potential impacts from hazardous materials associated with minerals and energy development can be found in Section 4.5 of the PRMP/FEIS. Language acknowledging the potentially hazardous nature of wastewater resulting from methane recovery operations has been added to the section. As described in Section 3.5, the BLM adheres to EPA policy regarding hazardous materials, which includes wastewater discharge. Any permit requestor would have to meet the requirement of either the State or EPA, as appropriate, in order to be issued a permit. The proposed language specific to permitting requirements is not necessary as permit requirements may change in the future. Also, the permit requirements are associated with State of Utah requirements, and EPA has primacy over a large area of the Field Office in this program, not the State.	Yes
Draft RMP/EIS	LG67	Statements such as "though [range] improvements could have adverse impacts if livestock move into areas that have received little grazing in the past" (page 2-100 under Alternative A) are inappropriate and too general to fit the on-the-ground situation. The State of Utah requests that the parties involved in range improvements work toward a real analysis of impacts at the time of range improvement	The analysis in question is conducted at a programmatic (landscape) level. Additional impact analyses are conducted for rangeland improvements that have the potential to affect resources at the time the improvements are proposed and their specific location and nature are known. The statement cited in the comment is located in Table 2.2.16 (Riparian Resources) in	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		proposals, and that this impact statement in the DEIS be revised.	the PRMP/FEIS and merely summarizes anticipated impacts of the general scope of rangeland improvements on special status species. More information about these impacts can be found in Section 4.15.2.4.	
Draft RMP/EIS	LG68	Statements about the impacts of various levels of grazing in the "Nine Mile Acquired Area" (page 2-105) in relation to scenic values appear to have no basis in fact, and are too general. The impacts are tied to grazing levels described as "elimination," "limited," and "unlimited," and postulate effects of "preserve," "partially preserve," and "diminish" scenic quality. What are these statements based on? Are the effects of grazing being tied to VRM classifications, and if so, where is the supporting analysis? Are the effects of grazing being tied to the BLM's riparian policy, and if so, where is the consideration of the mitigation measures? The State of Utah requests that the BLM improve on this analysis, and discuss real on-the-ground issues in light of the BLM's riparian policy, no on unsupported assumptions.	Table 2.1.8 (Livestock and Grazing Management) in the PRMP/FEIS for the Proposed RMP column has been revised to read as follows: "Livestock grazing could be allowed in the Nine-Mile Acquired Area if such use is controlled, of short duration, and would not detract from recreation and/or riparian values along the river and is in accordance with the Green River Allotment Management Plan administered by the Price Field Office"	Yes
Draft RMP/EIS	LG69	Page 2-18 outlines action common to all alternatives for livestock and grazing. The UDWR would like to suggest some additional management practices to be included in this section. Permittees using dogs in connection with their grazing operations in black-footed ferret recovery areas should be required to show proof that they have had them vaccinated for distemper.	See comment response SS73.	No
Draft RMP/EIS	LG70	Page 2-16 discusses criteria for changing class of livestock. The UDWR suggests incorporation of the	The BLM declines to make the suggested wording changes for a variety of reasons	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		following phrasing: Cattle are preferred within 10 miles of bighorn sheep habitat areas.	including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS.	
Draft RMP/EIS	LG71	Livestock grazing seasons of use alternatives are discussed on page 2-48. The UDWR generally supports the seasons of use as outlined in Alternative A. However, we urge the BLM to consider converting critical/crucial deer winter range areas to the area 4 grazing system, May 1 to June 1. Periodic spring grazing in sagebrush areas can promote browse growth and limits competition with wintering big game animals.	The BLM declines to make the suggested wording changes for a variety of reasons including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS	No
Draft RMP/EIS	LG71A	Under all alternatives, many critical/crucial deer winter ranges are categorized as area 6 grazing, which allows for winter use. The UDWR	Area 6 already provides for a spring grazing treatment between March 15 – April 30. After April 30th, the graminoid species are in the	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		recommends the season of use be moved to a spring grazing system in these areas. This management scenario is consistent with goals outlined by the Utah Partners for Conservation and Development Group who define habitat restoration as 1) active management (i.e., restoration), and 2) passive management (i.e., changes in grazing programs, etc.). The BLM, as a partner in this group, has the obligation to lead the effort for range restoration through the application of appropriate land use activities.	critical growth period where the risk of decreasing perennial grass species increases, providing the opportunity for invasive species to increase which would defeat the obligation to lead the effort in range restoration through the application of appropriate land use activities.	
Draft RMP/EIS	LG72	It is unclear if this is referring to the few allotments which are solely on river bottoms or if this refers to any allotment which has a river in it. If this refers to any allotment which has a river within its boundaries, then there is a potential for discontinuing grazing on many allotments with trust lands within them and inhibiting TLA's ability to collect revenue from these lands.	The Grazing in River Corridors subsection toTable 2.1.8 (Livestock and Grazing Management) in the PRMP/FEIS refers to considering discontinuing livestock use in river corridors following the voluntary relinquishment of a permit. It does not state that entire allotments would be retired. The BLM only manages the lands under its jurisdiction and does not have the authority to make management decisions pertaining to non-Bureau lands. As such, the BLM would not make blanket decisions that would apply to TLA lands.	No
Draft RMP/EIS	LG73	Introducing bison to the area would create unnecessary conflict with cattle operations in the area, including damage to fences. These bison would be competing with other ungulates and removing feed from trust lands without compensation to the agency. TLA would not support a bison introduction without compensation either in direct payment or hunting tags if the herd became a huntable unit.	Bison emigration or reintroduction would only be considered under those alternatives that allow for it and in cooperation with UDWR. The Proposed RMP would follow the Book Cliffs Bison Management Plan.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	LG74	Rangelands should be managed to control soil erosion to prevent the soil erosion rate from exceeding the tolerable (T) rate as determined through USDA/NRCS. Resources should be managed such that T is not exceeded from rangelands nor from roadways nor roadcuts, nor from riparian areas within rangelands.	The RMP adopts the Utah Rangeland Health Standards under all alternatives. These standards include specific management goals related to soil erosion. The BLM, by adhering to these Standards, would be managing to meet these soil erosion goals. See Management Common to All, Soil and Water Resources, for specific management prescriptions related to preventing undue soil erosion.	No
Draft RMP/EIS	LR16	The State of Utah requests that language be added to the final RMP/EIS that is broad enough to cover likely scenarios for land exchange between the BLM and the Trust Lands Administration (TLA) without having to do plan amendments.	The BLM declines to make the suggested wording changes for a variety of reasons including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS.	No
Draft RMP/EIS	LR16A	In this regard, the state recommends the BLM establish several "classes" of land, such as the following: lands the BLM would never consider available for exchange, such as historic sites or, special land formations; TLA lands the BLM would like to acquire for consolidation of management purposes, such as lands in Wilderness Study Areas or certain special designation areas; areas the BLM	Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS outlines general categories of land or situations in which land exchanges would be considered under the RMP. There is always the opportunity of the State to have a land exchange done legislatively, which	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		would like to dispose of for various reasons, such as small BLM parcels surrounded by TLA or fee lands; and all other lands, which should be considered available for exchange between these governmental agencies. These various classes should be broadly defined so that, when the time comes to consider an exchange, the initial step involving consideration of the public interest is considered accomplished and no plan amendment is therefore required.	would not have to adhere to the RMP criteria, but it is hoped that BLM would have input into the parcels proposed for exchange and acquisition.	
Draft RMP/EIS	LR17	Land exchanges/acquisitions actions common to all alternatives (pg 2-16) should include an additional consideration. Lands with critical habitat values for big game and sensitive, threatened, and endangered wildlife species should only be considered for disposal or exchange after wildlife stipulations are worked out among UDWR and the parties to the exchange.	Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS under the subsection entitled Management Actions Common to All Alternatives, note that lands containing T&E species habitat would be retained in federal ownership. Table 2.1.7 also identifies that exceptions may be considered for exchanges, but the agency BLM would consult with for T&E habitat is the U.S. Fish & Wildlife Service.	No
Draft RMP/EIS	ME22	The DEIS/RMP fails to analyze the impacts on oil & gas development [of special designations] and comply with EPCA and IMs directing incorporation of EPCA into RMPs. It requires that management restriction be the least restrictive necessary to protect documented and supportable needs.	The integration of EPCA into the RMP is discussed in Section 1.12. EPCA does not prohibit the use of special designations or multiple overlapping prescriptions, but requires that these prescriptions are the minimum necessary to maintain sustained yield. The BLM believes it has met this mandate and has only identified special designations where such designations are necessary.	No
Draft RMP/EIS	ME69	In general, the DRMP and the associated mineral report correctly identify the occurrence of the energy and mineral commodities in the VFO planning area, but significantly underrate the oil and gas development potential of the planning area. This	Section 4.1.2 presents information about the [RFD] assumptions. Tables 4-1 through 4-4 shows information about potential development over the life of the plan. Section 4.8.2 presents information about mineral's impacts under	No

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		failure to properly assess the potential for oil and gas development leads to a skewed analysis of impacts from other activities on these resources of the state.	alternatives.	
Draft RMP/EIS	ME70	Although the RFD appears to have been developed using generally accepted technical principles, the forecast for development is conservative to the point of being painfully low based upon the anticipated drilling proposals that have been submitted by industry to date. The RMP is intended to last 15-20 years, allowing only about 300 wells on average per year to be drilled under the maximum RFD under Alternative B. The current rate of filing for drilling permits statewide is running about 25% ahead of 2004, giving a potential of 1,375 permits statewide for 2005. The VFO will continue to be the focus of 80-85% of this activity, bringing a possible total of 1,170 new drilling applications for the VFO in 2005. Given this projection, the maximum RFD of roughly 6,500 wells under Alternative B could be permitted within the next 5.5 years. Further, this does not account for any accelerated industry activity with higher oil and gas prices, or improved and enhanced recovery.	See comment response ME7.	No
Draft RMP/EIS	ME71	Oil and gas are not really treated as natural resources in this document, instead, the development of oil and gas is viewed as a negative impact to other natural resources. This comes to light in the Socioeconomics section where there is no mention of the costs imposed on oil and gas development as a result of restrictions due to protection of other resources such as visual, recreation, wildlife, etc. All time delays, access restrictions, and mitigation measures cost money –	See comment response ME65.	No

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		and ultimately could curtail oil and gas development. This reality is not addressed in the document.		
Draft RMP/EIS	ME73	The DRMP implies that only those lands that fall along the course of known gilsonite veins, as depicted on the minerals and energy maps, would be available for prospecting and leasing even though the preferred alternative allows for prospecting and leasing of gilsonite veins not shown on the DRMP maps. For clarification, the maps should show a larger contiguous block of lands which includes all known gilsonite leasing areas that are open to gilsonite prospecting and leasing and not just the veins which may be visible on the surface.	See comment response ME25.	No
Draft RMP/EIS	ME74	There is increasing interest in the development of tar sands and oil shale deposits as changing demands and technology are elevating the importance of this resource. Given the potential economic value of these resources and their known presence in the VFO, placing a high priority on these commodities in the final RMP is warranted.	All decisions related to oil shale and tar sands leasing in this PRMP/FEIS are being deferred to the ongoing PEIS for Oil Shale and Tar Sands Leasing. For more information please see Section 1.10.9.	No
Draft RMP/EIS	ME75	There is considerable renewed interest in reopening the White River Mine and the use of existing stockpiles as well as in reopening the tar sands mine and plant near Vernal. Given that these commodities require large acreage for development and given that the extraction technique will create large areas of surface disturbance, it would be prudent to consider how the development of these resources would impact other management prescriptions. While it is likely that development of oil shale resources of the Uinta Basin will take place over many decades, it is important to envision how this development might	See comment response ME74.	No

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		proceed and ensure that management impediments on this resource are not included in the RMP without proper attention given to the impacts to future development.		
Draft RMP/EIS	ME76	The RMP/DEIS should incorporate the information gathered during the BLM's 2001 and 2005 calls for information and comments on coal resources in the VFO. The State of Utah will have more comments to provide once this information on coal resources has been incorporated into the document and has been reviewed.	The Vernal Field Office put out a call for information and comments on coal resources in a Federal Register notice dated March 8, 2005. No comments were received.	No
Draft RMP/EIS	ME77	State of Utah plans, as outlined by state law, look for certain analysis to be performed by the BLM as part of its analysis of the impacts of the management prescriptions proposed as part of the RMP. For example, Utah Code Section 63-38d-401(8)(m)(D) through (H) require the BLM to consider all restrictions and moratoria on mineral exploration or production to determine whether the restrictions are still necessary, or can be modified or eliminated. BLM is asked to demonstrate that any restrictions proposed are the least restrictive necessary, and is asked to analyze whether any "no-surface occupancy" restrictions effectively sterilize fluid minerals and gases under the area because directional drilling is not feasible from an economic, ecological, or engineering standpoint. The state cannot locate any such analyses in the draft RMP, and would ask the BLM to work with the state to insure that such analyses are conducted prior to the FEIS for the plan.	See comment response ME22.	No
Draft	ME80	Please, clarify the analysis for spacing patterns on oil	Establishing spacing for oil and gas development	No

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RMP/EIS		and gas development to ensure accurate assessment of projected impacts. Table 4.1 on page 4-3 lists disturbance levels, but does not specify the spacing level used in the analysis. Analysis for Section 4.15 and 4.19 assumes a 160-acre spacing pattern for wells. Current leases allow for 40-acre spacing in some fields. Use of the 160-acre spacing level for analysis purposes may lead to an underestimation of the impacts to wildlife from disturbances and habitat fragmentation, which would occur in areas under a more intense spacing order. Allowable spacing under all alternatives should be identified, and analyses must be consistent with the actual and proposed spacing patterns.	is beyond the scope of the RMP since spacing is reflective of reservoir parameters. BLM establishes spacing for Federal and Indian trust mineral estate utilizing the processes of the State of Utah Board of Oil, Gas, and Mining in reaction to requests submitted by industry.	
Draft RMP/EIS	ME81	The stipulation regarding no surface-disturbing activities on crucial elk calving and deer fawning habitat from May 15-June 30 cannot be found in the management common to all section or in Appendix K. Please, clarify that this timing restriction be will be implemented in all alternatives and list it in Section 2.4.18.2.8	Table 2.1.26 (Wildlife and Fisheries Resources) in the PRMP/FEIS) under the subsection entitled Habitat Protection states: "In order to protect crucial elk calving and deer fawning habitat, exploration, drilling, and other development activity would not be allowed from May 15 through June 30. Maintenance of producing wells would be allowed."	No
Draft RMP/EIS	ME83	If the concern with wells is the total amount of surface disturbance allowed, has the BLM considered using well pads rather than the term "wells" to allow for possible additional drilling of multiple wells from the same pad, if it is economically feasible to do so.	See comment responses ME47, ME88, ME173 and ME174.	No
Draft RMP/EIS	PR18	The BLM is required by FLPMA, Section 202(c)() (9), BLM regulation 43 CFR § 1601.0-5(c), and Utah Code Section 63-38d-401, et. esq., to consider the	See comment response PR3.	No

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		planning efforts of local and state governments and make its planning documents consistent with them. The RMP is inconsistent with state and local plans in many instances, which we comment upon as resource-specific issues.		
Draft RMP/EIS	PR19	The State of Utah requests that the policies and plans indicated by Utah Code Section 63-38d-401, et. esq., be shown in the listing of other plans to which the RMP has a relationship.	The addition has been made as suggested.	Yes
Draft RMP/EIS	RE17	The UDWR proposes adding an additional recreation management action to the RMP. We encourage the BLM to ensure all developed recreation sites have bear-proof garbage containers and signs warning of the dangers of feeding bears.	The BLM declines to implement the proposal. The BLM may install bear-proof garbage containers in the future based on site specific evaluations. The BLM also will conduct an education program as stated in Table 2.1.13 (Recreation Resource) in the PRMP/FEIS.	No
Draft RMP/EIS	RE19	The alternatives clearly list surface acres that will be designated as closed, open, or limited with regards to OHV travel. In each alternative, a given number of miles of routes in the "Limited" category is also listed. This is extremely misleading. According to BLM staff, travel planning has yet to be done, and is scheduled for sometime in the next two years. The Draft gives the impression to the OHV user that all the miles noted on the map are designated for OHV use when that is not the case.	As stated in Table 2.1.15 (Recreation – Trail Maintenance and Development), the BLM would make future OHV route adjustments in areas designated as Open and/or Limited based on access needs, recreational opportunities, and natural resource constraints. For purposes of analysis, County travel plan maps were used to identify existing roads and trails. See comment response RE20.	No
Draft RMP/EIS	RE20	Designated "Open" areas have little if any logical basis. The areas appear to have been randomly selected, and are not bounded by any geophysical feature that would allow an OHV user to readily identify whether or not he/she is indeed within the Open area. The Division would suggest that BLM	BLM Land-use planning Handbook, H-1601-1, Appendix C authorizes management to defer delineating a travel management network. Based on this authorization, the travel management plan will be completed within five years of the signing of the ROD for the Final EIS.	No

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		expand the open areas to the edges of predetermined boundaries. Those boundaries could be natural features (i.e., streams, ledges, washes, etc) or man made (roads, canals, etc).		
Draft RMP/EIS	RW18	The riparian strategies developed under alternative A are supported by UDWR (page 2-53). Healthy riparian systems are a limited habitat type in the VFO and support a great diversity of wildlife populations. These strategies will benefit sensitive species such as Colorado River cutthroat trout. The RMP should further define how often monitoring will occur. Monitoring is critical for these management strategies to be successful.	See comment response RW8.	No
Draft RMP/EIS	SD56	The discussions concerning potential recommendations for addition to the Wild and Scenic River System in the draft RMP and EIS are confusing, contradictory and incomplete, and do not meet the requirements of federal or state law or BLM policy and direction. The counties believe it is imperative that the BLM properly disclose the reasons and rationale for determinations of eligibility and suitability for proposed additions to the NWSRS, and to fully meet the requirements of state and federal law in doing so.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.	Yes
Draft RMP/EIS	SD57	The counties are concerned that the designation of stream segments as "Wild & Scenic" could jeopardize the ability of local communities, industry, farmers, Indian tribes, and other water users to appropriate and develop water and to get change applications approved in order to meet their future water needs. Fundamentally, the counties are concerned that Wild & Scenic River designations	See Response to Comment SD19-G-22.	No

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		would: 1. limit the ability of communities to develop water needed for future growth 2. limit additional industrial growth including oil shale development 3. limit additional agricultural growth 4. affect water right settlements with the Northern Ute Tribe 5. affect completion of the Central Utah Project 6. affect operation of Flaming Gorge Reservoir 7. reduce funding to the Colorado River Salinity Control Program, or affect agreements already in place for the Endangered Fishes Recovery Program		
Draft RMP/EIS	SD59	State plans, as outlined by State law (U.C. §63-38d-401(8)(a) through (b)), expand upon the requirements of the WSR Act by delineating the necessary analysis which must be conducted on river segments considered for possible inclusion in the NWSRS. These state requirements are not in opposition to the federal requirements, but are designed to fully flesh out studies that the federal agencies should perform, in order to assure that the full and complete nature of the proposal is made public. State law expands upon the requirements for study by requiring that river segments proposed for inclusion in the NWSRS contain water at all times, that the river segment contain an outstandingly remarkable value which is significant within a physiographic regional context, that the rationale and justification for the determination of the outstanding value is fully disclosed, all segments considered	The State of Utah has worked as a Cooperating Agency throughout this planning process and has been intimately involved with the BLM's wild and scenic river planning process. The State has assisted Field Office specialists to help determine eligibility findings for each of the river segments, and has provided social and economic expertise and advice as the BLM determined which eligible segments to carry forward as suitable into the Proposed RMP. BLM has committed to working cooperatively among Federal, State, and local governments and communities during the post-planning wild and scenic river study phase when statewide recommendations for inclusion of river segments into the National Wild and Scenic Rivers System would go forward to Congress. Prior to this post-planning phase, BLM would work with affected partners to help identify in-	No

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		eligible are evaluated for suitability of designation, a "suitable" or "not suitable" decision is made for each segment, and that studies of the effects of designation on uses within the river corridor, and upstream and downstream from the corridor are analyzed and disclosed.	stream flows necessary to protect the outstandingly remarkable values for which the subject river segments were found suitable via this planning process. Thus, because there are no effects of this planning decision on valid existing rights, and because suitability findings in this planning process do not create new water rights for the BLM, the land-use planning wild and scenic river suitability determinations are found by BLM to be consistent with the Utah Code 63j-4-401.	
Draft RMP/EIS	SD60	State law requires the BLM to fully disclaim any rights to water in the segments recommended for inclusion in the NWSRS as a result of adoption of the final Resource Management Plan. (U.C. §63-38d-401(8)(a)(viii)c)). Although there is language on page 4-210 which discusses in-stream flows, this language does not address this State statutory requirement directly. Additionally, the paragraph at the top of page 2-28 which states that the BLM will develop additional and maintain existing water rights" is unsupported. We suggest that the BLM provide more detail and specifics for this statement, and more affirmative language clearly disclaiming any water rights.	See Response to Comment SD19-G-22.	No
Draft RMP/EIS	SD61	We have concerns regarding the language at page 4-210 which passively mentions the Colorado River Compact. Under the 1948 Upper Colorado River Basin Compact, Utah is allotted a depletion of 1,369,000 acre-feet per year from the Colorado River system. Obviously, the Compact is of major significance to the state and any actions that may affect the compact are of concern. Utah Code §63-	Section 13(e) of the Wild and Scenic Rivers Act says: "Nothing contained in this Act shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by any States which contain any portion of the national	No

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		38d-401(8)(a)(x)(A)and(B) require clear demonstration that including rivers in the NWSRS and terms and conditions for managing such rivers will not impair or otherwise interfere with interstate compacts.	wild and scenic rivers system."	
Draft RMP/EIS	SD62	We are concerned that the BLM is not stating, in a full and complete manner, the authority for protection of river segments while studies pursuant to Section 5(d) of the Act are underway and protection until Congress may act upon any recommendations made in planning documents pursuant to BLM planning authority.	See Response to Comment SD19-G-22.	No
Draft RMP/EIS	SD63	The draft RMP indicates on page 2-29 that "new river segments found suitable" would be managed in accordance with the "Wild and Scenic River Act to prevent non-impairment of outstandingly remarkable values." We do not find the term "non-impairment" in either the Act or BLM policy direction. The Wild and Scenic Rivers guidelines of federal agencies indicate that Section 10(a) of the Act is interpreted to provide for a "nondegradation and enhancement policy for all designated river areas." However, this provision does not apply to rivers found suitable for recommendation during planning processes. The counties are concerned the statement of management found on page 2-29 is too simplistic, doesn't meet the intent of the statements found on page 3-84 or page 4-210, and fails to give the stakeholders or the public sufficient notice of criteria or process the BLM intends to employ as part of the proposed management for the river segments determined to be suitable for inclusion in the NWSRS. We request that the BLM revise the	Actions Common to all for Wild and Scenic Rivers have been moved to Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS. The Actions Common to All have been revised to more clearly define how BLM intends to manage segments determined suitable as a result of this planning process. The correct phrasing should be "prevent impairment" instead of "prevent non-impairment."	Yes

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		document to address these concerns.		
Draft RMP/EIS	SD65	The discussion of Upper and Lower segments of the Green River in the draft RMP is incomplete. BLM assumes that the rationale, findings and protective management identified in the Diamond Mountain and Book Cliffs RMPs, completed in the 1980's still applies. Numerous significant recreation related facilities (i.e. campgrounds, picnic areas, boat ramps, vehicle parking), and other types of development, are now present along the Green River corridor, particularly the Upper segment. Much of this development has occurred since the Diamond Mountain RMP was completed and the ROD was signed. This development may affect not only the determination of suitability for these segments, but the current classification of "scenic" for the segment as well. The counties oppose simply carrying over the Upper and Lower segments of the Green River as recommended additions to the NWSRS from the Diamond Mountain and Book Cliffs RMPs. The counties believes that the BLM must consider all new information which has developed since the Diamond Mountain and Book Cliffs RMPs were finalized, to determine whether the segment still qualifies and should still be recommended, and to meet the requirements of the State law.	The Upper and Lower Green River Segments were identified as suitable for designation in the National Wild and Scenic River System in the Diamond Mountain RMP/EIS and has been carried forward in the Proposed RMP/Final EIS. Appendix C of the PRMP/FEIS details the steps undertaken in the eligibility review process including the identification of outstandingly remarkable values as well as the Suitability Considerations by eligible river segments. The BLM complied with all applicable Federal laws, regulations, and policies in the Wild and Scenic Rivers Study Process. Manual 8351, Wild and Scenic Rivers, Policy Program Direction for Identification, Evaluation, and Management, states: "In general, a wide range of agricultural, water management, silvicultural, and other practices or structures could be compatible with scenic river values…"	No
Draft RMP/EIS	SD66	Table 5 includes "[m]anageability of the river if designated, and other means of protecting values" as a "Suitability Consideration." However, in the "Consideration Applied" column which is supposed to provide the information about manageability, the	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.	Yes

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		document simply states "[m]anageability ... and other means of protecting values would be extrapolated from the impact analysis for the Vernal RMP/EIS." This analysis goes nowhere as an explanation, and is inadequate to meet the requirements of Federal law and BLM Manual 8351, and further, is not supported by the impact analysis information presented on pages 4-210 through 4-215.		
Draft RMP/EIS	SD67	The draft RMP provides only cursory acknowledgment of the White River Dam project and fails to adequately represent its significance, and characterizes the impacts of an eligibility or suitability determination, and associated "protective management" on the proposed project in a contradictory manner. Statements found on pages 4-212 and 4-213 illustrate the cursory analysis, as follows: "...a suitable decision for Segment 1 of the White River would be incompatible with the continuation of an existing permit for a dam site" and t]he suitability decision for Segment 1 of the White River would result in the discontinuance of the existing permit for the dam site." The White River is also described as part of Alternative D, on page 2-57, as follows: "[u]nder this alternative, suitability findings would not be made and eligibility would continue with BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river." The discussion of Alternative D on page 4-214, reaffirms that Segment 1 of the White River "would remain eligible." However, in a contradictory manner, the discussion also states, "Segment 1 has been identified for a potential dam site." Subsequently, the	Alternatives B and D (No Action) are part of the range of alternatives. There is an existing right of way for a dam on the White River in segment 1. Segment 1 was carried forward for analysis purposes under the wild and scenic river situation. Also, see Response to Comment SD8-G-9.	Yes

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		last paragraph on page 4-214 concludes the description of Alternative D, as follows: "Under this alternative, the continued eligibility decision for Segment 1 of the White River would be incompatible with continuance of the existing permit for the dam site. Because this permit would continue under this alternative, the free-flowing nature of Segment 1 would not be maintained and this segment would no longer be eligible as a Wild and Scenic River." Further, Appendix C, Wild and Scenic River Eligibility, Suitability, Classification and Review does not include any information regarding the White River Dam Project.		
Draft RMP/EIS	SD69	The discussion of Alternative B on page 4-213 includes the following statement, "If acquired lands along Nine Mile Creek are grazed, the outstandingly remarkable cultural and scenic values would be more at risk than with Alternatives A and C". Unfortunately, nowhere in the draft RMP and EIS is there other mention of this apparent concern, or other information that would enable the reviewer to grasp its relative significance. We strongly object to this unsupported assertion that grazing threatens the ORVs in the area, especially on lands that may be acquired. Grazing can be managed to protect cultural and riparian values. The BLM needs to carefully explain the potential difficulties of this area, and analyze them in terms of proper mitigation, rather than making unsupported blanket statements such as this. In addition, the discussion of Alternative A at pages 4-211 and 4-212, contains no reference to any "acquired lands along Nine Mile Creek."	Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction.	Yes

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Draft RMP/EIS	SD70	As a matter of clarification, the document, at page S-3, refers to sections of rivers, ranging from one to six rivers, which are recommended for Wild and Scenic River designation. Throughout the remainder of the document, the discussion of wild and scenic rivers refers to segments of rivers, rather than separate individual rivers. The confusion is immediately apparent when the reader looks to Table S.3, as directed by the text on page S-3. Clarity could be achieved by indicating the number of segments associated with the rivers, i.e., "Alternative C ... recommends 9 segments of six rivers."	Table S.3 of the Executive Summary in the PRMP/FEIS has been corrected and the issue clarified regarding the number of rivers and river segments. Table S.3 is now called Table ES.3.	Yes
Draft RMP/EIS	SD71	The information at page 2-29 does not fully characterize proposed interim management of WSRs, because the discussion of management of eligible segments, found at page 3-84, is not presented here. We recommend that information similar to that found at page 3-84 be included at page 2-29.	Chapter 2 of the PRMP/FEIS has been revised to be consistent with the information found in Section 3.14.3.2 regarding WSRs.	Yes
Draft RMP/EIS	SD72	The information presented in Table 2.3, at page 2-57, does not include the Upper and Lower segments of the Green River. Additionally, the descriptions of the Alternatives, in Table 2.3, should reflect either a finding of "suitable," or a finding of "non-suitable," as BLM policy directs. (See BLM Manual 8351.33A).	The Upper and Lower segments of the Green River are discussed in Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS under the subsection entitled Management Common to All Action Alternatives, where it states: "Continue to manage previously recommended segments of the Upper Green and Lower Green Rivers to protect their outstandingly remarkable values and the tentative classifications until such time that a designation decision is made."	No

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			Also as stated in Appendix C, determination of whether or not each eligible segment is suitable will be made in the Record of Decision for the Vernal RMP.	
Draft RMP/EIS	SD73	The RMP, at Table 2.3 and elsewhere, must include information regarding management of segments found to be "non-suitable," as directed by Manual Section 8351.53B, which states "[f]or river segments determined nonsuitable in the RMP, the river shall be managed in accordance with the management objectives as outlined in the RMP."	The management objectives for the RMP are outlined in Chapter 2 Management Common to All. All segments would be managed under riparian objectives.	No
Draft RMP/EIS	SD74	Table 2.5 Summary of Impacts, at page 2-99, does not adequately characterize the impacts associated with wild and scenic river recommendations. The counties suggest that the impacts be more fully described.	The impacts of special designations, including wild and scenic rivers, on each resource program are discussed in Chapter 4.	No
Draft RMP/EIS	SD78	Page 4-143 discusses the possibility of closing some SRMA areas to mineral leasing and establishing no-surface occupancy zones in others. It states that closing SRMAs to mineral leasing would have direct, long-term, beneficial impacts on recreation resources by preserving natural, undisturbed qualities of these recreation areas. Does closing the areas to leasing go beyond SRMA management prescriptions? Page 4-52 states "all SRMAs would be managed according to the philosophy of multiple-use." Can the recreation goals described here be accomplished without no-surface occupancy stipulations? Does this conflict with the policy directives of EPCA and the Presidents National Energy Policy?	Closures of portions of SRMAs are related to one of two factors: WSA lands within SRMAs and areas to be managed for primitive recreation opportunities, including associated high scenic value. A comparison of Figures 11-14 and 21 will shown that the vast majority of proposed SRMA areas are open to leasing under standard, timing and controlled surface use, or no surface occupancy stipulations. The BLM would only enact closures or non-standard stipulations where opening an area to leasing or leasing under standard stipulations would be incompatible with other resource values and management goals for the area. The BLM believes the SRMA alternatives and accompanying stipulations are consistent with	No

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			EPCA and the NEP. Also, see Response to Comment SD8-G-9, concerning a range of reasonable alternatives.	
Draft RMP/EIS	SD122	As part of the required analysis of the effects of the management requirements for other aspects of the proposed RMP on special designations, including ACECs, the DEIS states that the Proposed RMP's ACEC "management focuses on protecting specific, identified relevance and importance values." The statement is incomplete because it fails to focus on the parallel statutorily required analysis concerning effects from authorized multiple-use activities, which may cause irreparable damage to those relevant and important values. The statement should read that the plan's proposed ACEC management provisions will "protect and prevent irreparable damage to specific, identified relevance and importance values."	See Response to Comment SD50-G-25.	No
Draft RMP/EIS	SD123	The discussion of ACEC management contains the general statement that ACECs would benefit from the "special management attention they would receive if designated." Special management attention is more than a coincidental benefit that flows from designation, it is a fundamental prerequisite to designation. The BLM must make a determination for each potential and proposed ACEC that special management attention is required to protect the identified relevant and important values. From the information in the DRMP, the State of Utah cannot determine the nature of the required special management attention for any of the potential or	See Response to Comment SD50-G-25.	No

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		proposed ACECs.		
Draft RMP/EIS	SD124	The DRMP indicates that the lack of designation of some potential ACECs may place the relevant and important values "at some risk of irreparable damage during the life of the plan." This statement is completely backward. BLM must first make a determination that a threat of irreparable damage from some authorized multiple-use activity exists, and is directed toward the identified relevant and important value in order to complete the fundamental requirements for an ACEC. The identification of required threat of irreparable damage cannot be supported from simple hypothetical musings postulating that the lack of the very management structure (ACEC) BLM is trying to justify may result in damage to the resources.	See Response to Comment SD50-G-25.	No
Draft RMP/EIS	SD125	The State of Utah cannot find in the DRMP/DEIS any analysis for ACECs of the differentiation between special management and standard multiple-use management, the level and type of multiple-use an area can sustain without risk or threat of irreparable damage to relevant and important values, what measures can be taken to protect the relevant and important values without placing restrictions on other resource uses, and whether or not designations other than ACEC will afford the protection determined necessary through the evaluation process. BLM Manual Section 1613.33E allows the BLM to decline to designate an ACEC where standard or routine management practices are sufficient to protect the resource or value from risks or threats of damage/degradation.	The potential ACECs brought forward for designation into the Proposed RMP have gone through a rigorous and stringent process in accordance with FLPMA, the planning regulations at 43 CFR 1600, Land-use planning Handbook (H- 1601-1), and in accordance with BLM Manual 1613 and ACEC Policy and Procedures Guidelines (45 FR 57318). Appendix G outlines the process the interdisciplinary team underwent to determine whether a nominated ACEC had relevance and/or importance values. The size of the proposed ACECs is limited only to the area(s) of geography where the relevance and importance values are manageable to protect and prevent irreparable damage. In the Proposed RMP, the potential ACECs generally do not have redundant special designations	No

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			and/or other existing protections applied. The potential ACECs carried forward into the Proposed RMP necessitate an ACEC designation because special management protection is necessary (outside of normal multiple-use management) to specifically protect the relevance and importance values within the areas identified. The special management prescriptions that have been proposed are narrowly tailored to protect the identified relevant and important values; none of which are recognized as wilderness resources. For these reasons, the potential ACEC decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401.	
Draft RMP/EIS	SD126	The DEIS fails to analyze the balance between ACEC designation and the value of other multiple-uses. The potential benefits of ACEC designation versus other resource uses is not evaluated for any of the potential and proposed ACECs.	See Response to Comment SD125-G-1.	No
Draft RMP/EIS	SD127	The State of Utah is concerned that the BLM views potential and proposed ACECs as convenient vehicles to generally focus agency management attention on an area, rather than a very focused management tool with strict criteria for creation.	See Response to Comment SD125-G-1.	No
Draft RMP/EIS	SD128	The State of Utah is concerned that the discussions and analyses of potential and proposed ACECs in the DRMP/DEIS don't meet the standards required by either state or federal law. The discussion as it is fails to provide sufficient information to allow the	See Response to Comment SD125-G-1.	No

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		purpose and need for each potential ACEC to be ascertained, and the impacts of its potential designation to be determined; the present discussion is merely a recitation that certain natural features or processes within the area are, a priori, important and relevant because of a simple regurgitation of the regulatory requirements, and no cogent and coordinated examination of the proposed management scheme exists. There is no discussion of the factors leading to a determination that the required important and relevant values are, in fact, important on a regional scale, as there is no discussion of the nature of the region to which the factors within the potential and proposed ACEC can be compared. Nor is there an application of the facts to the statutory requirements, instead there is only a restatement of factors which are part of the statutory and regulatory requirements that need to be demonstrated in order to create an ACEC. Finally, the statutory requirement to determine the probability of irreparable damage to the important and relevant values is completely AWOL. See comment SD129 for an example of the superficial nature of ACEC analysis.		
Draft RMP/EIS	SD129	The discussions about the proposed relevance and importance of each potential and proposed ACEC contained in Appendix G contain three references to the "lush riparian vegetation" which is "rare" in the area. All of the areas to which these statements refer are located along the Green River and are part of the main watershed system of the area – the Green River drainage. In this generally arid area, all riparian areas are important and tend to look lush. What is	The differences between how the riparian areas would be managed as ACECs, and how they would be managed if not designated as ACECs, are discussed in Chapter 4.	No

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		the regional significance of these three riparian areas? How do they compare to riparian areas in the proposed and potential Bitter Creek ACEC? Further, given the BLM's general nationwide policy of protection for riparian areas because all riparian areas are important, what is the threat to these three areas that cannot be met through the protections offered by the nationwide policy, and how will the special management attention for these three riparian areas be different from the nationwide protections?		
Draft RMP/EIS	SD130	The analysis indicates that ACECs may benefit from "fire resources, soil and watershed actions, and vegetation resources (including riparian areas and woodlands)," yet be negatively affected by mineral activities and OHV use. No explanation is given for these statements. Vegetation, fire, and soil treatments may affect the appearance of the land as much as mineral development, yet the end result is healthier vegetation. The bias against mineral development is evident, because no mention is made concerning the balance of uses which results in the extraction of resources useful to society versus the potential benefits of the ACEC, and because the analysis fails to recognize the effect of proper mineral mitigation measures upon the ultimate effect on the relevant and important values. The state requests the BLM revisit these superficial analyses, consider mitigation part of the determination of effect, and consider the balance of uses as required.	The distinction between fire resources, soil, watershed, and vegetation management actions and minerals activity and OHV use is that changes to the character of the landscape, including visual appearance, for the former category of actions are of far shorter duration and more consistent with the management objectives of ACECs than those of the latter category of actions. Also, see Response to Comment SD125-G-1.	Yes
Draft RMP/EIS	SD131	As the pros and cons of each potential and proposed ACECs, and those of SRMAs or WSRs, are weighed, the BLM should avoid any recommendations which	See Response to Comment SD125-G-1.	No

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		unduly restrict continued vegetation and wildlife treatment practices, uses associated with school trust lands, mineral development, and other management needs of state agencies.		
Draft RMP/EIS	SD132	Existing ACECs must be reviewed for sufficiency and necessity prior to being carried forward in the new RMP. The simple statement in the RMP that the existing ACEC designations have been effective is insufficient and does not meet the requirements of the BLM's own Manual. There is no discussion as to whether it is the management of certain areas as ACECs or other laws and regulations that has protected the relevant and important values of these areas.	See Response to Comment SD125-G-1.	No
Draft RMP/EIS	SD133	The State of Utah is concerned that none of the Alternatives in the DRMP and EIS presented a "no ACEC" position, thereby indicating in a more detailed manner the need for all proposed and potential ACECs. The state would ask the BLM to correct this deficiency.	See Response to Comment SD125-G-1.	No
Draft RMP/EIS	SD134	The State of Utah is concerned that this potential and proposed ACEC does not meet the statutory requirements for an ACEC as no significant information about the area, or the need for the ACEC is given. The importance criteria discussion is merely a recitation of the requirements found in the BLM Handbook for qualities the BLM should find in an area in order to determine the existence of importance criteria.	See Response to Comment SD125-G-1.	No
Draft RMP/EIS	SD135	Alternatives A and C provide for restricted wood-cutting in the old-growth pinyon pine area of 160 acres, which is justified to protect these irreplaceable	Vegetation/habitat treatments would occur throughout the rest of the ACEC.	No

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		resources. But the management prescriptions for the proposed ACEC also provide for "enhancing habitat utilizing forest manipulation and tree spraying." Presumably "forest manipulation and tree spraying" would not occur in the area of the 1200 year old trees. Where would it occur? Forest manipulation and tree spraying are tools in the normal multiple-use regime for BLM lands. How does this simple statement of a proposed management requirement constitute a "detailed explanation" of special management for the resource, and what exact purpose does it serve? Because this management prescription is not for the old trees, the State of Utah is obligated to ask exactly what resource is to be protected by the BLM's management prescriptions from exactly what type of threat which may produce irreparable damage in what manner? Further, because the area of the old-growth trees is only 160 acres, why is ACEC management needed for the other acres of the proposed and potential ACEC?	More detailed management provisions meeting the overarching parameters established through the RMP would be included in an ACEC management plan prepared for this ACEC. See comment response SD8-G9.	
Draft RMP/EIS	SD136	The list of proposed management prescriptions for this area says that oil and gas leasing will be managed by timing and controlled surface use, except for the old tree area, which would be managed using no-surface occupancy provisions, and a Natural Area which would be managed as closed to leasing. Which category of leasing is this for the larger area – Category 1, 2, 3, or 4? What timing stipulations would be necessary in the ACEC? What controls on surface use? Is there a reason the Natural area is closed to leasing, as opposed to the use of no-surface occupancy? NSO provisions allow drainage of fluid resources from under the area,	See Table 2.1.18 (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS which describes under which alternative the Bitter Creek ACEC would be established. Please compare Figures 11-18 with Figures 22-24 to see the stipulations applying to the vast majority of lands within these proposed ACECs. Timing buffers within the ACECs would be implemented primarily for the protection of	No

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		while no-leasing may cause the creation of an area sterilized from drainage larger than the 400 acres involved. How is oil and gas leasing, and possibly exploration and production a threat that may produce irreparable damage to the 160 acres of old growth trees, cultural resources, or the wetlands which are cited as relevant and important values for this area?	special status species and wildlife. Controls on surface use would be related to such factors as fragile soils and steep slopes, visual resources, and wildlife and special status species habitat. Please, see Appendix K for more information about the nature of proposed timing and controlled surface use stipulations within the planning area. See comment response SD27-G-22. The Natural Area is the Book Cliffs Instant Study Area and is managed under the IMP for wilderness. The area must be closed to mineral development as per regulation.	
Draft RMP/EIS	SD137	There is no discussion about the geographic extent of the wetlands or the perched watertable. Do the wetlands extend throughout the entire 147,000+ acres of the potential ACEC? If not, how much acreage do they cover, and what is the nature of the other lands within the proposed area? The State of Utah is concerned that the proposed ACEC is much, much larger than necessary to protect the identified important and relevant values.	The wetlands do not extend throughout the entire proposed Bitter Creek ACEC but are localized in smaller areas. Other relevant and important values identified for this proposed ACEC are discussed in Chapter 3 and Appendix G includes cultural/historical resources, watersheds, and ecosystems/habitat for special status species. These other relevant and important values extend throughout the area identified for this proposed ACEC. See comment response SD14-G13.	No
Draft RMP/EIS	SD138	The proposed management prescriptions for this area include Class 1, 2, or 3 VRM designations. The location of each proposed VRM classification, as illustrated on the maps is not tied to any of the relevant or important values discussed as the	VRM classifications are not tied specifically to ACEC values but are tied to the visual inventory for the planning area and to recreation management decisions.	No

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		qualification reasons for the ACEC, leaving the reader to wonder what resources are being threatened by what type of threat which will cause irreparable damage in what manner?	The relevant and important values for these ACECs include an old growth pinyon forest, cultural resources, important watersheds, and a critical ecosystem for wildlife and migratory birds. See Response to Comment SD27-G-22.	
Draft RMP/EIS	SD139	The proposed and potential Coyote Basin ACEC is proposed solely for white-tailed prairie dog complexes. The DRMP indicates the prairie dog is relevant because it is "vulnerable to adverse change from a variety of current causes." What causes? What vulnerability? The reasoning means that the prairie dog had been petitioned for listing under the provisions of the ESA, a petition which was recently denied by the U.S. Fish and Wildlife Service.	Based upon an analysis of and response to the public comments, BLM has dropped the designation of Coyote Basin in the Proposed RMP. Prairie dogs are extremely susceptible to the plague, and the white-tailed prairie dog has suffered large-scale population decline as a result.	No
Draft RMP/EIS	SD140	A common problem with prairie dog complexes is the plague. How will ACEC management prevent this problem?	ACEC designation will not, in and of itself, address the issue of plague in prairie dog colonies. The integrated management plan for the area as well as the research conducted under the Research Natural Area designation and in cooperation with other agencies and organizations will recognize the risk of plague and implement measures to manage it where possible.	No
Draft RMP/EIS	SD141	Proposed management prescriptions for this ACEC include noxious weed control, restoring natural fire regime, maintaining or enhancing ferret habitat, and establishing a research and monitoring program. The analysis fails to show how the control of noxious weeds is important as a special management	The potential ACECs analyzed for designation into the Proposed RMP have gone through a rigorous and stringent process in accordance with FLPMA, the planning regulations at 43 CFR 1600, Land-use planning Handbook (H- 1601-1), and in accordance with BLM Manual 1613 and	No

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		prescription for the prairie dog (the reason for the ACEC), independent of the BLM's stated desire to control noxious weeds everywhere. What is special about the noxious weed control in the area under discussion? Further, what does natural fire and enhancement of ferret habitat have to do with the prairie dogs?	ACEC Policy and Procedures Guidelines (45 FR 57318). Appendix G outlines the process the interdisciplinary team underwent to determine whether a nominated ACEC had relevance and/or importance values. The size of the proposed ACECs is limited only to the area(s) of geography where the relevance and importance values are manageable to protect and prevent irreparable damage. In the Proposed RMP, the potential ACECs generally do not have redundant special designations and/or other existing protections applied. The potential ACECs carried forward into the Proposed RMP necessitate an ACEC designation because special management protection is necessary (outside of normal multiple-use management) to specifically protect the relevance and importance values within the areas identified. The special management prescriptions that have been proposed are narrowly tailored to protect the identified relevant and important values; none of which are recognized as wilderness resources. For these reasons, the potential ACEC decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401.	
Draft RMP/EIS	SD142	There is no discussion anywhere about the potential for irreparable damage requiring the creation of this ACEC. This information must be included in the document. The State of Utah believes this proposed	See Response to Comment SD27-G-22.	No

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		ACEC is a solution looking for a problem and strongly opposes it. The state Division of Wildlife Resources, which has jurisdiction over prairie dogs as a wildlife species, sees no need for this proposed ACEC.		
Draft RMP/EIS	SD143	The discussion of the relevant and important values of the proposed Nine Mile Canyon ACEC is inadequate in that it does not provide an actual description of said values, but rather it offers merely a recitation of the regulatory requirements for the nature of those values. How are these values significant in a regional context? What specifically are the qualities to be protected and managed through the ACEC?	The inconsistencies in cited relevant and important resource values have been corrected. Appendix G contains the correct list of values.	Yes
Draft RMP/EIS	SD144	This proposed ACEC is described as an extension of an ACEC designated by the Book Cliffs RMP. Do the lands within the proposed extension lands have the same qualities as the land within the existing ACEC? Where are the extension lands in relation to the existing ACEC? Figures 22-24 give some indication but not a lot of detail.	The lands within the proposed extension area contain the same relevant and important values as the existing ACEC. The proposed extension is located at the west end of the existing ACEC. The expansion area is represented by the difference between the proposed Nine Mile Canyon ACEC boundaries illustrated in Figures 22 and 24.	No
Draft RMP/EIS	SD145	The State of Utah does not believe the BLM has adequately justified the need for this ACEC designation to protect cultural resources given that Section 106 of the National Historic Preservation Act already affords these resources protection and consideration such as mitigation. The BLM is also proposing an archaeological district for the cultural resources and did not analyze the need for the ACEC against the protection afforded by both Section 106 and an archaeological district. Further,	See Response to Comment SD125-G-1.	No

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		the BLM has not identified any special management necessary for the area beyond the normal cultural resource management BLM would employ.		
Draft RMP/EIS	SD146	The Main Canyon ACEC is proposed by the BLM to protect cultural resources and "natural systems." What natural systems – what does this mean?	Natural Systems are defined under 45 FR 57318 as "Living or nonliving parts of the natural environment, considered either as discrete individual elements or as group or classes of such individual elements, and the behaviors, actions, and interactions of such elements or changes to them. The central features of such a system or process may, for example, be communities of living plants, and vital components of their habitat, or such non-living structures as geological formations, which exemplify a natural process or system."	No
Draft RMP/EIS	SD146A	What is the threat of irreparable harm to these "systems"? Under the ACEC some activities such as OHV use would be closed or otherwise restricted and portions of the area would be managed as VRM I (which also restricts acceptable surface uses).	See Response to Comment SD27-G-22.	No
Draft RMP/EIS	SD146B	Because these restrictions have the potential to close portions of the area to oil and gas development, the State of Utah is concerned that the potential to protect natural systems, without further clarification of the specific management provisions, will constitute management for non-impairment, in violation of state law and the case of Utah v. Norton.	See Response to Comment SD16A-G-22.	No
Draft RMP/EIS	SD147	The State of Utah requests an actual accounting and detailed description of the relevant and important values for this ACEC rather than a restatement of the regulatory requirement for the necessary quality of	See Response to Comment SD16A-G-22. Appendix provides specific information for each	No

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		values in order for an ACEC to be designated.	existing and nominated ACECs. Reports for Relevance and Importance may be reviewed in the Administrative Record.	
Draft RMP/EIS	SD148	Much of the area proposed for this ACEC is within the Winter Ridge WSA. What is the relationship between the two? Why is an ACEC necessary for the WSA lands?	See Response to Comment SD104-G-3.	No
Draft RMP/EIS	SD149	The DRMP indicates that special management attention for this ACEC would include "permitting surface disturbance activities found to be complimentary or compatible with the goals and objects of the ACEC." Presumably those not found compatible would not be approved? What are the goals and objectives of the proposed and potential ACEC?	The commenter is correct in the inference that surface-disturbing activities that contradicted the goals and objectives of this ACEC would not be approved. The goals and objectives of this ACEC are to manage for the maintenance and enhancement of the area's important cultural/historical/traditional resources and natural systems. See Appendix G and Table 2.1.18 (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS.	No
Draft RMP/EIS	SD150	The State of Utah does not believe the BLM has adequately justified the need for this ACEC designation to protect cultural resources given that Section 106 of the National Historic Preservation Act already affords these resources protection and consideration such as mitigation. The BLM has not identified any special management necessary for the area beyond the normal cultural resource management BLM would employ or what the threats of irreparable harm are.	See Response to Comment SD125-G-1.	No
Draft	SD151	The State of Utah requests that the BLM re-examine	See Response to Comment SD104-G-3.	No

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RMP/EIS		and re-justify the need for this ACEC, especially in light of the proposed SRMA for the same area.		
Draft RMP/EIS	SD152	The VRM classification of I or II proposed for this area could prevent necessary prescribed burns or other vegetative management necessary for range and forest health, or the economic use of any state trust lands within the area.	No VRM classification prevents necessary vegetation treatments, including prescribed burns, which are considered short-duration visual disruptions. No BLM management decisions, including VRM classifications, apply to state trust land inholdings. The BLM cannot impose any restrictions or limitations on lands not under its jurisdiction. The BLM must also provide for reasonable access to such inholdings.	No
Draft RMP/EIS	SD153	The BLM has failed to provide adequate justification of the proposed ACECs as the discussions of each ACEC do not include specific details or analysis of the identified relevant and important values in a regional context, nor do they include any substantive description of the threats of irreparable harm or elucidation of specific management needs to prevent said harm. The BLM has also failed to demonstrate why the ACECs are necessary relative to other protections afforded to identified values through other designations or laws.	Threats to relevant and important values vary by alternative. Any of the alternatives may be selected, even if there are risks or threats of damage to relevant and important values resulting from that alternative. See Appendix G in the PRMP/FEIS. Also, see Responses to Comments SD27-G-22 and SD50-G-25.	No
Draft RMP/EIS	SD154	The State of Utah believes that the BLM has not sufficiently divulged the proposed management prescriptions for the river segments discussed in the DRMP/DEIS, as required by the draft document stage by BLM Manual Section 8351.32C. The information found in the document on pages 4-211 through 4-214 consists simply of general statements about concerns, rather than an evaluation of identified impacts. Further, support for the alleged concerns cannot be found in the document.	See Response to Comment SD59-G-25,G-1.	No

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Draft RMP/EIS	SD155	The DRMP/DEIS does not contain the information necessary to demonstrate that the values identified for each proposed WSR segment are river-related, "outstandingly remarkable," or significant on a regional basis as required by the guidance Process and Criteria (1996) adopted by the BLM and other regional federal agencies or BLM IM 2004-196. The State of Utah requests that the BLM review these eligibility determinations with the state and local governments, in order to fully explore the rationale for each.	See Response to Comment SD59-G-25,G-1.	No
Draft RMP/EIS	SD156	The statement on page 2-57 that river segments found to be eligible during the current RMP preparation process would continue to be managed to protect their eligibility under Alternative D (No Action) is not an accurate representation of federal law and does not comply with BLM policy and direction, or state law. BLM Manual 8351, Section 33 requires the BLM to assess in the RMP whether or not each river segment identified as eligible is also suitable for inclusion in the NWSR System. The Manual also states that if suitability cannot be determined as part of the RMP, a separate EIS may be required to make that determination. The projected schedule for completing the suitability evaluation should be set forth in the RMP. Alternative D (No Action), as represented on page 2-57, is therefore unacceptable and does not meet the requirements of BLM policy or state law.	See Responses to Comments SD1-I-1 and SD59-G-25,G-1.	No
Draft RMP/EIS	SD157	The information under Section 3.14.3.2, page 3-84, should more fully and accurately represent the specific management requirements found in Manual	Chapter 3 in the PRMP/FEIS has been revised to expand the discussion of management requirements for rivers determined eligible for the	Yes

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		Section 8351.32C, particularly regarding valid existing rights.	NWSRS to include the more detailed information outlined in Manual 8351, Section .32C.	
Draft RMP/EIS	SD158	The meaning of the statement "to the extent that the BLM has the authority to do so" found on page 3-84 (Section 3.14.3.2) needs to be clarified.	This statement merely refers to the fact that the BLM does not have the authority to impose restrictions on non-Bureau landholders within areas found eligible and suitable for WSR designation, nor does it have the authority to usurp legal water rights or trump the requirements of other agencies with authority over certain waterways. The BLM does not believe the statement requires clarification in the document as it already, as written, acknowledges there are limits to BLM's authority with regards to waterways and water-related issues.	No
Draft RMP/EIS	SD159	The majority of the proposed ACECs encompass and isolate parcels of state trust lands. Management prescriptions applied to federal lands can significantly impact the land management goals of the Trust Lands Administration. The presence of trust lands within a designated ACEC can significantly impact the intent of the designation. The state, TLA, and BLM must ensure that any proposal by the BLM providing for restricted use of the public lands does not impact the economic potential of or interfere with TLA's ability to effectively manage its lands. These impacts must be analyzed and a plan of action to mitigate them proposed.	State inholdings may or may not currently have access, depending upon whether or not existing vehicle routes lead to them. Under different alternative scenarios, existing routes may be proposed for closure. The BLM's policy, as required by the Cotter decision (State of Utah v. Andrus, 10/1/79), is that "the State must be allowed access to the State school trust lands so that those lands can be developed in a manner that will provide funds for the common school . . . ." This decision confined the issue of access to situations directly involving economic revenues generated for the school trust. The recreation restrictions do not prohibit the State from reasonable access to its lands for economic purposes through separate permit authorization as specified by the Cotter decision. Routes to State sections may not have been identified for recreational purposes due to resource conflicts or	No

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			actual route conditions.	
Draft RMP/EIS	SD160	The vast universe of acronyms and jargon begins to overwhelm the reader of the DRMP when the reader tries to understand the difference between an ACEC, VRM management area and now, a Special Recreation Management Area (SRMA). This is especially true if the reader compares Figures 21 through 24, and immediately notices that ACECs and SRMAs are proposed for the same geographic areas. The DRMP/DEIS does not define the reasons for the proposed SRMAs, nor the functional difference between an ACEC and an SRMA.	Definitions of SRMAs and ACECs are provided in the Glossary. Additional description of SRMAs is provided in Section 3.10.1. Information about the specific SRMAs included in the alternatives can be found in Chapter 3.	No
Draft RMP/EIS	SD161	What does the "integrated activity plan" that would be prepared for each SRMA according to pages 2-51 and 2-52 include besides recreation? Does this plan consider and include other resource uses?	Activity Plans are defined under the BLM Land-use planning Handbook H-1601-1 as: "A type of implementation plan; an activity plan usually describes multiple projects and applies best management practices to meet land-use plan objectives. Examples of activity plans include interdisciplinary management plans, habitat management plans, recreation area management plans, and allotment management plans." This would include SRMAs. Furthermore, H-1601-1 further states: "Upon approval of the land-use plan, subsequent implementation decisions are put into effect by developing implementation (activity-level or	No

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			project-specific) plans. An activity-level plan typically describes multiple projects in detail that will lead to on-the-ground action. These plans traditionally focused on single resource programs (habitat management plans, allotment management plans, recreation management plans, etc.). However, activity-level plans are increasingly interdisciplinary and are focused on multiple resource program areas to reflect the shift to a more watershed-based or landscape-based approach to management. These types of plans are sometimes referred to as "integrated or interdisciplinary plans," "coordinated resource management plans," "landscape management plans," or "ecosystem management plans." A project-specific plan is typically prepared for an individual project or several related projects."	
Draft RMP/EIS	SD162	How does the proposed Brown's Park ACEC differ from the Brown's Park SRMA? What is the specific goal of the SRMA that is not accomplished by the ACEC? Conversely, if the ACEC is not appropriate for the area to address the management needs, what is the need for the SRMA? The State of Utah asks that the BLM respond to these issues for each proposed SRMA/ACEC combination, especially the proposed Nine Mile SRMA.	SRMAs are not special designations but rather are management tools for the maintenance and enhancement of recreational opportunities. ACECs are a special designation and provide for the focusing of special management attention on the maintenance and enhancement of relevant and important resource values that may not be related to recreation, and, therefore, would not be managed under a recreation management plan.	No
Draft RMP/EIS	SD163	The discussion about the proposed Brown's Park SRMA on page 2-52 [of the DEIS] indicates that a portion of the area would be managed for primitive recreation, and closed to "surface-disturbing activities, except for activities that complement recreation values." The reference to "surface-disturbing activities" is unclear and vague. What	See Response to Comment SD14-G-13. The Utah v. Norton Settlement Agreement does not affect BLM's authority to manage public lands. This Agreement merely remedied confusion by distinguishing between wilderness	No

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		exactly are "surface-disturbing activities"? Movement of livestock? Movement of wildlife? Seismic survey equipment? Cadastral survey equipment? The definition is important as the total management regime proposed by the BLM for this area has strong elements of non-use or non-impairment, including VRM I classification for some portions of the area. It would appear that the BLM is trying to manage this area for non-impairment, in violation of the ruling of Utah v. Norton.	study areas established under FLPMA §603 and those lands required to be managed under §603's non-impairment standard, and other lands that fall within the discretionary FLMPA §202 land management process.	
Draft RMP/EIS	SD164	The discussion of this SRMA on page 2-51 [of the DEIS] indicates the activity plan would focus on maintaining a "frontier mystique of adventure and discovery," which is further defined to mean "unconfined recreation, limited facilities." What does this mean, especially in light of the fact that 90% of the area is leased for oil and gas?	Much of the area encompassed by the Book Cliffs SRMA is/would be leased under timing and controlled surface use stipulations (with standard stipulations also in place) that would provide for development options compatible with the BLM's recreation goals. Portions of the SRMA would also be closed to leasing, including the Winter Ridge WSA and an area designated for primitive recreation opportunities.	No
Draft RMP/EIS	SD165	This SRMA is proposed to be managed for "cultural values and scenic quality." How is this different from the ACEC proposed for the same area?	See comment response SD162 regarding the distinction between SRMAs and ACECs. The cultural values and scenic quality of the area contribute to its recreational appeal and use. These same resources have values beyond recreational use, including scientific, experimental, educational, and traditional value.	No
Draft RMP/EIS	SD166	Alternative A increases the acreage of the Nine Mile SRMA from 44,181 to 81,168. How is this increase justified and why is such a large area necessary?	See Response to Comment SD8-G-9.	No
Draft RMP/EIS	SD167	The White River SRMA (western part) would be managed as no surface occupancy. How is this different from the ACEC proposed for the area? The	A review of Table 2.1.14, Recreation-shows those NSO stipulations are not proposed in direct correlation to the SRMA. Rather, Table 2.1.18	Yes

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		State of Utah has concerns that the establishment of an SRMA outside of the 1/2-mile wide river corridor is inappropriate due to the demonstrated lack of recreational activity beyond the corridor. Why is it necessary outside the river corridor? Is it even necessary to have an SRMA in the area in light of the proposed WSR designation on the west segment of the White River SRMA? How are the proposed WSR and SRMA designations related to each other?	and Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction. (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS clearly indicates that management of the ACEC would include NSO for the western portion of the area. The SRMA and WSR designations are two separate types of management tools. SRMAs are not special designations but tools for integrated management of recreational opportunities in areas of high recreation use. WSR designations are special designations intended to recognize particular river related values, which may include recreation, that require special management consideration and action. WSR management would only apply to one-quarter mile from center-line on each side of the river. Recreation use occurs outside of this narrow corridor and has therefore the BLM has proposed an SRMA in two alternatives. Also, see comment response SD8-G-9.	
Draft RMP/EIS	SD168	Section 3.14.2.1 on page 3-80 discusses the Coyote Basin ACEC. Black-footed ferrets were released in 1999 under 10j status designation. However, this section is vague on that point. It only mentions ferrets as being raised for release but does not mention that ferrets are already successfully reproducing in the wild. The document fails to	Chapter 3 in the PRMP/FEIS has been revised to clarify 10j status of black-footed ferrets in Coyote Basin.	Yes

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		mention that the UDWR is also cooperating with the Vernal BLM and Utah State University in continuing the research project relating to the recovery of black-footed ferrets.		
Draft RMP/EIS	SD169	Alternative C proposes to identify as suitable a 22-mile reach of Argyle Creek from its headwaters to the Carbon County line. Said reach would be tentatively classified as "Recreational." A reading for the rationale of such a recommendation in Chapter 4, sections 13 and 14 fails to yield any specifics. More information on the values to be protected will be helpful.	More information on the ORVs for Argyle Creek can be found in Appendix C: Wild and Scenic River Eligibility, Suitability, Classification, and Review.	No
Draft RMP/EIS	SO25	The State of Utah is concerned about the inadequacy of baseline data used in the socioeconomic analysis. The BLM Planning Handbook (Appendix D) provides specific areas to be considered when incorporating social science into the planning process. Social science information should include economic, political, cultural and social structure of not only the counties within the VFO, but also the region and the Nation as a whole. The DEIS fails to do this.	This information has been included in the Section 3.12 in the PRMP/FEIS.	Yes
Draft RMP/EIS	SO26	The RMP makes broad statements about the socioeconomic profile of the planning area, broken down into discussions about each of the three counties, however, the draft seems to lack a detailed analysis of the situation on the ground. For instance, in the Socioeconomic section of Chapter 3, the draft includes only two conclusions regarding the region's history, geography, and economics; first, the majority of the planning area sustain a rural/small town lifestyle, second, the counties are economically	Section 3.12 in the PRMP/FEIS has been revised to include the information made in the comment.	Yes

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		dependent on the development of the physical resources within the VFO. According to the BLM Planning Handbook, social values, beliefs, and attitudes; how people interact with the landscape; and sense-of-place issues should also be included. The VFO should elaborate on the socioeconomic baseline for the planning area and review it for inaccuracies.		
Draft RMP/EIS	SO27	The DRMP fails to thoroughly analyze the social and economic impacts of the alternatives. The draft only analyzes the socioeconomic impacts of Lands and Realty, Forage, Minerals, and Recreation and OHV decisions. Additional resource management decisions, however, have the potential to have an impact on state and county economies, specifically special designations. Notably missing is an economic analysis of the lost shared mineral revenue from federal lands that have an economic impact on the community as well as other mineral sharing programs within the state. The development of mineral resources on federal lands and state trust lands would be negatively impacted by overly restrictive management prescriptions imposed by special designations. In its economic impact analysis, the RMP has excluded the significant state and local revenues generated through a variety of taxes paid that would be impacted by special designations.	The PRMP/FEIS has been revised to include further analysis of effects on socioeconomics from proposed management actions of other resources, including special designations. Please see response to SO3 regarding state trust lands.	Yes
Draft RMP/EIS	SO28	During the scoping process, Uintah County provided the BLM with two studies related to the economic significance of mineral development, specifically oil and gas, in the Uintah Basin. These studies were Economic Impact Analysis of the Drilling and	The PRMP/FEIS has been revised to include the recent State-commissioned study on the impact of the oil and gas industry on the Uintah Basin.	Yes

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		Completion of a Natural Gas Well in the Uintah Basin by the Utah Energy Group and The Uintah Basin Industry Impact Study by Pam Perlich of the University of Utah. The RMP fails to reflect the information contained in these documents. The State of Utah requests that the BLM review these studies and incorporate their findings into the RMP.		
Draft RMP/EIS	SO29	Daggett, Duchesne, and Uintah Counties have estimated that up to 80% of the local economy is dependent directly or indirectly on access to, and utilization and extraction of natural resources on the public lands. The BLM is required by its own Planning Handbook, Section H-1601-H, and IM 2002-167 to assess the degree of local dependence on public land resources, and use this information as part of the decision-making process. The state is concerned that these requirements have not been met within the draft RMP and EIS. This issue should be examined in more detail.	BLM feels that the intent of IM 2002-167 and the Planning Handbook have been implemented. See comment response SO2 regarding these same data sources. The PRMP/FEIS has been revised to reference to the USU social survey on attitudes of residents on public land management.	Yes
Draft RMP/EIS	SO30	Sections of the socioeconomic impacts analysis are overly generalized to the point that social and economic impacts specific to the planning area are not apparent. For example, in the "Lands and Realty" portion of the "Impacts Common to All" section, long term beneficial effects on the social goals of communities are described by accommodating community growth and development when it is determined that accommodating social goals is in compliance with other goals and objectives of the Proposed RMP. The portion of the plan does not reference specific areas of the DRMP/DEIS where this occurs or direct the reader to any specific management decisions that provide for community	Section 4.12.2.2 has been rewritten in the FEIS, and the BLM believes that this revision addresses the commenter's concerns.	Yes

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		growth. The section is vague and unspecific and should reflect specific management prescriptions in the plan rather than general statements.		
Draft RMP/EIS	SS23	The RMP must recognize all state and local sage-grouse plans as well as the WAFWA guidelines (Connelly et al., 2000). The RMP should discuss the need to cooperate with UDWR in creating conservation agreements and strategies for other state-sensitive wildlife species.	In Table 2.1.21 (Special Status Species) in the PRMP/FEIS, Alternative C proposes to manage the sage grouse under Connelly's Guidelines. Alternative A proposes to manage the sage grouse under the Strategic Management Plan for Sage Grouse (State of Utah, June 2002). In Table 2.1.21 under the subsection entitled Management Actions Common to All Action Alternatives, it states: "BLM will work with UDWR and other partners to implement conservation actions identified in the State Wildlife Action Plan (Comprehensive Wildlife Conservation Strategy) (UDWR, 2005), which identified priority wildlife species and habitats, assessed threats to their survival, and identified long-term conservation action needs (per WO IM 2006-114)."	No
Draft RMP/EIS	SS24	Special status species alternatives begin on page 2-60. Alternative A represents the BLM's Best Management Practices (BMPs) that compare to USFWS guidelines for seasonal and spatial buffers, occupied nest protection, and unoccupied nest protection. The UDWR is concerned that not incorporating these guidelines may contribute to the decline of special status raptor species, including Ferruginous Hawks. A substantial portion of Ferruginous Hawk range in the Uintah Basin is	Table 2.1.21 (Special Status Species) in the PRMP/FEIS provides a range of raptor guidelines for seasonal and spatial buffers, occupied nest protection, and unoccupied nest protection as described in the various alternatives.	No

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		already leased, therefore the three year unoccupied nest protection proposed under alternative B for existing leases may not be adequate to protect Ferruginous Hawk populations. The UDWR received a copy of a letter from the USFWS to the BLM dated October 15, 2003 expressing the same concerns regarding Ferruginous Hawk populations in the Uintah Basin. Any modifications to the spatial and seasonal buffers outlined in the BMPs should only be made after following the three criteria outlines in alternative A, and after consultation with the UDWR and the USFWS.		
Draft RMP/EIS	SS26	The UDWR's Utah Sensitive Species List was revised in February 2005. The BLM should incorporate the new list into the RMP and adopt these species as BLM State Sensitive Species. The RMP should have flexibility in this adoption process, as the states sensitive species list will change periodically.	IM UT-2007-078 updated the Utah BLM State Director's Sensitive Plant and Animal Species Lists as defined in the BLM 6840 Manual (Special Status Species Management).	No
Draft RMP/EIS	SW19	Alternatives A and C indicate "Old fields would be irrigated and existing ditches and diversion structures would be restored on acquired lands in Bitter Creek and Rat Hole Drainages." This wording gives the impression that said lands are not being irrigated at present. If such is the case, and the lands have not been irrigated for five consecutive years, then the underlying water rights may be lost through non-use (See Sec. 73-1-4 UCA). The BLM is advised to review the above referenced section of the law and take appropriate action to confirm the legal status of the underlying water rights.	The review of the status of the water rights of individual users is outside the scope of this document. However, the BLM does review water rights on a regular basis as a matter of ongoing land management.	No
Draft	SW20	The paragraph at the top of page 2-28 states that the	The Bureau has need for water rights for present	Yes

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RMP/EIS		BLM will "Develop additional and maintain existing water rights." We would appreciate more detail and specifics on this statement.	and future use. These may include livestock, wildlife, public use, or conservation. Table 2.1.17 (Soil and Water Resources) of the PRMP/FEIS under the subsection entitled Management Actions Common to All Alternatives has been revised to clarify the statement as follows: "BLM implements multiple types of water uses on public lands that require water rights from the State of Utah, such as livestock watering, wildlife watering and habitat, wild horse watering, recreation facilities, and fire suppression. BLM will continue to implement actions to maintain its current water rights for these purposes, such as filing proofs of beneficial use, filing diligence claims, changing existing water rights to fit new uses and projects, and filing protests as necessary to protect existing BLM water rights. BLM will also file for new water rights in accordance with and when allowed under state water law procedures. Situations in which BLM will file for new water rights include locations where existing water rights are insufficient or not in place to support the water use, or when existing water rights cannot be changed to support the water use on public land. "	
Draft RMP/EIS	SW21	Need enhanced management direction for vegetative resources and watershed values. Lands should be managed to: a) control soil erosion to prevent the soil erosion rate from exceeding the tolerable (T) rate as	The BLM's approach to land management through the RMP is consistent with the general outline provided in the comment.	No

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		determined through USDA/NRCS; b) control runoff loading of dissolved or suspended pollutants; c) enhance management direction for the inventory and protection of riparian areas in accordance with current BLM policy; and d) establish standards for riparian management including: i) width of riparian vegetated buffers which may vary with perennial or intermittent streamflow, cubic feet per second of streamflow, and with adjacent topography; ii) minimum ground cover percentage; iii) recommended standards for summer stream shading, though these will vary with site orientation of the stream and adjacent topography; iv) recommended native vegetative species and varieties to encourage in riparian areas; v) listing of noxious weeds and invasive species and varieties to reduce or exclude from range, forest, or riparian lands; vi) appropriate consideration for water quality concerns related to activities on public lands, including but not limited to, the requirements mandated by the Clean Water Act and the state water classifications in the 303D state water inventories, as well as at-risk water quality due to naturally occurring formations; vii) appropriate conservation or restoration of at-risk watersheds; viii) appropriate management of numerous special status vegetative species in order to prevent additional listings of populations; ix) appropriate management of numerous special status vegetative species and their suitable habitats in order to protect, restore, and/or recover those species or varieties; and x) promoting the provisions of the Safe Drinking Water Act, the Unified Federal Policy for a Watershed	The tables in Chapter 2 of THE PRMP/FEIS outline the BLM's goals, objectives, and management actions common to all alternatives for the resources described in the comment. The reader will find that these goals, objectives, and actions are consistent with the spirit of the comment, if not the specific details.	

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		Approach, and the Colorado River Basis Salinity Control Act.		
Draft RMP/EIS	VE4	The State of Utah strongly requests that the BLM expand its discussion in the EIS allowing for a long-term and aggressive vegetative reclamation program using a wide variety of vegetation treatment tools. The BLM needs to specifically identify some of these tools that are currently omitted in its review of vegetation management in the West (in the DEIS), i.e., use of herbicide for cheatgrass control and chaining for better pinyon-juniper management. Without the use of a full vegetation management toolbox, the BLM will not be able to conduct effective restoration on a scale sufficient to stop or reverse the current rate of sagebrush steppe loss, nor will they be able to provide meaningful mitigation for development. The long-term vegetative reclamation program must be a collaborative effort involving the BLM, livestock operators, the oil and gas industry, and wildlife advocates if it is to be successful.	Table 2.1.23 (Vegetation Resources) of the PRMP/FEIS provides for vegetation treatment (specific to noxious weed control) under all alternatives using fire, mechanical, biological, or chemical means without specifying any individual management tool that would fall under one of these broad categories. This section also refers to management of vegetation in general terms without specifying individual techniques. This provides the BLM the opportunity to select from the entire range of available tools to undertaken vegetation treatments in the most appropriate way for the location and vegetation in question.	No
Draft RMP/EIS	VE5	The EIS should expand the discussion on development of a mitigation bank as discussed between the BLM, Uintah County, the State of Utah (DWR), and industry representatives in order to ensure that this opportunity is maintained as an option.	The concept and implementation of a mitigation bank is completely voluntary. The BLM cannot require lessees and permittees to participate. However, the concepts involved in a successful mitigation-banking program include reclamation or habitat enhancement projects, which are addressed in the RMP.	No
Draft RMP/EIS	VE6	We are concerned that the alternatives for rangeland improvements found on page 2-51 may not allow enough acreage for such improvements to occur, especially since the Vernal District has experienced catastrophic mortality of sagebrush steppe	The acreage figures presented in Table 2.3 (now Table 2.1.12) to which the comment refers are specific to projected rangeland improvements. Vegetation treatments are also included under other resource programs. Table 2.1.23	No

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		communities. The numbers of acres in the Uintah Basin (>200,000 acres) requiring pinyon/juniper removal, sagebrush rehabilitation, and cheatgrass control far exceed the figures presented in each of the alternatives. We encourage the BLM to add flexibility to the RMP to allow for additional rangeland improvement if target acreages are met prior to the next revision of the RMP.	(Vegetation Resources) of the PRMP/FEIS commits to the restoration or rehabilitation of up to 200,000 acres of sagebrush steppe communities under all alternatives. Additionally, the acreages provided within the individual alternatives are projections used for comparison purposes and do not represent absolute caps on the numbers of acres of vegetation that the BLM may treat.	
Draft RMP/EIS	VE7	This paragraph should be changed to read: "Wyoming and mountain big sagebrush are declining..." The UDWR recommends adding discussion regarding the recent sagebrush mortality in the RMP.	Section 3.16.1.3 in the PRMP/FEIS has been revised to include the following: "Wyoming and mountain big sage are declining…Beginning in the late 1990s, drought accelerated the decline which resulted in a sage die-off and die-back. Some areas had sagebrush mortality while others had re-growth on the sagebrush in subsequent years.	Yes
Draft RMP/EIS	VE8	Plateau®, green stripping, and use of non-natives must be considered in Section 3.16.2 for control of invasive species and noxious weeds.	See comment response VE4.	No
Draft RMP/EIS	VI26	We are concerned about the lack of real discussion in the Draft EIS about the management of visual resources. The proposed management prescriptions laid out on page 2-62 do nothing more than indicate the aggregate amount of acreage to be managed in each VRM management class. The management "common to all" discussion on page 2-36 indicates only, in one simple sentence, that the objectives for each specific visual resource management class, outlined in BLM Handbook H-8410-1, and repeated on page J-3, would be implemented.	Table 2.1.24 (Visual Resource Management) of the PRMP/FEIS Section 2.4.16.1 identifies the Goals and Objectives for visual resource management. Section 3.17 provides a discussion of the affected environment regarding visual resources. Section 4.17 provides a discussion of the environmental consequences for visual resources.	No

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Draft RMP/EIS	VI27	We are concerned about the apparent lack of an updated visual inventory. This ties in with the rationale for the "Sensitivity Level Analysis" required by BLM Manual Handbook H-8410-1.III.A. - Factors to Consider. Many of these factors change over time, and a simple rollover of an older inventory would not accurately reflect these adjustments. In addition, the lack of updated inventory information makes interpretation of the differences between the inventory and management classes impossible to determine. The draft RMP needs to fully explain how the visual inventory was accomplished, so that differences in visual management prescriptions proposed in the various Alternatives may be compared to the inventory classes. This indicates to the reader exactly how the VRM management classes are assisting in the resource management goals of each Alternative.	See comment response VI7A. Some major travel corridors were elevated in their visual sensitivity, (which is one of the criteria in visual sensitivity rating), because of the increase in use and visitation. Two areas were re-inventoried because of both the dramatic increase in oil and gas activity and the perceived increase of both user numbers and attitude perception toward natural landscapes. As a result of the re-inventories, both areas were elevated in VRM rating as seen in Figures 29 and 32 which are reflected in Alternatives A and D respectively. The alternatives provide a range of VRM classification from which management can select from for the final RMP and the VRM classification within the final RMP will be consistent with general overall management direction.	No
Draft RMP/EIS	VI28	The maps on Figures 29-32 are hard to interpret concerning the VRM management classes, as the figures are not specific enough to determine the exact geographic location of most of the boundary lines. Because of this, the counties cannot determine if the criteria for VRM inventory have been correctly followed, and exactly where, on-the-ground, the BLM proposes to change management from one class to another, except for certain geographical areas which fully correspond to other proposed management designations.	The BLM acknowledges that the scale of Figures 29-32 may not provide sufficient detail to delineate VRM boundary lines for the various classifications; however, electronic files are well defined and provide sufficient detail.	No
Draft RMP/EIS	VI29	The draft RMP purports to discuss the impacts of various resource management decisions on visual	Minerals exploration and development are presently occurring in areas not designated has	No

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		resources, but, in actuality, this discussion is either misleading or circular and non-responsive. As an example of a misleading statement, the discussion of VRM resources on pages 3-117 to 3-118 lays out the management criteria and requirements for the four VRM management classes. The discussion indicates that currently the only areas in the VFO managed as VRM management class I are Wilderness Study Areas, and one WSA equivalent, an Instant Study Area. It continues by stating that minerals exploration and development "is not presently exceeding VRM class objectives" throughout the Vernal Field Office, due to proper visual mitigation methods. Yet on page 4-122 the document indicates that VRM management classes I and II "allow little or no alteration to the line, form, color and texture that characterize the existing landscape," thereby raising the potential for greater impacts to minerals development. On page 4-123, the analysis clearly states that an increase in the number of acres of VRM Classes I and II would lead to a direct decrease in the number of available well locations, thereby leading to less production (and royalties). We ask for clarification of the correct standards for VRM management in the VFO, and that the VFO analyze VRM I and II designations as a possible withdrawal of the mineral resources.	high VRM classes but in areas of lower VRM classification (Class IV to be specific—see Figure 32), where greater levels of visual intrusion are tolerated. Smaller areas are designated as VRM Class III and Class II, wherein slightly higher restrictions on visual alteration exist and visual mitigation measures are used. As such, the DEIS statements referenced in the document are not contradictory. Under Alternatives A and C, changes in VRM classification across the VFO would increase the number of acres under Class I and II designation (with more VRM Class I under Alternative C than A). More of these VRM Class I and II areas would overlap with areas desirable for minerals and energy exploration and development. As such, under these alternatives, there would be greater impacts on minerals and energy development through increased restrictions related to visual resources management.	
Draft RMP/EIS	VI30	We are concerned that the draft RMP is not specific about the sources and goals of many of the special management designations available to it, leading to circular and non-responsive reasoning in the analysis. For example on page 4-284 the impacts analysis for visual resources and special	Table 2.1.18 (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS provides information about the management foci for each proposed ACEC or special designation. Many of these foci, such as controlling noxious weeds, limiting OHV use to	No

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		designations indicates that visual resources will be protected by designation of ACECs and Wild and Scenic River designations. This analysis proceeds under the general presumption that ACECs and WSR segments are "good" for visual resources, but fails to indicate the management prescriptions which actually accomplish this goal.	designated routes, and establishing controlled surface use stipulations on minerals and energy exploration and development would reduce visual intrusions and alteration of the landscape. Such an outcome would be beneficial to the preservation of visual resources. Also, designation under the Wild and Scenic Rivers Act and through the ACEC process confers a level of resource management that protects and preserves the important and relevant values of an area from the potential effects of actions that would otherwise be permitted by the RMP. In general, emphasis is given to protecting the aesthetic, scenic, wildlife, historic, archaeological, unique or distinctive, and/or scientific features of these areas.	
Draft RMP/EIS	VI31	Which designation - ACEC, WSR, SRMA or VRM management - is being proposed for the protection of visual resources? The VRM discussion mentions the others, while the ACEC discussion mentions the use of VRM classifications. This lack of clarity in proposed management prescriptions doesn't meet the requirements of full disclosure under the provisions of NEPA, and doesn't allow us to determine whether or not the BLM is proposing duplicate prescriptions, contrary to the provisions of state law, and the BLM's Manual on designation of ACECs.	Visual resources benefit from a variety of different special management designations, not just VRM classification. While VRM classification is specific to visual resources, ACEC, WSR, and SRMA designation can also consider visual resource values, and the management goals of such designations typically include actions that afford protection to visual resources as an ancillary benefit. Overlapping of program decisions is not optional for BLM, but is required by the FLPMA, 1976 and National BLM planning and program specific regulations. The FLPMA directed that management of public lands be on the basis of multiple use (Section 102(a) (7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different	No

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			and often competing land uses and to resolve conflicts and prescribe land uses through its land-use plans. For example, 43 CFR Group 2500 provides guidance and requirements for Disposition; Occupancy and Use of public lands; Group 2800 for Rights-of-way; Group 3400 for Coal Management; Group 6000 for Designated Wilderness, and Group 8200 for Natural History, part 8351 for Wild and Scenic Rivers. Multiple-use management requires a balancing of the mandates for these separate programs. BLM's Land-use planning Handbook requires that specific decisions be made for each resource and use (Appendix C, H-1601-1). The required decisions must be included in each of the alternatives analyzed during development of the RMP. The RMP will include the decisions required for each program. See comment response VI29.	
Draft RMP/EIS	VI32	The counties and State of Utah cannot support any proposed VRM class management specifications that will prevent habitat enhancement, fuels reduction, and prescribed fire activities from occurring in the VFO. The RMP must choose VRM management classes which allow vegetation and habitat treatments that improve wildlife habitat and reduce the likelihood of catastrophic fire events.	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State	No

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			and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5. See also comment response VI1. No VRM classification precludes limited management actions, which may include fuels reductions, prescribed fire, and/or habitat enhancements. VRM Class I and II require that these management activities be conducted in ways that have minimal impact on visual resources over the long term.	
Draft RMP/EIS	VI38	State statute recognizes the need to protect the scenic resources of the state, and suggests that the BLM consider using VRM Class I management only for inventoried Class A scenery, or the equivalent, but also suggests that the BLM balance this type of protection against the needs of the other legitimate	BLM IM-2000-96 (Use of Visual Resource Management Class I Designation in Wilderness Study Areas) states; ". . . all WSAs should be classified as Class I, and managed according to VRM Class I	No

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		multiple-uses of the land. BLM Manual H-8410 provides that Inventory Class I should only be assigned to those areas where a management decision has been previously made to maintain a natural landscape.	management objectives until such time as the Congress decides to designate the area as wilderness or release it for other uses. If a WSA is designated as wilderness, the area would continue to be managed as VRM Class I."	
Draft RMP/EIS	VI39	Some of the proposed VRM boundaries follow the boundaries of old Wilderness Inventory Areas (WIAs), causing concern that these provisions for VRM management are substitutes for non-use or non-impairment standards, in contradiction to state law and the case of Utah v. Norton.	See comment response VI1B The BLM is required to apply management prescriptions based upon a balanced consideration of resource values and land use needs. The BLM has done this independently of previous designations within the planning area. It is, however, no surprise that old WIAs were identified for areas with high visual resource values. The BLM cannot ignore these values simply because they fall within areas of former WIAs. Further, the BLM does not manage for non-impairment but for multiple-use and sustainable yield. Finally, the Utah v. Norton Settlement Agreement does not affect BLM's authority to manage public lands. This Agreement merely remedied confusion by distinguishing between wilderness study areas established under FLPMA §603 and those lands required to be managed under §603's non-impairment standard, and other lands that fall within the discretionary FLMPA §202 land management process.	No

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Draft RMP/EIS	VI40	The State of Utah is concerned about the need for VRM Class I management within WSAs. The non-impairment management standards within WSAs is very strict, protecting the wilderness character and characteristics until Congress makes a decision, yet allows for certain activities. The BLM has not demonstrated any need for the VRM classification within the WSAs, and has not analyzed how permitted activities within the WSAs, as limited as they may be, may be affected by the VRM classification. The state requests the BLM identify a real world need for the classification prior to its establishment.	See comment response VI38	No
Draft RMP/EIS	VI41	The proposed stipulation for VRM Class II Management is described on page K-10 within Appendix K. The wording for the proposed stipulation is simply a restatement of the descriptions found in Appendix J, and offers no further clarification to the reader about the BLM's intentions to manage under the VRM Class II designation. The State of Utah is concerned that the wording will constitute a severe restriction on legitimate multiple-use activities, especially in light of the wording on page 4-122; restrictions severe enough to constitute management under non-impairment standards. The state looks forward to working with the BLM and local government to clarify the management prescriptions for VRM II under this proposed stipulation.	See comment response VI1 and VI1E As stated in Appendix K (now J), the BLM's VRM Class objectives clearly describe the level of disturbances allowed within each VRM Class. Site-specific project-level activities are beyond the scope of the RMP's programmatic EIS. However, site-specific analyses of impacts to and mitigation of scenic quality and the landscape would be conducted through other site-specific NEPA processes and documents. The commenter should note that oil and gas activities have been performed in VRM II areas. The use of mitigation techniques such as low profile tanks, low gloss matching paints, winding roads, staining disturbed rock cuts, careful placement in relation to the Key Observation Points and other techniques have allowed both	No

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			the construction and production of oil and gas as well as the protection of view sheds. The alternatives provide a range of VRM classification from which management can select from for the final RMP and the VRM classification within the final RMP will be consistent with general overall management direction.	
Draft RMP/EIS	VI42	Appendix K contains a second proposed stipulation concerning the Book Cliffs on page K-10. The stipulation indicates that no surface occupancy or other surface disturbance will be allowed for a distance north of Highway 40 east of the Green River. This area is near Blue Mountain, not really all that close to the Book Cliffs. The state requests clarification of this, and a further description of what "no surface disturbance": means. No livestock? No hiking?	The reason for Blue Mountain being included within the Book Cliffs Planning area is because the boundary for the Book Cliffs Resource Area was defined as those lands both east and south of the Green River. Both "No Surface Disturbance" and "No Surface Occupancy" definitions can be found on in the Glossary. The referenced stipulation is an existing decision from the Book Cliffs RMP, which is the reference to the Book Cliffs. Please note that this stipulation was not carried forward in Alternatives A-C. If carried forward in the final RMP, reference definition of "No Surface Disturbance" in the Glossary.	No
Draft RMP/EIS	VI43	Because a VRM management class is to be established only after a management decision is made, and the VRM proposed management regime lacks significant analysis and a range of alternatives, the State of Utah requests that a review of all detailed VRM analysis and proposed management decisions be undertaken in cooperation with the state and local government before the FEIS/FRMP is completed.	See comment responses VI1F and VI-36 above. The range of alternatives for VRM classification as shown in Table 2.1.24 (Visual Resource Management) of the PRMP/FEIS does provide a sufficient range of options for VRM designation from low proportions of VRM I and II designations under Alternatives B and D (No Action) to high proportions of those same designations under Alternatives A and C.	No

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Draft RMP/EIS	WF70	The RMP does not apply enough focus on meaningful mitigation for habitat loss. The seasonal closures and other stipulations proposed for minerals development are the primary tools used to reduce oil and gas development impacts on wildlife. Without meaningful mitigation, however, these stipulations do not enhance, and may not fully protect the long-term viability of wildlife populations. The alternatives have been modified in regards to raptor management. All alternatives now propose to manage raptors under the August 2006 Best Management Practice for Raptors and Their Associated Habitats in Utah.	The commenter does not provide any additional information on or a definition of what constitutes "meaningful mitigation."	No
Draft RMP/EIS	WF71	The discussion of increases in forage allocations are inconsistently presented in Alternative A for all localities. The State of Utah believes that adequate forage must be provided for wildlife to meet the public's desire for the enjoyment of wildlife species.	The commenter does not indicate what the inconsistencies are. As such, the BLM is unable to address this comment. See Table 2.1.6 (Forage All Localities) of the PRMP/FEIS.	No
Draft RMP/EIS	WF72	The final RMP should adopt the Utah Strategic Management Plan for Sage-Grouse in conjunction with a full set of mitigation tools and habitat improvement techniques. Application of site-specific modifications to these guidelines should only be made with the full concurrence of the UDWR. Additionally, sage-grouse mitigation and stipulations should be consistent with the current draft BLM Sage-Grouse Conservation Strategy. The final RMP must provide for adoption and implementation of an approved local sage-grouse conservation plan and strategy, currently being prepared by USU Wildlife Extension, local landowners, industry, governments, and agencies. Provisions should be made within the RMP for the adoption of future revisions of approved	The management actions for protection of sage grouse were based on the State of Utah Strategic Management Plan for Sage Grouse (Alternatives A and B), and Connelly's Guidelines to Manage Greater Sage Grouse Populations and their Habitats (Section 4.15.2.5). In addition, Table 2.1.21 (Special Status Species) of the PRMP/FEIS states: "BLM would continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data."	No

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		guidelines, strategies, stipulations, and plans as they become available.	Table 2.1.21 further states: "Section 2.4.13.4.2.2 states that "In collaboration with the USFWS, DWR, and other partners, develop habitat management plans or conservation strategies for sensitive species."	
Draft RMP/EIS	WF73	The draft RMP does not contain any stipulations or mitigation measures to protect or enhance sage-grouse brooding and winter habitats in the planning area as outlined in the Utah Strategic Management Plan for Sage-Grouse. These guidelines should be incorporated, where appropriate, in all alternatives and practices including grazing, vegetation treatments, fire management, and oil and gas development.	See comment response WF72.	No
Draft RMP/EIS	WF75	The State of Utah requests that the proposals to limit to surface disturbance to 560 acres per township within critical/crucial deer winter range be kept open for further discussion.	Section 4.3.2.11.3 in the PRMP/FEIS (Alternative C) includes the 560 acres surface disturbance proposal as part of the range of alternatives.	No
Draft RMP/EIS	WF76	In areas such as the Book Cliffs, where summer range is a limiting factor for mule deer, impacts and disturbances to the range should be minimized or mitigated in the same manner as winter ranges.	The commenter does not provide any additional information or explanation to substantiate the assertion regarding mule deer summer range.	No
Draft RMP/EIS	WF77	The UDWR is concerned that several plans, guidelines, assessments, and databases used in development of the RMP EIS were omitted, used in outdated form, or not fully integrated into the draft. The latest version of the UDWR's critical/crucial	BLM has adopted the current Utah Sensitive Species List under authority of IM UT 2007-078. In order to keep current with the latest guidance that is developed during the Final EIS process and after the ROD is signed, the BLM has	No

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		wildlife distribution maps should be used, with reference to adoption of future updates as they become available. Resource assessments completed by either the UDWR or the BLM not referenced in the document include 2002 range trend studies, sage-grouse habitat delineation, raptor nest distribution and occupancy, and mule deer winter range delineation in the Book Cliffs. Additional wildlife and habitat plans produced by the UDWR, which should be referenced, include: the current Utah Sensitive Species List, wildlife management area habitat management plans, and game species management plans (deer, elk, bighorn sheep, bear, cougar). Interagency plans which are completed or in draft form and should be referenced include the following sensitive species conservation plans and strategies: Conservation Agreement and Strategy for Colorado River Cutthroat Trout (Oncorhynchus clarki pleuriticus) in the State of Utah, the Range-wide Conservation Agreement for Roundtail Chub (Gila robusta), Bluehead Sucker (Catastomus discobolus), and Flannelmouth Sucker (Catastomus latipinnis), Utah Strategic Management Plan for Sage-Grouse, 2002, Guidelines to Manage Sage-Grouse and their Habitats, and Utah Partners-in-Flight Avian Conservation Strategy.	incorporated several statements in Management Common to All under Special Status Species and Wildlife that allow for consideration of new information. They are as follows: 1) Implement the specific goals and objectives of recovery plans, conservation agreements and strategies, and approved activity level plans. BLM would continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data. 2) BLM would continue to implement the specific goals and objectives of all recovery plans, conservation plans and strategies, and activity level plans. 3) BLM would continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data. Recovery plans have been finalized for Uinta Basin hookless cactus, shrubby reed–mustard, and clay reed-mustard. A draft plan is being developed by the USFWS for Ute ladies' tresses. A Conservation Plan has been prepared for Astragalus equisolensis, Penstemon goodrichii, Penstemon grahamii and Penstemon scarious var. albifluvis. 4) Where special status plant species, including listed T&E plant species, occur on public lands in the planning area, BLM would collaborate with	

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			affected local, state, and federal agencies and researchers in the implementation of approved recovery plans and conservation strategies to protect, stabilize, and recover such species and their habitats. In addition to on-the-ground actions, strategies would be developed to provide public education on species at-risk, significance of the species to the human and biological communities, and reasons for protective measures that would be applied to the lands involved. Continue or develop monitoring studies in order to determine population dynamics and trends.	
Draft RMP/EIS	WF78	Within the "Actions Common to All" section of the RMP EIS, the BLM should commit to implementation of goals and objectives of all current and future approved recovery and conservation plans, strategies, and activities. Future approved research or study results and species/habitat distribution coverages should automatically be updated for planning and action decisions. Failure to do so will diminish the quality of resource decisions based on old or less-than-accurate data.	See comment response WF77.	No
Draft RMP/EIS	WF79	The UDWR urges the BLM to fully implement BLM Manual 6840 "to conserve listed species and the ecosystems on which they depend" and "to ensure that actions requiring authorization or approval by the Bureau of Land Management…are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species…." Application of accepted guidelines and meaningful mitigation and stipulations are	Table 2.1.26 (Wildlife and Fisheries Resources) under the subsection entitled Management Actions Common to All Alternatives states: "Manage habitat to prevent the need for additional listing of species under the ESA and contribute to the recovery of those species already listed."	No

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		necessary to meet the stated goals of the Manual.		
Draft RMP/EIS	WF79A	The UDWR urges the BLM to incorporate the most current Utah Sensitive Species List, as approved by the Utah Wildlife Board, in development of current and future lists of special status species.	BLM has adopted the current Utah Sensitive Species List under authority of IM UT 2007-078.	No
Draft RMP/EIS	WF81	Wildlife and fisheries actions common to all alternatives begin on page 2-36. The UDWR is in agreement that mitigation banking should be used as a method to compensate for habitat loss due to surface-disturbing activities. The UDWR views an effective banking system as a way to ensure that meaningful mitigation is completed.	See comment response WF10.	No
Draft RMP/EIS	WF82	Reintroductions are discussed on page 2-38. The State of Utah maintains legal authority for wildlife management within the State. The UDWR collects public and intergovernmental comment on wildlife management, including species introductions, through a Regional Advisory Council process. Through this process, transplant lists and herd management plans for several species have been created with input from the public and interested parties.	See comment response WF18A.	No
Draft RMP/EIS	WF82A	As such, UDWR requests that BLM remove paragraph 3 on page 2-38 which states: "After analysis, reintroductions would be made in areas where they do not conflict with livestock or where such conflicts would not be avoided, coordination with permittees would be required," as this is not a BLM prerogative. The state will make these analyses as part of its public review process for reintroductions.	The BLM declines to make the suggested wording changes for a variety of reasons including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why	No

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			the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS.	
Draft RMP/EIS	WF83	The UDWR supports the decision to continue to allow placement of bear bait on public land through a permit process. Baiting is a legitimate hunting method for archery bear hunts. The UDWR requires notification from bear hunters of bait station locations for law enforcement and compliance purposes.	Table 2.1.26 (Wildlife and Fisheries Resources) of the PRMP/FEIS under the subsection entitled Mountain Lion and Black Bear states: "Placement of bear bait on public land would require a permit." Any bear bait permit would be issued though the UDWR.	No
Draft RMP/EIS	WF85	The UDWR supports migration and reintroduction of bighorn sheep, bison, and moose in defined areas in the VFO. The UDWR has a legal role in managing wildlife populations, hunting, and fishing in Utah. The UDWR has a public process that allows for public comment on wildlife management activities in Utah. The UDWR encourages the BLM to clarify and define the "Southern Book Cliffs" under the bison reintroduction alternative. The UDWR encourages the BLM to define the bison reintroduction area to be the same as the Book Cliffs Bitter Creek/Little Creek sub-units (Unit 10 a,b).	See comment response WF19.	No
Draft RMP/EIS	WF86	Chapter 3, specifically the special status species and wildlife sections, does not contain detailed information of local populations within the planning area. The UDWR, BLM, and other cooperators have	See comment response WF77.	No

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		numerous inventories and publications that offer information on wildlife populations. These documents should be discussed, referenced, and cited in the RMP. The UDWR recommends this chapter incorporate further analysis of current populations and management.		
Draft RMP/EIS	WF87	The fish and wildlife resources section 3.19 begins on page 3-123. Multiple tables within this section confuse the herd unit numbers for Bonanza and Diamond Mountain sub-units. The Bonanza sub-unit number is 9d and Diamond Mountain is 9c. This discrepancy should be changed in Tables 3.19.1, 3.19.3, and 3.19.5. In addition, Table 3.19.2 appears to be incomplete for mule deer habitat in the VPA.	Table 3.19.2 in the PRMP/FEIS text has been revised to correct and clarify the herd unit numbers and to complete the description of mule deer habitat.	Yes
Draft RMP/EIS	WF88	Table 3.19.3 outlines management goals for mule deer. Some of the population objectives and buck-to-doe ratios are incorrect. The combined mule deer population objective for the South Slope Vernal, Diamond, and Bonanza sub-units is 13,000. The buck-to-doe ratio for South Slope Diamond Mountain (9c) and Book Cliffs Bitter Creek and Little Creek (10a) is 25-30:100. Table 3.19.5 outlines management goals for elk in the VPA. The listed bull age ratios are incorrect. The North Slope (Summit and West Daggett), North Slope Three Corners, South Slope Yellowstone, South Slope Vernal, and South Slope Bonanza sub-units are managed for 50% of bulls 2½ years or older. The South Slope Diamond sub-unit (9c) is managed for bulls 3-4 years old. The Book Cliffs (Bitter Creek and Little Creek) and Nine Mile Anthro sub-units are managed for 5-6 year old bulls. Utah's statewide herd management plans for mule deer, elk, and other species should be	Table 3.19.3 used 2002 goals for purposes of analysis of the Draft RMP. Updated goals may be found at the UDWR web site. The PRMP/FEIS text has been revised to correct the errors.	Yes

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		referenced and discussed in section 3.19.		
Draft RMP/EIS	WF89	Section 3.19.1.3 discusses pronghorn in the VPA. This section displays population estimates for several herd units. The data referenced are not population estimates, but rather annual trend count numbers. These numbers are used for population trend and do not reflect population sizes. The section does not offer trend count data for the Book Cliffs and Nine Mile pronghorn herd units. Trend data for these units can be obtained by contacting the UDWR Vernal office at 435-781-6707.	Section 3.19.1.3 in the PRMP/FEIS text has been revised, and trend count data added to the section.	Yes
Draft RMP/EIS	WF90	Bighorn sheep are discussed on page 3-127. The UDWR is unaware of any large bighorn sheep populations in the Nine-Mile Canyon area. The UDWR manages bighorn sheep populations in Desolation Canyon and on Range Creek, both of which are outside the VFO. The Ute Tribe has bighorn sheep populations in Desolation Canyon and in Hill Creek.	Section 3.19.1.4 in the PRMP/FEIS text has been revised to remove the reference to a sheep population within Nine-Mile Canyon. Bighorn sheep are in the UDWR Nine Mile Unit (#11), which is outside of the VPA.	Yes
Draft RMP/EIS	WF91	Moose populations are outlined in section 3.19.1.5. This section does not mention that moose populations also occur in the North Slope wildlife management unit and does not offer population estimates for that unit.	Section 3.19.1.5 in the PRMP/FEIS has been revised to include moose population information for the North Slope wildlife management unit.	Yes
Draft RMP/EIS	WF92	Section 3.19.1.10 should include Brown's Park and Mallard Springs WMAs as additional important waterfowl and shorebird areas in the VFO.	Section 3.19.1.10 in the EIS text has been revised to include these areas as important to waterfowl.	Yes
Draft RMP/EIS	WF93	Desert and mountain cottontails should be removed from section 3.19.1.12. Cottontail rabbits are managed by the UDWR as upland game species.	The PRMP/FEIS has been revised to move the cottontail information from Section 3.19.1.12 (Non-Game Species) to Section 3.19.1.9 (Upland Species).	Yes

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Draft RMP/EIS	WF94	Page 3-133 outlines habitat fragmentation concerns. The section cites a study on mule deer conducted in the Book Cliffs. This study was a four-year inventory (1998-2002), rather than two years as listed in the RMP. The UDWR initially recommended the study continue for five total years, however sufficient data were collected by the fourth year to meet the study objective. More information on fragmentation of mule deer habitat can be found in the study "Mule Deer Conservation: Issues and Management Strategies" by Vos, Conover, and Headrick (2003).	Section 4.19.2 in the PRMP/FEIS has been revised to show that the inventory length was four years.	Yes
Draft RMP/EIS	WF95	The RMP must develop stipulations and mitigation strategies designed to minimize potential impacts to wildlife, yet allow other resource uses to proceed. No mitigation or other stipulations are presented under alternative A in section 4.19.2.3.1. Mitigation strategies not presented in the document have been developed for several species including mule deer, elk, pronghorn, Greater Sage-grouse, bighorn sheep, white-tailed prairie dogs, Mountain Plovers, Burrowing Owls, and black-footed ferrets. These should be presented and further developed to include each of the species listed in sections 4.15 and 4.19.	Stipulations for surface-disturbing activities relative to wildlife and special status species are outlined in Appendix K. Spatial buffers and seasonal mitigation for special status raptor species are outlined in Appendix A. Specific mitigation measures for wildlife and special status species also are developed at the project level, when the particular species involved and the nature of the potential impacts are known. Please also see comment response WF77.	No
Draft RMP/EIS	WF96	Section 4.19 on page 4-305 should include an additional impact of grazing management decisions on wildlife. Livestock grazing in critical big game winter ranges, riparian areas, and sage-grouse areas has the potential to impact wildlife by changing vegetation composition and structure. These impacts are real and should be analyzed in the RMP.	Section 4.19 in the PRMP/FEIS has been revised to include an analysis of the impacts of livestock and grazing management actions on wildlife.	Yes
Draft	WF97	The RMP confuses UDWR GIS data and Utah GAP	Sections 4.19.2.5.2.1 and 4.19.2.5.2.2 in the	Yes

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RMP/EIS		Analysis data in section 4.19.2.5.2.1 on page 4-314 and in section 4.19.2.5.2.2 on page 4-316. Utah State University developed GAP Analysis projected habitat occurrence data for several wildlife species during the mid-1990s. The UDWR GIS database includes, in part, habitat value designations as well as season of use designations for big game and other managed wildlife species	PRMP/FEIS text have been revised to clarify the use of UDWR GIS data and Utah GAP analysis data.	
Draft RMP/EIS	WF98	The UDWR recommends that the RMP further address cumulative impacts in both the special status species section (4.22.9) and the wildlife and fisheries section (4.22.12). The RMP should provide more information regarding past activities and projected future activities in the Uintah Basin and the combined impacts these actions may have on wildlife populations.	Sections 4.22.10 (special status species) and 4.22.12 (wildlife and fisheries) in the PRMP/FEIS have been revised to provide more information on cumulative effects.	Yes
Draft RMP/EIS	WF99	The UDWR notes that the sage-grouse lek buffers subject to timing and controlled use on figure 11, figure 12, and figure 13 may be incorrect. USU completed a resource assessment for BLM and documented leks, winter use areas, and other grouse observations. The data displayed on figure 11 appear to represent all data points USU collected, many of which are not actual lek locations. This discrepancy occurred on the sage-grouse lek map BLM had in the administrative draft RMP and appears not to have been corrected. The UDWR maintains the most up-to-date database for sage-grouse leks and those data should be used for the RMP.	Figures 11-13 in the PRMP/FEIS have been revised to correct sage grouse lek buffers.	Yes
Draft RMP/EIS	WF100	Placement of Rocky Mountain bighorn sheep in the White River drainage would cause undue conflict	BLM management decisions do not apply to state trust lands.	No

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		with domestic sheep operations and would be harmful to the bighorn sheep. If domestic sheep were prohibited from the area to accommodate the bighorn sheep, TLA would lose a revenue source. Since cattle would not be an appropriate livestock kind for most of these allotments, a switch in livestock kind would not be available to make up for the loss. Compensation may be required if this occurs.		
Draft RMP/EIS	WH28	The analysis of wild horse impacts on wildlife and fisheries on page 4-324 is incomplete and does not address long-term impacts by wild horses on sagebrush steppe vegetation communities and existing riparian areas. The Utah DWR indicates that significant overgrazing of browse (needed by mule deer) occurs annually, especially around water collection ponds, in other areas of wild horse herds. Estimates of the effects of the Ute Tribal wild horses in Agency Draw indicate that a minimum of a 0.5-mile radius on browse damage can be seen around watering sites	The potential impacts of wild horse management decisions on vegetation are analyzed in Section 4.16.2.14. The analysis of potential impacts of wild horse management decisions on wildlife contained in Section 4.19.2.13 has been expanded for the PRMP/FEIS.	Yes
Draft RMP/EIS	WH29	No analysis is included in the DEIS of the impacts of wild horse trespass on state lands adjacent to Winter Ridge.	The BLM is unaware of trespass issues on State lands, so an analysis of this potential impact was not included in the DEIS. See also comment response WH9.	No
Draft RMP/EIS	WH30	The State of Utah (DWR) has documented three sage grouse leks on Winter Ridge, although no birds have been noted there for the last few years. It is inconsistent for the BLM, a major player in the local Sage Grouse Working Group, to be a proponent of restoring sage grouse habitat to prevent a listing, while at the same time considering a decision that	See comment response WH17.	No

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		might establish a wild horse herd in an area with three historic lek sites.		
Draft RMP/EIS	WH31	State of Utah (DWR) biologists have documented heavy summer and winter use of Winter Ridge by elk. This use has created competition for forage between the elk and the livestock permittee. This impacts of wild horses on available forage in light of this existing competition needs to be analyzed further in the DEIS.	Analysis of impacts from competition for forage between elk, livestock, and wild horses has been added in the PRMP/FEIS.	Yes
Draft RMP/EIS	WH32	The potential riparian damage caused by wild horses and its impact on the Colorado River Cutthroat Trout Recovery Program for Meadow Creek and the headwater streams in upper Willow Creek has not been sufficiently analyzed in the DEIS.	The potential impacts of wild horse management decisions on riparian areas are outlined in Section 4.11.2.2. The potential impacts of wild horse management decisions on special status species is provided in Sections 4.15.1.2 and 4.15.2.2, as part of forage allocations. The potential impact of wild horse management decisions on soil and water resources is contained in Section 4.13.1.3. The commenter does not identify what is insufficient about the analysis in question.	No
Draft RMP/EIS	WH33	The proposal to establish a wild horse herd of between 50 and 100 animals on Winter Ridge may countermand the previously agreed upon and funded efforts of the State of Utah, SITLA, and BLM to improve sage grouse habitat there in order to prevent listing of the grouse.	See comment response WH17.	No
Draft RMP/EIS	WH34	The Wild Horses and Burros Section 3.18 presents information regarding the Hill Creek Southeast/Agency Draw HMA on page 3-121. The UDWR believes the RMP should note that horses freely roam outside the HMA in the Buck Canyon/Bates Knolls vicinity. Wild horse use has	The BLM has taken action to prevent wild horses from moving up Buck Canyon to the Bates Knolls area. The fence has been built; however, the BLM is waiting for Uintah County to install the cattleguard.	No

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		negatively impacted range conditions on UDWR lands in and near Chimney Rock and on Willow Creek. The RMP should also note that wild horse use on Winter Ridge and Bonanza has impacted range conditions in sage-grouse habitat.		
Draft RMP/EIS	WT1	With respect to Woodlands, it was a little difficult to follow the logic regarding the link between SRMAs and woodland benefit in Table 2.5. Perhaps very brief mention of SRMAs in Section 2.4.19.2, Management Common to All would help.	Table 2.5 of the Draft RMP has been deleted from the PRMP/FEIS. More detailed information about the link between special designations (including SRMAs) and woodland impacts are provided in Sections 4.20.2.4 and 4.20.2.6 of the PRMP/FEIS.	No
Draft RMP/EIS	WT2	Woodlands and Forest Lands should be managed to control soil erosion to prevent the soil erosion rate from exceeding the tolerable (T) rate as determined through USDA/NRCS. Resources should be managed such that T is not exceeded on vegetated forest lands nor from roadways or road cuts, or from riparian areas within forested lands.	The BLM is planning management of Pinyon/Juniper forested lands through firewood sales, thinning and fire to decrease canopy cover, and increase shrub and herbaceous cover to reduce erosion at levels of tolerable (T) or below. Ponderosa and Douglas Fir areas will be managed for diversity and cover and will get prescriptions for change if erosion becomes a problem. Roads and road cuts will always be a site where (T) will be exceeded during high rain events. Where sedimentation is identified to be a problem, conservation measures will be applied.	No
WSA Supp.	1 AQ	The state encourages the BLM Vernal Field Office to impose these emissions standards as lease conditions for all new and relocated engines, and as conditions of approval for all new APDs. These standards would positively impact air quality, facilitate continued action, and would be consistent with neighboring state jurisdictions.	The BLM will consider incorporating these items as COAs. However, the state air quality agency is the authority for setting emissions standards in Utah. BLM can not unilaterally impose emissions limits on any source without the permission and cooperation of the UDAQ.	No

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WSA Supp.	2	WSR	The state is also concerned about suitability findings for those streams where there are significant water diversions upstream of the subject reach, most of which are for irrigation. The is particularly true for the Green and White river drainages. While federal reserved water rights are traditionally not asserted prior to designation, those stream reaches found suitable are managed as if they were designated. This "managed-as-if-designated" approach has the unfortunate and inaccurate potential to cause managers to believe a de facto federal reserved water right exists for those reaches, and thereby to impact the future management and utilization of valid existing water rights above, below and even within, the reaches. The state strongly believes that the suitability determination phase is the proper time to begin negotiations concerning the extent of any future federal reserved water rights, and requests the BLM to do so as the Final Vernal RMP is prepared. As a minimum, the State Engineer requests the BLM catalog all valid, existing water rights which may be affected by designation as part of the Final EIS.	According the "Wild and Scenic River Review in the State of Utah Process and Criteria for Interagency Use" (July 1996), Congress has allowed for the existence of some human modification of a riverway, the presence of impoundments or major dams above or below a segment under review (including those that may regulate the flow regime through the segment). The existence of minor dams, diversion structures, and rip-rap within the segment shall not by themselves render a reach ineligible. Barring congressional action, there is no effect on water rights or in-stream flows related to suitability findings made in a land-use plan decision. Even if Congress were to designate rivers into the National Wild and Scenic Rivers System, any such designation would have no effect on existing water rights. Section 13(b) of the Wild and Scenic River Act states that jurisdiction over waters is determined by established principles of law. In Utah, the State has jurisdiction over water. Although the Wild and Scenic Rivers Act implies a Federal reserved water right for designated rivers, it does not require or specify any amount, and as noted above, confirms that Utah has jurisdiction over water rights. The BLM would be required to adjudicate the water right, in the same manner as any other entity, by application through State processes. Thus, for congressionally designated rivers, the BLM may assert a Federal reserved water right for appurtenant and unappropriated water with a priority date as of the date of designation (junior to all existing rights), but only in	No

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				the minimum amount necessary to fulfill the primary purpose of the reservation. Based on the information given in this response, the BLM declines to provide the requested catalog of affected valid existing water rights, as the federal water right would be junior to the valid existing rights, and therefore have no affect on them.	
WSA Supp.	3	GRA	For these reasons, the state is extremely concerned about the tenor and content of statements in the Supplement which assert that grazing and wildlife are not mutually beneficial, and that elimination of grazing will automatically improve rangeland health. For example, within the discussion for Forage on pages 2-5 to 2-7, BLM proposes that, in the event of a loss of forage or a demonstrated conflict between livestock and wildlife, livestock numbers would be reduced. Similarly, the discussion of impacts on pages 4-31 to 4-32 indicates that "forage production would likely increase…resulting in creased feed…and an improvement in rangeland health," through a reduction in grazing AUMs. Further, on page 4-91, the Supplement states that "grazing is a threat to all listed and most sensitive species." The state opposes the implication, contained within these statements, that wildlife are, a priori, better for the health of the range than a proper, balanced program of grazing by livestock and use by wildlife. These statements contravene the principles mentioned above.	The sections cited do not imply that wildlife is, a priori, better than livestock. The different alternatives present a range of forage allocations between livestock and wildlife if adjustments in AUMs are made.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
WSA Supp.	4	WL	On a related note, the state believes the BLM should only employ the term "critical habitat" when referring to the legal habitat designations for endangered and threatened species under the Endangered Species Act. The state requests that the BLM use the "crucial habitat" designations mapped by the Division of Wildlife Resources solely as descriptive wildlife habitat designations, not as automatic exclusion zones for other multiple uses.	Chapter 1 of the PRMP/FEIS provides a discussion of the terms "critical" vs. "crucial" habitat.	No
WSA Supp.	6	WC	The state does not believe that BLM has the authority to create a category of management based solely on the characteristics of wilderness. The characteristics of wilderness, or their constituent elements, were first recognized by the Wilderness Act of 1964 and passed to the BLM within the provisions of Section 603 of the Federal Land Policy and Management Act of 1976. The authority within Section 603 has now expired b its own terms. The state recognizes that recent court decisions have affirmed BLM's information about these characteristics in its documents prepared under the National Environmental Policy Act.	Please see Response to ID No. G-144-Comment 10.	No
WSA Supp.	7	PRP	The state cautions BLM against an overly broad reading of these decisions. Management authority must be derived solely from the specific provisions of the Federal Land Policy and Management Act, (e.g. Areas of Critical Environmental Concern) or other specific federal legislation, and it is incumbent upon the BLM to carefully define its detailed legal rationale and reasoning for its proposed management policies, provisions and categories.	See comment response 154-B-6.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
WSA Supp.	8	WC	Thus, the state asks BLM to provide a detailed explanation of the rationale and authority for management of lands solely because of wilderness characteristics, and why such management does not circumvent the provisions of the statutorily required wilderness review process.	Please see Response to ID No. G-174-Comment 3	No
WSA Supp.	10	CCR	As more specifically set forth below, SITLA believes that the Supplement fails to address adequately these two major issues: the impact of BLM management decisions on state trust lands, and the need for a substantially more robust program for land tenure adjustments between the BLM and the State of Utah. BLM has an obligation to include in its planning an effective and timely means of addressing the impact of federal land actions on in-held state trust lands.	The Supplement, along with the Draft RMP, constitutes the complete DRMP. Impacts of BLM decisions on state trust lands are discussed in Section 4.12 (Socioeconomics). Section 4.6.1.1 of the Draft RMP provides a thorough discussion of land tenure adjustments between the BLM and the State of Utah.	No
WSA Supp.	12	WL	The inability to implement habitat restoration projects on BLM lands with wilderness characteristics would impede the UPCD's ability to restore and maintain healthy watersheds.	Habitat restoration projects will be able to occur on non-WSA lands with wilderness characteristics. BLM has provided in the Proposed RMP/Final EIS in Table 2.1.10, the following management direction: "When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: Permit vegetation and fuel treatments using prescribed fire, mechanical and chemical treatments, and other actions compatible with the Healthy Lands Initiative (HLI).	No
WSA Supp.	13	REC	Red Mountain/Sand Pockets: This area is shown as being closed to OHV use, yet the document acknowledges the designated Red Mountain Trail. Also, there are several trails in the Sand Pockets area that are heavily used and may someday soon be connected to Steinke State Park. We recommend this	Within the Range of Alternatives the Sand Pockets area would be Open, Limited, or closed, and therefore evaluates the area as "limited". (See Alternative B, Figure 26.)	No

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Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			area be reclassified as "limited" rather than "closed".		
WSA Supp.	14	REC	Nine Mile: There is an existing road that constitutes the north boundary of the southern portion of the Desolation Non WSA lands with wilderness characteristics area. This road continues east and south across Nine Mile Creek and the proceeds west into Carbon County to Horse Bench. This is a portion of an existing loop trail that is highly prized by OHV users. The Price Field Office's Draft RMP has their portion of this trail open to motorized use. We think the Vernal part of this trail should remain open to preserve continuity between the plans. Also, it is noted on this map that the route up Frank Canyon has been left open for motorized travel as part of this trail.	The Vernal Field office will work closely with the Price field office where possible to resolve concerns dealing with a comprehensive travel management plan. Site specific NEPA will be required for proposed trails/routes. The Comprehensive travel management plan for the VPA will be completed within 1-5 years of the Record of Decision, and is therefore beyond the scope of this document.	No
WSA Supp.	15	WC	Each determination of wilderness characteristics notes that the VFO "determined appropriate setback distances for pipelines, roads, and other ROWs." Other Field Offices did not adopt this approach. Please explain the difference in approaches. With respect to setbacks, some but not all non-WSA areas identified as possessing wilderness characteristics were reduced in size because of buffers. Compare Diamond Mountain and Daniels Canyon. Please clarify if all proposed areas were treated similarly, and if not, why different treatment was appropriate.	As protocol for all VFO wilderness characteristic reviews, the Interdisciplinary Team determined appropriate set-back distances for pipelines, roads, and other R-O-Ws. The VFO cannot speak for other office approaches. All areas were treated similarly.	No
WSA Supp.	16	WC	Where these analysis areas depend on the monument for satisfaction of the 5,000 acre criteria, the existence of a fence appears to detract from wilderness values. Please explain what kind of fence separates the Monument from adjacent BLM lands and why the	A Vernal Field Office Interdisciplinary Team reviewed the Non-WSA areas including Human-made disturbances, such as fencing. Where it was determined that the Human-made disturbances were substantially unnoticeable and did not	No

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			existence of this fence does not compromise values dependant on adjacency.	diminished the naturalness of the area, the areas were then determined to have wilderness characteristics.	
WSA Supp.	17	AA	Please clarify which area were excluded, why, and how the features or activities that contradict wilderness character would impact "outstanding opportunities for solitude or a primitive and unconfined type of recreation" on adjacent lands.	The Proposed RMP column in Table 2.1.10 as well as Section 4.22 in the PRMP/EIS clarifies which non-WSA lands with wilderness characteristics were brought forward. The rationale for the decision will be addressed in the FEIS/Record of Decision.	No
WSA Supp.	18	AA	The review form does not identify any areas as having wilderness characteristics, but the attached map and Box 3.b. do. Please either substantiate any inference from the map that wilderness characteristics exist, or revise the map to indicate that no wilderness characteristics exist.	Page 2-21 of the Supplement to the Draft RMP clearly identifies the non-WSA lands with wilderness characteristics that are analyzed as under Alternative E.	No
WSA Supp.	19	AA	The review form indicates that a juniper removal project is scheduled for 2007. Please clarify how this will be undertaken to avoid interfering with the appearance of naturalness within the treatment area.	See comment response 151-O-4. Any potential surface-disturbing proposals will require site-specific NEPA analysis and documentation.	No
WSA Supp.	20	AA	The map shows numerous routes in sections 27-28 and 33-35 of T3N, R24E. Please discuss these routes and the extent to which they compromise the appearance of naturalness or "outstanding opportunities for solitude or a primitive and unconfined type of recreation".	The RMP is a programmatic document that considers management decisions and impacts analyses on a landscape level, not a site-specific level.	No
WSA Supp.	21	AA	It is difficult to distinguish external nominations from BLM internal nominations. The inability to distinguish areas complicated any attempt to evaluate VFO's analysis. Please be more specific regarding nomination areas and the location of features within	All of the non-WSA lands with wilderness characteristics are external nominations. Locations for these lands are analyzed in Alternative E and are clearly portrayed in Figure 20.	No

Table 5.12a. Public Comments and Responses: State of Utah

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			these areas.		
WSA Supp.	22	AA	Cherry stemming roads that are "regularly used by trucks hauling water from the White River for oil and gas exploration and development" would not appear sufficient to protect "outstanding opportunities for solitude or a primitive and unconfined type of recreation." Please clarify how regular truck use can occur without compromising these values.	There are no non-WSA lands proposed in the Proposed RMP for the PRMP/FEIS where roads access the White River. Should such roads exist to access the White River, the "cherry stemming" land management technique would be used by allowing ingress and egress without compromising a special designation. Cherry stemming localized the area where vehicle traffic is conducted to very small stretches along the river. "Outstanding opportunities for solitude or a primitive and unconfined type of recreation" is still possible with the remaining portions of the river.	No
WSA Supp.	23	AA	Based on the review form, it appears that there are 58 pending APDs within this area. This level of development does not appear compatible with "outstanding opportunities for solitude or a primitive and unconfined type of recreation". Please clarify how VFO would protect "outstanding opportunities for solitude or a primitive and unconfined type of recreation" in light of this level of development, including the ancillary facilities such as roads, pipelines and compressor stations that appear reasonably foreseeable.	The area is question is not being brought forward as a non-wilderness area with wilderness characteristics in the Proposed RMP of the RMP/EIS because of the lands are currently leased as well as the current and the high potential for future development.	No
WSA Supp.	24	AA	It appears that an existing airstrip and several wells are within area 1, but have been cherry stemmed out. Please clarify how continued use of these facilities would be managed to protect "outstanding	See comment response 189-O-23.	No

Table 5.12a. Public Comments and Responses: State of Utah

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			opportunities for solitude or a primitive and unconfined type of recreation."		

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	CR16	The Ute Tribe requests that the Tribe be informed at least two weeks in advance of all future cultural resource surveys, so that Tribal elders can participate in the surveys. The Tribal elders can provide valuable information on locations of sacred areas, medicinal plants, and other areas of cultural importance to the Tribe that may potentially be impacted by surface disturbance on Tribal lands. The RMP/EIS should specify that Tribal elders would participate in evaluation of the cultural importance of a site to the Tribe, where surface-disturbing activities are proposed.	The BLM declines to include language in the proposed RMP that stipulates that the Tribe would be given a 2-week advance notice of cultural surveys and participate in evaluating a site's cultural importance to the Tribe where surface disturbances are proposed. In accordance with the National Historic Preservation Act, Executive Order 13175, other federal legislation and BLM policy, the BLM Vernal Field Office (VFO) will continue to consult with Native American Tribes regarding any undertaking of the VFO that has the potential to affect resources that are important to the Tribes. This consultation affords the Tribes the opportunity to identify for the BLM any concerns and suggest any additional identification or evaluation measured deemed appropriate to the undertaking. In addition BLM will comply with Executive Order 13007, Indian sacred sites,	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			consultation and also comply with manuals 81-20 and H-8120-1.	
Draft RMP/EIS	CR18	The Ute Tribe requests that the following Tribal requirements and stipulations be included in the RMP and in Appendix K (surface stipulations applicable to all surface-disturbing activities), as appropriate, in order to ensure that disturbance to important cultural sites on Tribal lands is avoided: The Tribe shall be consulted prior to any surface disturbance on Tribal lands to ensure that habitats for plants of medicinal or cultural value are not disturbed. If a specific location contains such plants, no surface occupancy would be allowed; Cultural or archaeological sites that are determined by the Tribe to be important historical sites and/or gathering places would be unavailable for surface occupancy; No surface occupancy, including vehicular traffic, would be allowed in sacred areas or on Tribal hunting grounds on the Uintah and Ouray Reservation; and No vehicular traffic shall be allowed on Saturdays and Sundays between Memorial Day and Labor Day for annual summer religious festivals.	Information related to these requests was not provided as a part of the comments from the Tribe, so the VFO is unable to determine where these areas are that the Tribe is concerned about. A meeting was held with Tribal representatives on 12-9-2005 to clarify the comments provided. During the meeting it was stated that all of the comments shown were in regard to Tribal trust surface lands, except for the cultural site comment. As such, any access across Tribal trust surface would be negotiated with Tribe, thus not needing to be addressed within the proposed RMP. Mitigation to important cultural sites will be determined after consultation with the Tribes.	No
Draft RMP/EIS	CR19	The RMP states that the higher number of acres designated in SRMAs under Alternatives A and C would provide greater positive impacts to cultural resources. However, the document (at page 4-50) also states that the greater level of human activity associated with increased recreation in these SRMAs would result in increased levels of vandalism and looting of cultural resources. The Ute Tribe is	Mitigation of impacts to important cultural resources and sacred sites would be developed at the time of site-specific proposals during the NEPA analysis process.	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

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		concerned with the high level of recreation proposed under Alternatives A and C. We disagree that human activity in a "managed setting" would limit vandalism and looting of cultural resources of high importance to the Tribe. We believe that the greater volume of people using the area for recreation would result in increased adverse impact to cultural resources. Therefore, we recommend that cultural surveys be conducted in areas proposed for SRMAs, so that areas with important cultural and sacred sites would be identified and closed to recreational activities.		
Draft RMP/EIS	GC36	Many of the proposed decisions/actions have the potential to negatively impact Tribal lands and resources. Therefore, we request that the BLM formally consult with the Ute Tribe on any land use decision or action (e.g., leasing for mineral development) that could directly or indirectly affect Tribal interests and resources.	The BLM maintains regular and ongoing consultation with the Ute Tribe as part of its responsibilities under the National Historic Preservation Act, Executive Order 13175, and existing BLM policy. Additionally, the BLM is in the process of developing a working agreement with the Tribe to outline the specific parameters and nature of said consultation.	No
Draft RMP/EIS	LG66	The draft RMP at page 4-317 states that rangeland improvements would include a variety of activities. The Ute Tribe supports these improvements, as they would also improve existing wildlife habitat and provide water during high-stress drought periods. The Tribe requests that the BLM notify the Ute Tribe Fish and Wildlife Department prior to initiating rangeland improvements in proximity to Tribal land. Cooperation between the BLM and Tribal biologists would result in the greatest benefit to wildlife that inhabit both BLM and Tribal lands.	The BLM commits to continuing the existing and ongoing consultation with the Ute Tribe regarding actions that have the potential to affect tribal resources or concerns and actions that create opportunities for cooperative management regarding these resources and concerns.	No
Draft RMP/EIS	LR14	The Ute Indian Tribe of the Uintah and Ouray Reservation (Ute Tribe) has previously informed the	Acreages under jurisdiction of the Ute Tribe are included in Table 1.1; however, language has	Yes

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		Vernal Office of the BLM of the need to have the RMP and EIS for the Vernal Field Office discuss the law relating to access to the surface estate of the Ute Tribe. Despite these previous requests, the RMP is completely silent concerning surface access to tribal lands. The Ute Tribe requires acknowledgements of its rights as a surface owner within the area of the RMP. Failure to set forth these rights within the text of the RMP will render the document incomplete and inadequate.	been added to Section 1.4.1 of the PRMP/FEIS clarifying the role of the Ute Tribe as holder of surface estate within the area to be managed through the RMP. See comment response LR37.	
Draft RMP/EIS	LR37	The Ute Tribe is a Cooperating Agency in the revision of the RMP. Despite this status, the Ute Tribe does not believe that its concerns about land use affecting tribal lands have been addressed in the RMP process. As the owner or administrator of much of the surface area within the planning area, the Ute Tribe is entitled to consent to any rights-of-way or other surface uses of these lands. The Tribe is also interested in assuring the proper and efficient development of tribal minerals, while protecting the interests of the Tribe and its members. While BLM officials have been supportive of the Tribe's concerns in private conversations, the RMP does not include any discussion of those concerns, or analysis of how best to address those concerns. The Ute Tribe is frankly worried that the RMP process will be used to justify land development processes that are inconsistent with the special status of tribal lands. The Ute Tribe again requests that the RMP include a clear acknowledgement of the rights of the Ute Tribe to manage access to tribal lands, and a discussion of the process by which the Ute Tribe and the BLM will cooperate in the management of their respective	The following language has been added to Section 1.4.1 of the PRMP/FEIS: "Decisions and actions of the RMP only fully apply to BLM lands. In cases of split estate lands, such as lands within the planning area that are split between the BLM and the Uintah & Ouray Indian Tribe, actions affecting the surface must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner."	Yes

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		land bases.		
Draft RMP/EIS	ME63	Page 3-39 identifies six RFD areas within the VPA that were evaluated for potential energy resources. It should be noted in the RMP/EIS that the Uintah & Ouray Indian Reservation is located in portions of the East and West Tavaputs Plateau, Monument Butte-Red Wash, Altamont-Bluebell, and Tabiona-Ashley Valley RFD areas. Oil and gas, CBNG, tar sands, and mineral materials, such as sand gravel and building stone are potentially present within Reservation boundaries. The RMP/EIS should specify that all Tribal laws, regulations, conditions, and stipulations, would apply to energy and mineral resources, if operations are conducted on tribal land within the VPA.	Section 1.4.1 in the PRMP/FEIS has been revised to read as follows: "Decisions and actions of the RMP only fully apply to BLM lands. In cases of split estate lands, such as lands within the planning area that are split between the BLM and the Uintah & Ouray Indian Tribe, actions affecting the surface must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner."	Yes
Draft RMP/EIS	ME64	Page 4-98 states that under Alternatives A, B, and C, approximately 188,500 acres of split-estate lands (Tribal surface-Federal minerals) within the Hill Creek Extension of the Uintah & Ouray Reservation would be available for minerals leasing. It is important to note that the Hill Creek Extension is known as a "Wildlife and Cultural Resource Protection Area" and was under a mineral development moratorium pursuant to Tribal Ordinance 83-02 and Resolution 83-184. The Tribe only granted exceptions for mineral development for projects in the Flat Rock area, because substantial financial compensation was received for surface use and access to Tribal lands. The Tribe wishes to minimize development in the southern portion of the Hill Creek Extension area, particularly south of Township 13 South. In addition, the Tribe is adamant	The Vernal RMP planning area does not include any BLM managed lands within the Hill Creek Extension in Grand County, so the comment is outside the scope of the RMP. For the remainder of BLM managed lands within the Hill Creek Extension, the BLM has worked with the Ute Tribe and BIA to determine appropriate leasing categories for BLM minerals underlying the Hill Creek Extension.	No

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		about not allowing any development in Grand County for a number of environmental and cultural reasons.		
Draft RMP/EIS	ME65	Page 4-98 states that the impacts of leasing of minerals would be beneficial to the Ute Tribe, including rentals or fees from the use of surface permits or other rights-of-way. However, it does not state that there would also be adverse impacts, including those to cultural resources, e.g. sacred sites, medicinal plants, and ancestral hunting grounds.	Section 4.8 in the PRMP/FEIS has been revised to add a footnote explaining that impacts from minerals leasing are discussed in other resource chapters as part of the area analysis.	Yes
Draft RMP/EIS	ME66	The Ute Tribe requests that the following Tribal requirements and stipulations for surface disturbance resulting from mineral development be included in the RMP/EIS and in Appendix K (surface stipulations applicable to all surface-disturbing activities), in order to ensure that surface disturbance on Tribal lands is avoided, where possible, or minimized: All Tribal laws and regulations shall apply to all oil and gas activities, including the Tribal environmental regulations that are presently being drafted by the Tribe; No geophysical or seismic activities are allowed on Tribal lands without first obtaining a Mineral Access Permit from the Tribe, including payment for surface disturbance; Applications for new road construction on Tribal surface shall be submitted to the Tribe for approval. Access to pristine areas or areas with cultural resources or sacred sites shall be limited (or denied) and multiple well drilling pads may be required to minimize impacts to wildlife, endangered plants or medicinal plants, cultural or historic areas, artifacts,	While the BLM supports the Tribe's comment, the suggested language is more applicable to site - specific proposals. Also, since the BLM is not the surface management agency, it is more appropriate for the Tribe to develop these conditions of approval based upon current resource conditions and their desired land use objectives.	No

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		and important visual resources; All contents of any reserve pit or similar pits and associated pit liners located on Tribal land shall be removed upon well completion and disposed of in an appropriate facility; A fugitive dust control and road maintenance plan shall be submitted by the operator to the Tribe for approval prior to use of Tribal roads; this may require selected roads to be paved by the Lessee; Vehicular traffic and equipment for oil and gas operations shall be subject to maximum daily quotas, noise reduction and road usage curfews, as necessary, established by the Tribe to minimize impacts to the wilderness experience now enjoyed by Tribal members on the Uintah and Ouray Reservation; A written agreement between the Tribe and the operator is required prior to drilling a water well(s) on Tribal lands. All water removed from the well shall be purchased from the Tribe; Surface activities during wet or muddy periods or periods of high fire danger, may be curtailed or prohibited upon notice by the Tribe; No oil and gas development shall be conducted within 500 feet of a canyon rim or hilltop within the Uintah and Ouray Reservation to avoid or minimize impacts to visual resources. The construction of low-profile oil and gas facilities may be required; The minerals underlying leases on the Uintah and Ouray Reservation are subject to claim by the Tribe; and All oil and gas activities shall be in full compliance		

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		with Onshore Order No. 1 (25 CFR section 169) and other applicable rules and regulations, including the Tribe's right to receive full market value for all surface use of and access to Tribal lands (25 CFR Section 169).		
Draft RMP/EIS	ME67	Pages 4-101 to 4-109 discuss the alternatives and mention that each alternative would affect royalties paid to the federal government and/or the State of Utah. As the Tribe owns some mineral rights in the Hill Creek Extension, it should be noted that royalties paid to the Tribe would be affected as well.	The impacts to royalty payments in each alternative are associated with public minerals, i.e. leased by the BLM. As to the mineral estate held in trust for the benefit of the Ute Tribe, the RMP does not impact royalties paid as the determination as to what Indian trust minerals are available for leasing or not is a decision to be made by the Tribe, not the BLM.	No
Draft RMP/EIS	ME68	Pages 4-101 to 4-109 propose, under Alternatives A, B, and C, timing and controlled surface use for the Hill Creek Extension, which is located on the East Tavaputs Plateau. However, several hundred wells would be drilled under all alternatives in East Tavaputs Plateau, some of which would be on Tribal surface lands. The Ute Tribe requests that the number of potential wells on Tribal lands be clearly identified in the RMP/EIS and appropriate mitigation measures should be included.	The mineral potential report identified potential future development within a region, but it is not specific as to location. Therefore, the RMP cannot reflect the number of potential wells upon Tribal surface. Appropriate mitigation measures, beyond what was identified in comment ME66, would be developed at the project proposal stage	No
Draft RMP/EIS	RW74	No leasing/activity should occur within one-half mile of any spring or riparian area.	Appendix K outlines stipulations for surface-disturbing activities near riparian areas. These stipulations apply to all alternatives and throughout the planning area and include no surface occupancy within active flood plains, public waters, or 100 meters of riparian areas.	No
Draft RMP/EIS	SD115	The Ute Tribe is evaluating specific areas on Reservation lands for possible designation as Tribal Wilderness Areas, including but not limited to the	BLM declines to make the suggested wording changes for a variety of reasons including but not limited to, the following:	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		lands south of Township 13 South, S.L.M. The RMP/EIS should include the following tribal stipulation in areas of potential surface disturbance on tribal lands: All lands on the Uintah and Ouray Reservation may be subject to additional future restrictions, i.e., Tribal Wilderness Designation.	The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS. The Vernal RMP only addresses split estate issues such as the Hill Creek Extension, which are Tribal surface and Federal minerals. Discussions have been held between the BLM and Tribal representatives concerning split estate issues on the Hill Creek Extension. Maps and comments have been provided by the Tribe that illustrates surface management concerns for the leasing of the Federal mineral estate. The maps illustrating surface resource impacts were used in analyzing the appropriate category and stipulations for the leasing of the Federal mineral estate. Necessary information as to the area that may be proposed for additional future restrictions has not been provided, so it cannot be included in the RMP decisions at this time. In the future, should	

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			the Ute Tribe decide to provide differing surface use restrictions other than what has already been provided, that would not impact the management of existing leases. Future leases may be impacted after a plan amendment was completed to address the impacts to the mineral resources managed by BLM.	
Draft RMP/EIS	SS21	The Ute Tribe supports the use of Best Management Practices, timing limitations, controlled surface use, and no surface occupancy stipulations to protect special status plants and animals. In addition, the Tribe requests that the BLM consult with the Ute Tribe Natural Resources Department prior to implementing any actions that may affect special status species and/or habitats on the Uintah and Ouray Reservation.	BLM supports consultation with other jurisdictional agencies as stated in Section 1.4.1.2.	No
Draft RMP/EIS	SS22	The Ute Tribe proposes the inclusion of the following stipulation for special status species and habitats in the RMP/EIS: No surface occupancy stipulations would be required for raptor and eagle nesting sites and special status plant species habitat (including threatened, endangered, proposed, and candidate species).	BLM has incorporated surface use restrictions for the management of wildlife. Please see Appendix K.	No
Draft RMP/EIS	SW18	The Ute Tribe is concerned about the impacts of surface disturbance to soil and water quality, since these disturbances would likely affect the water quality on Tribal lands near disturbed areas. We are especially concerned about water quality degradation to Hill Creek from soil erosion and potential contamination of the stream with chemicals. Therefore, the Tribe recommends that the following stipulation be included in the RMP/EIS:	The area around Hill Creek is designated for Controlled Surface Use under Alternatives A, B, C, and E. Stipulations are in place (see Table 2.1.16 (Riparian Resources) under the subsection entitled Management Common to All Action Alternatives that prohibit surface disturbance within 100 meters of riparian areas, with exceptions for the following situations: a) there are no practical alternatives; b) the impacts	No

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		No surface occupancy shall be allowed in areas adjacent to Hill Creek.	are fully mitigated; or c) the proposed action is designed to enhance riparian resources. BLM agrees with your concerns related to water quality impacts to Hill Creek. The BLM-administered lands are subject to the riparian policy stated in Table 2.1.16.	
Draft RMP/EIS	TR14	No right-of-way may be granted across the lands of the Ute Tribe without its consent. 25 U.S.C. § 324; 25 C.F.R. § 169.3. Furthermore, such rights-of-way and surface uses require payment of not less than the fair market value of the rights granted. 25 C.F.R. § 169.12. Payment of the fair market value for surface use is in addition to any payment or bond for potential damage to the surface.	The BLM acknowledges the Ute Tribe's jurisdictional authority and makes no claim in the RMP to the contrary.	No
Draft RMP/EIS	TR69	The Ute Indian Tribe has implemented a Master Infrastructure Plan (MIP) to guide use and development of roads, pipelines, and other facilities in a portion of the RMP area known as the Hill Creek Extension. The Tribe is constructing or has constructed this infrastructure to accommodate foreseeable impacts and development in an effort to eliminate the need for producers to construct unnecessarily. The plan has been developed and implemented with strong consideration to the sensitive needs of wildlife, cultural and historic resources and other environmental concerns. A visual mitigation corridor is in place for the Hill Creek Canyon Corridor to maintain the pristine, recreational experience of the Tribal Members accessing the Towave Reservoir Recreation Area. It is the Tribe's expectation that our MIP will be incorporated into the RMP and that your agency will work with the Tribe to insure the integrity of the plan. Failure to set forth the	The BLM will continue to work with the Tribe regarding surface development on split estate lands within the Hill Creek Extension. The BLM recognizes the authority of the Tribe with regards to surface rights and surface development within these lands, and the RMP would not negate this authority.	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		key points of the Plan within the text of the RMP will render the document incomplete and inadequate.		
Draft RMP/EIS	WF69	The Ute Tribe requests that the BLM include the following stipulations in the RMP/EIS in order to minimize disturbance to game species of importance to the Tribe: Vehicular traffic shall be prohibited during the breeding and calving season and hunting seasons for deer, elk, bighorn sheep, and buffalo; and All bear and mountain lion lairs shall be protected to avoid or minimize any potential impacts to bears and mountain lions.	BLM acknowledges the Tribe's comment; however, the suggested language is more applicable to site-specific proposals. Also, since the BLM is not the surface management agency, it seems more appropriate for the Tribe to develop these conditions of approval based upon current resource conditions and their desired land use objectives.	No
Draft RMP/EIS	WF210	The Ute Tribe has identified areas of no leasing/activity as Chandler Canyon, the Green River corridor and steep canyon country of the connected drainages. These areas provide important habitat for Rocky Mountain bighorn sheep, and are considered critical year-round range for bighorn.	The Chandler Canyon area of the Hill Creek extension would be managed by the BLM under timing and controlled surface use stipulations under Alternatives A, B, C, and E. Management under these stipulations would be conducted in coordination with the Ute Tribe. The Upper Green River Corridor is designated as no surface occupancy for line of sight from the centerline, up to ½-mile along both sides of the river from Little Hole to the Colorado State line. The Lower Green River Corridor is designated as no surface occupancy for line of sight from the centerline, up to ½-mile along both sides of the river from the trust land boundary at Ouray and the Carbon County line.	No
Draft RMP/EIS	WF211	The Ute Tribe has identified Wild Horse Basin as an area of no leasing/activity as it provides critical winter range and transitional spring and fall range for deer,	Please, see the response to Comment WF210 as the same stipulations apply to the Wild Horse Basin-Moon Water Canyon-Chandler Point area.	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			elk and bison. This designation of no leasing/no activity also extends to the area south of Wild Horse Basin and into the area including Moon Water Canyon and Chandler Point.		
Draft RMP/EIS	WF212		The Wolf Flat project area provides critical winter habitat for big game. Limited activity, i.e. no new drilling of wells, should occur from December through March. Much of the area is also important bison calving habitat. Limited activity should occur during April and May.	The Wolf Flat area of the Hill Creek Extension would be managed by the BLM under timing and controlled surface use stipulations under Alternatives A, B, C, and E. These stipulations include timing limitations for deer and elk winter range from November 15 through April 30 under Alternatives A and C and timing limitation for deer and elk winter range from December 15 to March 15 under Alternative B.	No
WSA Supp.	1	WC	Although the Vernal Supplemental RMP specifically recognizes that development would occur on valid and existing leases within wilderness characteristics areas, the document fails to recognize that development also has the potential to occur within wilderness characteristics areas on lands that are held in split estate.	The supplement carried forward criteria from the DRMP. One of the planning criteria in Section 1.4.1.2 is that the revised RMP would recognize valid existing rights	No
WSA Supp.	2	WC	As discussed in the previous section, the Vernal Supplemental RMP clearly recognizes that oil and gas development would likely occur on valid and existing leases within wilderness characteristics areas, however, the document fails to analyze the impact of access restrictions in wilderness characteristics areas to development of lands adjacent to these areas. In some cases, Tribal lands, which include Tribal minerals, have been used o form the boundary of wilderness characteristics areas (see Desolation Canon and Wolf Point wilderness characteristics areas on Figure 20e). The BLM should recognize that ROWs	BLM does not deny access to inholdings when there is no other access. BLM also does not deny access if related to another right. Summary of Comments for Vernal RMP/EIS LR12A	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			could be necessary within wilderness characteristics areas to access Tribal lands/minerals. For example in order to access Tribal and Allottee minerals east of Willow Creek access could be needed through Wolf Point wilderness characteristics area.		
WSA Supp.	3	MIN	As discussed in Section 4.21.2.3 - Impacts of Lands and Realty Management Decisions on Non-WSA Lands with Wilderness Characteristics (see pg. 4-153), under Alternative E, non-WSA lands with wilderness characteristics would be managed as ROW exclusion areas. Exclusion from future ROW development would protect the natural character of the landscape of all the non-WSA lands with wilderness characteristics. The Tribe recognizes that the BLM is encouraged to preserve land in its natural condition. The Tribe also recognizes that a parcel of land cannot be preserved in its natural character and mined at the same time. However, case law supports the Tribe's claimed right of access. In fact, without access the Tribe could not develop its minerals in any fashion and they would become economically ineffectual. Based upon this information, the Tribe requests that the BLM consider adding the following information to the Vernal Supplemental RMP. Where necessary, the BLM would grant reasonable access across Federal lands with wilderness characteristics to provide for development of adjacent Tribal lands and minerals.	The BLM does provide for reasonable access to all non-BLM managed lands under all alternatives. Information will be added to Chapter 2, Lands and Realty, Management Common to all action alternatives, that states that reasonable access to non-BLM managed land would be provided including across BLM lands within avoidance and exclusion areas for rights-of-way.	Yes

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			Where necessary, the BLM would grant reasonable access to Federal lands with wilderness characteristics to provide for development of Tribal/Indian Allotted minerals, which are held in split estate (i.e., Tribal minerals and Federal surface with wilderness characteristics areas).		
WSA Supp.	4	SOC	Although a brief statement regarding Environmental Justice is included in the comparison of impacts within the Vernal Supplemental RMP (see page 2-22), neither Chapter 3 (Affected Environment) nor Chapter 4 (Environmental Consequences) mention Environmental Justice. As required by EO 12898, the effects of implementing each alternative, including Alternative E, should be fully analyzed in detail. In the Environmental Justice section (see pg. 2-22), which is within Table 2.5 - Summary of Impacts, it states: Indian tribes would benefit from revenues derived from rights-of-way grants to oil and gas industry, but traditions and religious sites could be adversely impacted. Minerals development could adversely reduce or replace tribal livestock grazing, decrease opportunities for hunting and gathering, and ceremonial worship. In addition to this statement, the BLM should include information regarding the potential adverse effects that managing lands in a manner that protects their wilderness values could have on Tribal members. All points emphasized within the summary comparison of	The Proposed RMP/Final EIS has an expanded discussion in Chapters 3 and 4 of Environmental Justice populations and the expected impacts of plan decisions on these populations. The commenter provides no evidence suggesting how managing lands to preserve, protect and maintain wilderness characteristics would have an adverse impact on Tribal members.	No

Table 5.12b. Public Comments and Responses: Ute Indian Tribe

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			impacts should then be expanded upon in Chapter 4 of the Vernal Supplemental RMP in a manner comparable to that included in the Vernal Draft RMP/EIS		

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	AQ149	Regional haze is mentioned here as an adverse impact from compressors and generators associated with mineral extraction activities. Prescribed burns and naturally occurring wildfires are much more likely to generate regional haze; however, these adverse impacts are not mentioned in many sections of the document where the impacts of prescribed burns are listed.	The general consensus among air quality professionals is that oil and gas is usually a more significant source of potential regional haze impacts on a long-term basis.	No
Draft RMP/EIS	AQ150	The cumulative effects of air quality associated with Alt D should be less than the three action alternatives due to the prescribed burning of about 105,525 fewer acres of land over the next decade under Alt D	Other sources, such as activities associated with oil and gas, were also considered in the analysis.	No
Draft RMP/EIS	AQ151	DEIS states that "dust abatement measures need to comply with UAC regulation: compliance would be obtained through special stipulations as a requirement on new projects and through the use of dust abatement control techniques in problem	Section 4.2.4 in the PRMP/FEIS describes the cumulative impacts regarding air quality (including PM10 and PM2.5 dust emissions). Section 4.2.3 in the PRMP/FEIS describes mitigation measures.	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		areas." DEIS lacks information and sufficient analysis supporting a need for this change and does not expand upon what special stipulations would be required.		
Draft RMP/EIS	AT43 (AT-JJ)	Last 2 sentences: are these comparisons really between alternatives B and D or are they between alternatives B and A as stated?	The comparisons are between Alternatives B and A as stated. Alternative B was compared to Alternative D (No Action) elsewhere in the paragraph.	No
Draft RMP/EIS	FM2	This summary fails to address the relative merits of the four alternatives based on woodland and forest decisions.	Section 4.4.2.8 in the PRMP/FEIS has been revised to summarize the effects of woodland and forest management decisions on fire management to each alternative summary.	Yes
Draft RMP/EIS	GC56 (GC-M)	DCWCD would like to see further information given as to the Colorado River Compact and how it affects public land use.	There is absolutely no effect whatsoever on water rights or in-stream flows related to suitability findings made in a land-use plan decision, barring Congressional action. Even if Congress were to designate rivers into the National Wild and Scenic Rivers System, any such designation would have no affect on existing, valid water rights. Section 13(b) of the Wild and Scenic River Act states that jurisdiction over waters is determined by established principles of law. In Utah, the state has jurisdiction over water. Although the Wild and Scenic Rivers Act implies a federal reserved water right for designated rivers, it doesn't require or specify any amount, and instead establishes that only the minimum amount for purposes of the Act can be acquired. Because the State of Utah has jurisdiction over water, BLM would be required to adjudicate the right as would any other entity, by application through state	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			processes. Thus, for Congressionally designated rivers, BLM may assert a federal reserved water right to appurtenant and unappropriated water with a priority date as of the date of designation (junior to all existing rights), but only in the minimum amount necessary to fulfill the primary purpose of the reservation. In practice, however, federal reserved water rights have not always been claimed if alternative means of ensuring sufficient flows are adequate to sustain the outstandingly remarkable values. The BLM is fully evaluating and considering potential impacts related to these Wild and Scenic River decisions in this planning process. Congressional designation of suitable streams is evaluated in the cumulative impacts analysis of the FEIS. See Appendix C for a more thorough discussion of how the suitability considerations are applied to each eligible river.	
Draft RMP/EIS	LG8	The Forage policies of the RMP should be revised to be consistent with the livestock and grazing policies of Duchesne County, which are as follows: The cultural heritage of Duchesne County is based on agriculture and livestock. These industries formed the historic basis of the local economy from the beginning days of settlement until the development of significant oil and gas resources in the early 1970s. Livestock grazing influenced lifestyles, left its imprints on the landscapes, and is one of the oldest enduring and economically important cultural heritage resources in the west. Although farms and	In accordance with FLPMA, the BLM reviewed and considered the general plans of Duchesne, Daggett, Uintah, and Carbon counties during development of the management alternatives within the RMP. Where feasible, prudent, and consistent with the purpose and need of the RMP and BLM's multiple-use/sustained yield mandate, the BLM developed a range of alternatives and included them in the RMP/EIS. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from,	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		ranches in the County were established on a private land base, during parts of the year livestock is pastured on public rangeland. The combination of public rangeland and private farmland constitutes the economic base for many of the County's livestock operations. If either the grazing permit or the private land is lost or diminished, the economic viability of those operations can be jeopardized. Federal grazing permits issued under the Taylor Grazing Act (BLM) or the Granger-The Act (USFS) allow permittees the privilege to use publicly owned forage. It is the position of Duchesne County that: a. Public land agencies shall maintain livestock grazing permits and grazing allocations at present levels until a study of rangeland improvement justifies increased or decreased grazing.; b. The County recognizes grazing permits on public lands as an asset, which may be transferred by the permit owner. Such transactions must be processed by the land management agency within ninety days of proper notification. Any reduction in the size of the permit or forage allocation as a result of the transaction shall not be made without a specific scientific justification; c. When grazing permits are withdrawn from a livestock operator due to grazing violations, the permit shall not be reallocated to other uses and shall be made available for continued livestock use	and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5.	

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		before the commencement of the next grazing season; d. Access to public rangeland is vital to the permit-holders and the management agency for planning, management, and development. Access shall be maintained and improved as management needs require; e. The permit-holder shall be compensated for the remaining value of improvements made on reduced allotments, unless the permit was canceled for non-compliance with grazing regulations. Said compensation will be provided for in accordance with Section 402 of the Federal Land Policy and Management Act of 1976, which provides a reasonable compensation for the adjusted value, to be determined by the Secretary concerned, of his interest in authorized permanent improvements placed or constructed by the permittee or lessee on lands covered by such permit or lease, but not to exceed the fair market value of the terminated portion of the permittee's or lessee's interest therein; f. Livestock allocations shall not be converted to wildlife allocations as long as the land supports the grazing Animal Unit Months (AUM's) assigned to the allotment. The only justification for decreasing domestic livestock grazing AUM's is for there to be a valid and documented scientific finding that the range district will no longer support the AUM's in question. The BLM and Forest Service are expected to comply with and honor the domestic grazing preference on grazing districts. Duchesne County recognizes that 43 CFR part 4110.3 provides for changes in permitted use.		

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		Conversion of allocated forage from one grazing animal to another would require a NEPA process that conforms with land-use plans; g. Management decisions shall be based on the individual range allotment condition and not on the overall condition of surrounding lands. Increases in available forage resulting from the conservation practices of livestock permit-holders shall not be allocated or credited to other uses; h. Forage allocation reductions resulting from forage studies, drought, or natural disasters shall be implemented on an allotment basis. Reductions shall be applied proportionately to all allocations unless it can be proven that a specific type of grazing animal is causing the land health degradation. Duchesne County recognizes that, in the event of fire, drought or natural disaster, a variety of emergency or interim actions may be necessary to minimize land health degradation, such as temporary reduced forage allocation for livestock and wildlife. Forage allocation reductions shall be temporary. Grazing allocations shall be restored when forage production is restored; i. Weed control efforts that affect forage allocations shall be discussed by the land management agency with livestock representatives, neighboring landowners, and the County weed specialist. After the discussion, a weed control plan shall be developed and implemented; j. Public land management agencies shall endeavor to inspect riparian and sensitive areas with livestock permittees approximately one week before livestock are admitted to the grazing allotment;		

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		If riparian areas are damaged or degraded before the livestock enter the grazing allotment, the management agency and representatives shall make a record of the condition and appropriate mitigation shall be acceptable to all parties. A copy of the signed report shall be filed with the agency and provided to the permit-holder; k. Increases in available forage resulting from practices or improvements implemented by managing agency will be allocated proportionately to all forage allocations, unless the funding source specifies the benefactor; l. Changes in season of use or forage allocation must not be made without full and meaningful consultation with permittee. The permittee must be the first point of contact; m. The continued viability of livestock operations and the livestock industry shall be supported on federal and state lands within Duchesne County by management of the lands and forage resources and the optimization of animal unit months for livestock in accordance with the multiple-use provisions of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701 et seq., the provisions of the Taylor Grazing Act of 1934, 43 U.S.C. 315 et seq., and the provisions of the Public Rangelands Improvement Act of 1978, 43 U.S.C. 1901 et seq.		
Draft RMP/EIS	LG107 (LG-S) (LG-22)	Section 4.6.2.4 does not seem to exist in the document and the effects of livestock grazing decisions on fire management definitely needs to be addressed	Section 4.7.2.1.1 in the PRMP/FEIS has been revised to remove the reference Section 4.6.2.4 and to impacts analysis of livestock grazing management actions on fire management. As stated in Section 4.4.2, the management actions	Yes

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			associated with livestock grazing would have negligible impacts on fire management.	
Draft RMP/EIS	LG132 (LG-RR)	It is noted that unallocated AUMs could be allocated to wildlife. The Duchesne County General Plan contains a policy that "The BLM and Forest Service are expected to comply with and honor the domestic grazing preference on grazing districts." As such, any unallocated AUMs should be considered first for domestic grazing.	See comment response LG88.	No
Draft RMP/EIS	LR1	"No lands acquired through land tenure adjustments would be classified or opened for agricultural entry or leasing in the RMP planning area." At a minimum, Duchesne County would request the addition of the bolded phrase into this sentence. However, Duchesne County questions whether such restrictions should be imposed across the board.	The suggested wording change has been made in Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS under the subsection entitled Land Tenure Adjustments (LTAs).	Yes
Draft RMP/EIS	LR2	Duchesne County requests that the Land Tenure Adjustments policies and Exchange/Acquisition policies of the RMP be revised to be consistent with Duchesne County policies, which are as follows: "Whereas more than fifty-percent of Duchesne County consists of public lands managed by federal and state agencies, further loss of private property will result in a diminution of the economic base and cultural values. It is the position of Duchesne County that: a. Private property shall be protected from coerced acquisition by federal, state and local governments;	The Land Tenure Adjustments listed in Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS and Exchange/Acquisition policies listed in the same table do not conflict with the elements of Duchesne County's policies as stated in the comment and do not preclude the County's maintenance of those policies. BLM is only interested in acquiring private property from willing sellers.	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		b. The County shall be compensated for loss of private lands or tax revenues due to land exchanges; c. Private lands shall not be converted to state or federal ownership in order to compensate for government activities outside of Duchesne County; d. Any conversion from private property to public lands shall result in no net loss of private property. No net loss shall be measured both in terms of acreage and fair market value; and e. A private property owner has a right to dispose of or exchange property as he/she sees fit within applicable law."		
Draft RMP/EIS	LR2A	Duchesne County requests that the Land Tenure Adjustment policies listed on Page 2-15 and the Exchange/Acquisition policies on Pages 2-16 and 2-17 of the RMP be revised to be consistent with the above Duchesne County policies.	The BLM declines to make the suggested wording changes for a variety of reasons including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS.	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/DRMP, so that the State and local governments have a complete understanding of the impacts of the DRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5.	
Draft RMP/EIS	ME9	Revise this section as follows:	The BLM declines to make the suggested wording changes for a variety of reasons	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		"...any lands known to contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat; and..."	including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS.	
Draft RMP/EIS	ME9A	A plan of operation should not be required when the species is merely proposed as threatened or endangered.	Since proposed species are in jeopardy it is important to treat them in such a way as to not lead to the listing of the species. Requiring a plan of operations would be one of the measures to help protect the species from listing.	No
Draft RMP/EIS	ME31	The analysis concludes that Alternative C would reduce long-term adverse impacts on the Oil, Gas and CBNG resources "by ensuring that the resource was available to support a viable, long-term mineral industry." This conclusion is based on the assumption that minerals that cannot be used today could be used in the future. However, there is no guarantee that lands deemed unsuitable for such use under Alternative C today will ever be made available for future resource extraction, that other sources of energy may be developed and the National immediate energy need.	Section 4.8.2.1.3.1 in the PRMP/FEIS has been revised to delete the statement in question.	Yes
Draft	ME31A	The statements fail to consider EPCA directions	See comment response ME22.	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
RMP/EIS		requiring impediments to energy development be reduced and management restrictions be the least restrictive.		
Draft RMP/EIS	ME34	If Alternative C would close 48,801 acres to oil and gas leasing, how can that acreage be included in the total number of acres available for oil and gas leasing in Table 4.8.1?	The acreage closed to oil and gas leasing under Alternative C is included in the "Closed to Leasing" line item in Table 4.8.1, not in the acreage open to leasing under standard, timing and controlled surface use, or no surface occupancy (NSO) stipulations.	No
Draft RMP/EIS	ME35	In the alternatives there are proposed management prescriptions such as VRM, NSO, and oil and gas closures. If these are for recreational purposes they must be analyzed here. If they are for other resources then they should be removed. As written, when analyzing it is difficult to determine the purpose for the NSO's, etc. All actions proposed for recreation should be limited to management of recreation not other resources.	See Table 2.1.3 (Recreation Resources) in the PRMP/FEIS. See Table 2.1.14 (Recreation – Special Recreation Management Areas (SRMAs)) in the PRMP/FEIS. See Table 2.1.18 (Special Designations – Areas of Critical Environmental Concern (ACECs) in the PRMP/FEIS. See Table 2.1.19 (Special Designations – Wild and Scenic Rivers (SWR)) in the PRMP/FEIS. See Table 2.1.20 (Special Designations – Wilderness Study Areas (WSA)) in the PRMP/FEIS. See Table 2.1.24 (Visual Resource Management) in the PRMP/FEIS.	No

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			Management decisions related to NSO and oil and gas closure are primarily related to special designations, special status species and wildlife decisions, and VRM classification. NSO stipulations and oil and gas closures may overlap with areas within which recreation is anticipated, but are not implemented specifically for the purpose of recreation.	
Draft RMP/EIS	ME42	The statement that none of the alternatives would result in more than a 0.4% net decrease in the number of predicted oil and gas wells is deceiving. Based on the information in Tables 4.8.2, 4.8.3, 4.8.4 and 4.8.5, Alternatives A, B and C all provide more opportunity for oil and gas well drilling than Alternative D (No Action). However, the difference between Alternatives B and C is about 2.5%.	Sections 4.8.3 and 4.8.4 in the PRMP/FEIS have been revised to read: "Under all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to the No Action alternative."	Yes
Draft RMP/EIS	ME45	This text implies that Alternative B will have substantial impacts and jeopardize plant species when compared to the impacts of Alternative A, yet Tables 4.8.2 and 4.8.3 indicate that Alternative B anticipates only 13 more oil wells, 34 more gas wells and 2 more coal bed methane wells than Alternative A in the vast southern part of the VPA. The alarming text in this paragraph should be toned down.	The small increase in the number of wells betweens Alternatives A and B is not as important as are the locations of those additional wells. As stated in Section 4.15.2.3.2.1: "…the increase in mineral and energy development is concentrated in the southern part of the VPA, which would place the Book Cliffs soil endemics at substantial risk and potentially result in jeopardy to listed species and/or the listing of previously candidate or sensitive species as threatened or endangered."	No
Draft RMP/EIS	PA2	This section recognizes the benefits of paleontological studies associated with mineral development mitigation; however, such benefits are not mentioned in the analysis of Alternatives A and D	Language acknowledging the scientific benefit (e.g., increasing the body of knowledge) of paleontological investigations conducted in association with minerals development has been	Yes

Table 5.12c. Public Comments and Responses: Duchesne County

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		(No Action) that follow.	added to the discussions of Alternatives A, D (No Action), and E.	
Draft RMP/EIS	RE41 (RE-U)	Paragraph 2 line 7: The reference to "unmanaged OHV use" under Alt B is not logical given the data in Table 2.3 and elsewhere indicating that the amount of land open to unrestricted OHV use in Alt B is very similar to Alt A and C (yet "unmanaged OHV use" is not mentioned in the analysis under those alternatives).	The PRMP/FEIS has been revised to remove "unmanaged" from the text in Section 4.10.2.6.2.2.	Yes
Draft RMP/EIS	RE42 (RE-V)	2nd paragraph: Why is it stated that there would be "minimal management of OHV use" only in Alt B when the amount of acreage open to OHV travel in Alt B is the same as ALT C and less than Alt A" The amount of acreage available in Alt B for limited OHV travel is very similar to that available in Alt A.	This paragraph refers to the minimal level of OHV management under Alternative B in the areas mentioned: White River, Blue Mountain, Fantasy Canyon, Book Cliffs, Browns Park, Red Mountain-Dry Fork, and Nine-Mile Canyon. Under Alternative A, these areas would be designated as SRMAs and would receive a higher level of OHV management. While the total acres for Open, Limited, and Closed OHV use are roughly similar for Alternatives A and B, this paragraph is an analysis of impacts from OHV use on the above-mentioned areas.	No
Draft RMP/EIS	RW3	It is the position of Duchesne County that the statutory requirement regarding the management of riparian areas is to provide "reasonable protection," not to prevent against any and all impacts. The intent is to "maintain function." Riparian area buffer zones of no surface disturbance should be determined in an adaptive and flexible manner and only when site-specific analysis shows it is necessary to reasonably protect the area. RMP and Forest Plans must require that waters and riparian areas be managed so as to not impair function and reduce grazing allotments	This is beyond the scope of the PRMP/FEIS. BLM must adhere to Executive Order 11988 (1977) for Floodplains/Utah Riparian Management Policy which states that: "No new surface-disturbing activities will be allowed within 100 meters of riparian areas unless it can be shown that (1) there are no practical alternatives or (2) all long-term impacts can be fully mitigated or (3) the activity will benefit and enhance the riparian area."	No

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		based on AUM's (sic) or create expansion of NSO requirements on lands historically open to mineral development. In keeping with BLM IM 2003-233 and 2003-234, the riparian buffer distance should be set based on site specific analysis and should be no greater than the least amount necessary to accomplish the desired resource protection. Providing a blanket 100-meter buffer is not acceptable.	The Proposed RMP includes the exceptions noted above in Appendix K.	
Draft RMP/EIS	SD8	It is the position of Duchesne County that Special Recreation Management Areas are improper if they are used or managed to diminish the multiple use-sustained yield mandate of FLPMA and NFMA, or provide BLM with an excuse to carry out wilderness non-impairment standards of land management. An RMP should specify the precise parameters of SRMA uses and management. SRMA's are not to be considered as strictly recreation areas to the exclusion or elimination of other uses. The RMP should specify the precise parameters of SRMA uses and management before Duchesne County will feel comfortable with Alternative A. Absent such assurances, Duchesne County supports Alternative B.	The CEQ regulations (40 CFR 1502.1) require BLM to consider reasonable alternatives, which would avoid or minimize adverse impacts or enhance the quality of the human environment, based on the nature of the proposal and facts in the case (CEQ 40 Most Asked Questions 1b.). While there are many possible management prescriptions or actions, the BLM used the scoping process to determine a reasonable range alternatives that best addressed the issues, concerns, and alternatives identified by the public. Public participation was essential in this process and full consideration was given to all potential alternatives identified. The BLM determined that a single alternative analyzing the protection of all Non-WSA lands with wilderness characteristics would best provide a reasoned choice among the alternatives. Although the other alternatives do not provide specific management prescriptions to protect Non-WSA, these alternatives analyze and disclose the impacts of the proposed resource management prescriptions, uses and actions on	No

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			the Non-WSA lands with wilderness characteristics. This gives the public the ability to fully compare the consequences of protecting or not protecting the wilderness characteristics on these Non-WSA lands. If all alternatives contained comparable protections of the Non-WSA lands with wilderness characteristics, the alternatives would have substantially similar consequences and would not be significantly distinguishable. The BLM, in developing the PRMP/FEIS, can chose management actions from within the range of the alternatives presented in the DRMP/DEIS and create a management plan that is effective in addressing the current conditions in the planning area based on FLPMA's multiple-use mandate.	
Draft RMP/EIS	SD9	Under [Alternative B], 44,181 acres in Nine Mile Canyon would continue to be managed as a SRMA. Duchesne County does not support increasing this SRMA to 81,168 acres under Alternative A.	The BLM concurs that the Nine Mile ACEC boundary should not extend beyond the upper rim and BLM has provided that determination in the Proposed RMP. This revision is consistent with the Price FEIS boundary.	No
Draft RMP/EIS	SD10	Duchesne County is opposed to the extension of the existing ACEC in Nine Mile Canyon beyond the upper rim of the canyon. On page 3-83 of the RMP/DEIS, it appears that the proposed expansion of the Nine Mile Canyon ACEC covers a total of 36,987 acres. On Page 2-56, it indicates that the Nine Mile Canyon ACEC (in Alternative A) would expand from 44,181 to 48,000 acres (an increase of	See Response to Comment SD9-G-9.	No

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		3,819 acres). This leads Duchesne County to conclude that the remaining 33,168 acres of ACEC expansion in Nine Mile Canyon would occur in Carbon County. If this is true and the ACEC boundaries stay within the canyon upper rim, Duchesne County would not object to Alternative A.		
Draft RMP/EIS	SD11	Duchesne County asserts that the RMP/DEIS does not address all of the five criteria listed [below] and that no additional Wild and Scenic Rivers shall be designated in Duchesne County: i) It is clearly demonstrated that water is present and flowing at all times; (ii) It is clearly demonstrated that the required water-related value is considered outstandingly remarkable within a region of comparison consisting of one of the three physiographic provinces in the state. The rationale and justification for the conclusions shall be disclosed; (iii) The effects of the addition on the local and state economies, private property rights, agricultural and industrial operations and interests, tourism, water rights, water quality, water resource planning, and access to and across river corridors in both upstream and downstream directions from the proposed river segment have been evaluated in detail by the relevant federal agency; (iv) It is clearly demonstrated that the provisions and terms of the process for review of potential additions have been applied in a consistent manner by all federal agencies; and (v) The rationale and justification for the proposed addition, including a comparison with protections offered by other management tools, is clearly analyzed within the multiple-use mandate,	The criteria the commenter is referring comes from Utah Code Section §63-38d-401. The State of Utah has worked as a Cooperating Agency throughout this planning process and has been intimately involved with the BLM's wild and scenic river planning process. The State has assisted Field Office specialists to help determine eligibility findings for each of the river segments, and has provided social and economic expertise and advice as the BLM determined which eligible segments to carry forward as suitable into the Proposed RMP. BLM has committed to working cooperatively among Federal, State, and local governments and communities during the post-planning wild and scenic river study phase when statewide recommendations for inclusion of river segments into the National Wild and Scenic Rivers System would go forward to Congress. Prior to this post-planning phase, BLM would work with affected partners to help identify in-stream flows necessary to protect the outstandingly remarkable values for which the subject river segments were found suitable via this planning process. Thus, because there are no effects of this planning decision on valid existing rights, and because suitability findings in	No

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		and the results disclosed. All valid existing rights, including grazing leases and permits shall not be affected.	this planning process do not create new water rights for the BLM, the land-use planning wild and scenic river suitability determinations are found by BLM to be consistent with the Utah Code 63j-4-401.	
Draft RMP/EIS	SD12	The Duchesne County General Plan contains the following policies regarding ACEC's: All plans and management decisions must ensure that special designations do not influence the use of resource on lands not listed. The County opposes the use of a buffer zone management philosophy that dictates land use practices and influences decisions beyond the scope and boundaries of the designations. The County also opposes the imposition of Areas of Critical Environmental Concern (ACEC) classifications or Visual Resource Management (VRM) classifications as substitutes for former Wilderness Inventory Units or so-called Citizens' Proposed Wilderness Units, or as mean to displace formerly valid surface occupying multiple use activities. ACEC and VRM classifications are improper management tools unless narrowly drawn and tailored, both geographically and programmatically, to effect only those minimal restrictions that are actually necessary to prevent irreparable damage to valid and relevant resource values. Imposing ACEC classifications in the name of "protecting scenic values" is an improper use of the ACEC tool, which contradicts this County Policy. Special designations include wilderness	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/DRMP, so that the State and local governments have a complete understanding of the impacts of the DRMP on State and local management options. A consistency review of the PRMP/FEIS with the State and County Master Plans is included in	No

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		designations, wild and scenic rivers, areas of critical environmental concern (ACEC), critical habitat, semi-primitive and non-motorized travel areas, and other designations that may result in non-use, restricted use, or environmental impacts on public and private lands. Special designations dictate practices that restrict access or use of the land that impact other resources or their use. Such designations cause resource waste, serious impacts to other important resources and actions, and are inconsistent with the principles of multiple use and sustained yield. County support for the designation of an Area of Critical Environmental Concern shall be withheld until: (i) It is clearly demonstrated that the proposed area contains historic, cultural or scenic values, fish or wildlife resources, or natural processes, which are unique or substantially significant; (ii) The regional values, resources, processes, or hazards have been analyzed by the federal agency for impacts resulting from potential actions which are consistent with the multiple-use, sustained-yield principles, and that this analysis describes the rationale for any special management attention required to protect, or prevent irreparable damage to the values, resources, processes, or hazards; (iii) The difference between special management attention required for an ACEC and normal multiple-use management has been identified and justified, and that any determination of irreparable damage has been analyzed and justified for short and long-term horizons;	Chapter 5.	

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		(iv) It is clearly demonstrated that the proposed designation is not a substitute for a wilderness suitability recommendation; and (v) The conclusions of all studies are submitted to the county for review, and the results, in support of or in opposition to, are included in all planning documents. (vi) Any impacts on private property rights are evaluated and mitigated. Based on these Duchesne County policies above, the County supports Alternative B for Areas of Critical Environmental Concern.		
Draft RMP/EIS	SD13	The Duchesne County General Plan contains the following policies regarding Wild and Scenic Rivers: County support for the addition of a river segment to the Wild and Scenic Rivers System shall be withheld until: (i) It is clearly demonstrated that water is present and flowing at all times; (ii) It is clearly demonstrated that the required water-related value is considered outstandingly remarkable within a region of comparison consisting of one of the three physiographic provinces in the state. The rationale and justification for the conclusions shall be disclosed; (iii) The effects of the addition on the local and state economies, private property rights, agricultural and industrial operations and interests, tourism, water rights, water quality, water resource planning, and	See Response to Comment SD12-G-9.	No

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		access to and across river corridors in both upstream and downstream directions from the proposed river segment have been evaluated in detail by the relevant federal agency; (iv) It is clearly demonstrated that the provisions and terms of the process for review of potential additions have been applied in a consistent manner by all federal agencies; and (v) The rationale and justification for the proposed addition, including a comparison with protections offered by other management tools, is clearly analyzed within the multiple-use mandate, and the results disclosed. All valid existing rights, including grazing leases and permits shall not be affected. Based on the policies listed above, Duchesne County is in support of Alternatives A or B in this section of the RMP.		
Draft RMP/EIS	SD240 (SD-JJJ)	1st paragraph: It states that, under Alternative A, the upper and lower segments of the Green River would be determined suitable for WSR status. However, on pg. 4-212 and 4-214, it implies that these Green River segments have already been determined to be suitable. Has suitability been determined for these segments; and if so, when?	Chapter 4 in the PRMP/FEIS has been revised to clarify the status of WSR river segments under Alternative A.	Yes
Draft RMP/EIS	SD241 (SD-KKK)	Does the designation of a route as a backcountry byway actually result in regulation of surface-disturbing activities as implied here? Or is it the SRMA designation that provides for such regulations.	The Back Country Byway Program of the BLM is a special designation program wherein the BLM can regulate land uses in accordance with the maintenance of the resource values for which the byway was designated.	No
Draft	SD242	Contrary to EPCA and NEP policy, the designation of	See Response to Comment SD14-G-13.	No

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RMP/EIS	(SD-LLL)	Segments 1 and 2 of the White River as suitable for inclusion in the Wild and Scenic River System would result in overlapping restrictions, since the lands adjacent to these river banks are frequently wetland habitats and within the 100-year floodplain, which are under NSO stipulations or closed to mineral development. We recommend that stipulations not necessary to accomplish desired protection be modified or dropped through the planning process. NEP, pp. 5-7; IM 2003-233, p.3. Preferred actions in the DEIS/RMP must be analyzed and developed in the context of these statutory and executive policies that promote and facilitate oil and gas development.		
Draft RMP/EIS	SO6	In addition to tourism impacts on law enforcement and emergency services, tourism on public lands impacts the county road systems.	There is no requirement in NEPA to do the detailed analysis that the commenter demands. This is outside the scope of the RMP and EIS. Administrative Actions by the BLM do not require a specific planning decision to implement.	No
Draft RMP/EIS	TR1 (TR-N)	We request that the BLM articulate its policies regarding the granting of Title 5 rights of way to counties and provide a Title 5 right of way agreement template in an appendix of the RMP.	The request is beyond the scope of this document. Title V rights-of-way are clearly explained in FLPMA. It is not necessary to repeat that information in this document.	No
Draft RMP/EIS	TR2	This item talks about the elimination of "unneeded travel routes." This item should be modified to indicate who makes such a determination.	Recreation management guidelines were developed to help achieve and maintain healthy public lands as defined by the Rangeland Health Standards. Refer to Table 2.1.13 (Recreation Resources) of the PRMP/FEIS under Rangeland Health Standard 1 for the Recreation Management Guidelines. The BLM will make the determination of unneeded travel routes in a Travel Management Plan which will be prepared	No

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			after the Record of Decision. The public and the PRMP cooperating agencies will be involved in scoping for the plan.	
Draft RMP/EIS	TR3	This item should be modified to indicate that determinations as to whether travel routes are "unneeded" would take into account county transportation plans and county comments.	See comment response TR2.	No
Draft RMP/EIS	TR4	The RMP should include a discussion of BLM's policies regarding granting Title V rights-of-way.	See comment response TR1.	No
Draft RMP/EIS	TR5	There are many roads on BLM land that are not officially "county roads," but are public (Class D) roads that have RS 2477 rights. Many of these appear on the Duchesne County Transportation Plan that has been provided to the BLM. Can the BLM recognize such rights in this part of the document?	A "D" route does not equate to a County road assertion. The routes identified as "D" routes in the DRMP/DEIS are roads located on public lands and managed by the BLM until properly adjudicated. The DRMP/DEIS proposes four different alternatives to manage these routes. As specified in the Draft RMP/DEIS Section 1.8 these issues are addressing RS 2477 assertions and are beyond the scope of this planning effort. However, nothing extinguishes any right-of-way or alters in any way the legal rights the State and Counties have to assert and protect RS 2477 rights. See comment response TR8.	No
Draft RMP/EIS	TR7	Closing or restricting access over public lands is mentioned in this paragraph. Duchesne County requests that this paragraph make it clear that such closures or restrictions would not effect roads shown on county transportation plans or roads with RS 2477 rights.	This clarification is provided for in Section 1.8, Issues Beyond the Scope of the PRMP/FEIS.	No

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Draft RMP/EIS	TR32 (TR-P)	Construction of new roads across riparian areas does not create an irreversible loss of habitat. If such roads are deemed to no longer serve a public purpose after the activity they serve is completed, such roads can be removed and the habitat restored.	Section 4.11.1 in the PRMP/FEIS has been revised to read as follows: "Depending upon the types of construction methods and materials used, roads built across riparian areas would result in a direct loss of riparian habitat at the site of the crossing. The loss of habitat would continue until the reclamation of the road occurs and traffic diminishes to a point that riparian habitat can reestablish itself."	Yes
Draft RMP/EIS	VE1	Duchesne County has adopted a list of noxious weeds, which was provided to the BLM staff at the February 9, 2005 open house in Duchesne. The status column in this table may need to be amended accordingly.	All of the plants listed in the comment are already included in Table 3.16.6 except for Tamarisk, which is discussed at the end of Section 3.16.2. The "Status" column of Table 3.16.6 has been revised to identify which of the plants are listed by Duchesne County as noxious weeds.	Yes
Draft RMP/EIS	VE3	Alternative C would have lesser beneficial impacts on vegetation resources than Alternative A (not more). This is because Alternative C would not automatically provide for the same level of vegetation removal as Alternative A, which increases the chances for catastrophic wild fires (see Section 4.13.2.14.3).	The woodland and forest species salvaging is proposed for Alternative A and limited in Alternative C (Section 4.13.2.14.3). The level of this activity under Alternative A would have long-term adverse impacts to soil and water resources because of surface disturbance and subsequent soil erosion and sedimentation in streams. These effects would adversely affect the vegetation under Alternative A, and less so under Alternative C. In fact, the two alternatives are probably comparable in their effect on vegetation. The PRMP/FEIS has been revised to reflect this analysis.	Yes
Draft	VI1	It is the position of Duchesne County that RMP's should not apply VRM classifications in such a way	According to BLM Manual 8400.06(2) Visual Resource Management, VRM classes shall result	No

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RMP/EIS		as to diminish historically permitted or leased "domestic livestock grazing," "mineral exploration and production," "timber production," and principal and major uses of the land as mandated by FLPMA Section 1702(1).	from, and conform to, the resource allocations made in RMPs. This would include domestic livestock grazing, mineral exploration and production, timber production, etc.	
Draft RMP/EIS	VI1A	VRM classifications and goals must be limited to protecting against only damage that is permanent and irreparable, while recognizing and allowing for overall multiple use and quality of life for local communities (who enjoy the land and who rely on balanced, sustained-yield economic use of natural resources in the planning area) and visitors to public lands [see FLPMA Section 1702(1)].	The purpose of VRM classifications is not tied to protecting permanent and irreparable damage. VRM classifications are assigned to public lands based on scenic quality, sensitivity level, and distance zones. The VRM classification has an objective which prescribes the amount of change allowed in the characteristic landscape. See the Glossary of Terms in BLM Manual 8400.	No
Draft RMP/EIS	VI1B	VRM I and II classifications constitute de facto wilderness management in violation of the multiple use mandate of FLPMA, and required by BLM Manual H 8410 and NEPA to impose VRM restrictions.	VRM classifications are not the mechanism for designating wilderness areas. Wilderness Study Areas are managed by their own set of rules and regulations (see BLM Manual H-8550-1, Interim Management Policy and Guidelines for Lands Under Wilderness Review). BLM Handbook 8410-1, Visual Resource Inventory, states in III(5), "Special Areas. Management objectives for special areas such as Natural Areas, Wilderness Areas or Wilderness Study Areas, Wild and Scenic Rivers, Scenic Areas, Scenic Roads or Trails, and Areas of Critical Environmental Concern (ACEC), frequently require special consideration for the protection of the visual values. This does not necessarily mean that these areas are scenic, but rather than one of the management objectives may be to reserve the	No

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			natural landscape setting. The management objectives for these areas may be used as a basis for assigning sensitivity levels." Furthermore, BLM IM-2000-96 (Use of Visual Resource Management Class I Designation in Wilderness Study Areas states: "... that all WSAs should be classified as Class I, and managed according to VRM Class I management objectives until such time as the Congress decides to designate the area as wilderness or release it for other uses. If a WSA is designated as wilderness, the area would continue to be managed as VRM Class I."	
Draft RMP/EIS	VI1C	VRM analysis should be based on certain visual reference points. For example, analysis should be based on that which is visible from the resource that is intended to be protected. Classifications for VRM should not be "overly broad." All VRM's must be developed based on a specific point of reference such as a river, a stream, a road, etc. RMP's are legally flawed that lack such articulation of existing character and why retention of such is important, a statement of acreage affected, etc..	VRM classifications are made to meet management goals and objectives. Although an inventory may be used, it is not required. The current classifications were brought forward from the Book Cliffs and Diamond Mountain RMPs. H1601-1 – Land-use planning Handbook, Appendix C, I. Visual Resources states, "Land-use plan Decisions. Manage visual resource values in accordance with visual resource management (VRM) objectives (management classes). Designate VRM management classes for all areas of BLM land, based on an inventory of visual resources and management considerations for other land uses. VRM	No

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			management classes may differ from VRM inventory classes, based on management priorities for land uses (see BLM Handbook H8410-1 for a description of VRM classes)." The commenter is correct in stating that VRM classifications should be prescribed to areas as seen from specific places only. Called "Key Observation Points" (KOP), i.e. a scenic overlook, a frequented canyon rim, or a particular feature, the VRM classification given would be managed to protect that view shed from that point. Another way to protect an area like the White/Green River corridors or a Scenic Byway would be to manage for whatever classification is determined along the entire river corridor. This has been analyzed in the past by projecting a computer generated viewer from 3 feet above the river surface (similar to a canoeist) located in the middle of the waterway and then asking the computer to generate a 360 degree view for the length to be analyzed. The results demonstrate the frequency of sightings, the distance seen, and the areas observed.	
Draft RMP/EIS	VI1D	VRM I rating shall be restricted to Class I wilderness areas, congressionally designated wild and scenic river segments, and other areas where congressional decisions or legitimate administrative decisions have been made to preserve a natural landscape.	VRM Class I can be designated for other areas that are not national wilderness areas, wild and scenic river segments, and other congressionally and administratively designated areas. The language of H-8410-1 states that in areas where the natural landscape is to be maintained includes areas such as WSAs, wild and scenic rivers, etc. This does not eliminate other naturally scenic areas from designation as VRM I. The	No

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			BLM can designate other areas as VRM I if the land use objectives for that area deem it important to maintain the natural scenic quality and if the area proposed for VRM I designation possesses scenic quality and natural landscape characteristics. The alternatives present a range of VRM categories from which management can select from.	
Draft RMP/EIS	VI1E	RMP's are contrary to law to the extent they authorize VRM ratings beyond these parameters. VRM I ratings are illegal in WSA's (see BLM IM 2000-96 and BLM H-8550-1). Moreover, a VRM I classification on WSA's conflicts with FLPMA Section 1782(c), which expressly allows for the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was conducted when FLPMA took effect.	Visual Resource Management in class I and II areas does not preclude oil and gas development, but it does mean that the BLM has to try harder to accommodate both the visual concerns as well as the valid and existing rights. Through screening techniques such as topography, vegetation, coloration, and adaptation of facilities, we have been successful in fully mitigating the visual concerns of some VRM II areas. See comment response SD174 regarding valid existing rights. This would include both mining and grazing uses.	No
Draft RMP/EIS	VI1F	Duchesne County has adopted a policy in its General Plan stating, "Imposing VRM classifications that result in the prohibition of formerly valid surface occupying or surface-disturbing activities is an improper use of the VRM tool." Based on the above, Duchesne County expresses support of Alternative A, depicted on Figure 29 of the Draft EIS. This alternative contains no Class I VRM in Duchesne County and the only Class II VRM is	BLM is aware that there are specific County and State Plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, BLM is bound by Federal law. FLPMA requires that the development of resource management planning for public land must be coordinated with and consistent with county plans to the maximum extent possible by law, and resolve to the extent practicable, inconsistencies between federal and	No

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		located along Nine Mile Canyon, east of Gate Canyon. Duchesne County opposes Alternatives B, C, and D, which designate more Class II VRM areas in the county.	non-federal government plans (FLPMA, Title II Sec. 202 (c) (9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while county and federal planning processes, under FLPMA, are required to be as integrated and consistent as practicable, the federal agency planning process is not bound by or subject to county plans, planning processes, or planning stipulations. BLM will identify these conflicts in the FEIS/Vernal RMP so that the State and local governments have a complete understanding of the impacts of the Vernal RMP on State and local management options. A consistency review of the Vernal RMP with the State and County Master Plans has been included in Chapter 5.	
Draft RMP/EIS	VI25	Under Alternative C, the reduction in short-term adverse impact is recognized but the reduction in long-term beneficial impacts (associated with restrictions on fuel reduction in ACEC's) is not.	Section 4.17.2.12.3 has been revised in the PRMP/FEIS as follows: "Alternative C would have similar impacts as Alternative A, except that up to 552,663 acres of forest and woodlands would be available for treatments or harvesting. Forest and woodland species salvage would be allowed only when the woodland or forest resource were threatened, which would reduce the short-term, adverse impacts on visual resources. Excluding woodland salvage within 242,760 acres of proposed ACECs would reduce the long-term beneficial impacts on woodlands because this form of fuel load reduction would not be conducted to reduce	Yes

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			the risk of catastrophic wildland fire."	
Draft RMP/EIS	WF35	This conclusion does not appear to be adequately supported by findings in the chapter and is an overstatement of the potential impacts.	Section 4.15.6 in the PRMP/FEIS has been revised to include supporting statements for the conclusion reached in this section.	Yes
Draft RMP/EIS	WF36	Efforts have not been made in Alternative B to allocate forage to wild horses.	The commenter is correct. Alternative B represents part of the range of alternatives by CEQ regulations (40 CFR 1502.1).	Yes
Draft RMP/EIS	WF37	Alternative B should be amended to allow for UDWR involvement in analyzing exceptions to the dates as in Alternatives A and C.	The CEQ regulations (40 CFR 1502.1) require BLM to consider reasonable alternatives, which would avoid or minimize adverse impacts or enhance the quality of the human environment, based on the nature of the proposal and facts in the case (CEQ 40 Most Asked Questions 1b.). While there are many possible management prescriptions or actions, the BLM used the scoping process to determine a reasonable range alternatives that best addressed the issues, concerns, and alternatives identified by the public. Public participation was essential in this process and full consideration was given to all potential alternatives identified. The BLM determined that a single alternative analyzing the protection of all Non-WSA lands with wilderness characteristics would best provide a reasoned choice among the alternatives. Although the other alternatives do not provide specific management prescriptions to protect Non-WSA, these alternatives analyze and disclose the impacts of the proposed resource management prescriptions, uses and actions on the Non-WSA lands with wilderness	No

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			characteristics. This gives the public the ability to fully compare the consequences of protecting or not protecting the wilderness characteristics on these Non-WSA lands. If all alternatives contained comparable protections of the Non-WSA lands with wilderness characteristics, the alternatives would have substantially similar consequences and would not be significantly distinguishable. The BLM, in developing the PRMP/FEIS, can chose management actions from within the range of the alternatives presented in the DRMP/DEIS and create a management plan that is effective in addressing the current conditions in the planning area based on FLPMA's multiple-use mandate.	
Draft RMP/EIS	WF54	Alt B does not include the 560 acres per township limitation for wildlife, according to Table 2.3 on pg 2-65. Alts A and C contain this limitation, while Alt B has a 10% habitat threshold. Duchesne Co. supports Alt B and the 10% threshold.	Section 4.16.2.15.1 in the PRMP/FEIS has been revised to correct the analysis error for Alternative B.	Yes
Draft RMP/EIS	WF55	This section is supposed to address the cumulative effects on wildlife and fisheries but seems to focus on the effects to vegetation.	As described in the cumulative impacts (Section 4.22.12), the impacts of the mentioned oil and gas exploration and development projects would impact vegetation. Restated in another way, the Impacts to vegetation and other surface disturbances could have direct and cumulative impacts on wildlife and fisheries by adversely impacting the habitat (e.g., vegetation) upon which they depend for food, shelter, and reproduction.	No

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WSA Supp.	1	WC	On June 25, 2007, the Duchesne County Commissioners approved Resolution #07-15, which amended the Duchense County General Plan to clarify the county's policies for the management and use of "non-WSA lands with wilderness characteristics" in the Twin Knoll-Wrinkles Road area of Duchesne County, which encompasses the Desolation Canyon non-WSA area identified in the supplement. A copy of this Resolution was forwarded to Selma Sierra, State BLM Director, by letter dated June 25, 2007. At that time, the County Commissioner made it clear that Duchesne County plans call for multiple use of these public lands. The county also submitted maps and photos showing that existing roads, mining and energy operations, spring developments, grazing lease improvements and otter evidence of man's influence on the area raises the question whether such lands lying generally between Wrinkles Road and the Carbon County line and generally between the Sand Wash Road and the Uintah County line (Desolation Canyon non-WSA) actually possess wilderness character. We believe the answer to this question for much of the land protected under Alternative E is "no". In accordance with FLPMA, Duchesne County expects that the BLM will consider the county land-use plan, including the June 2007 amendment, in making land management decision that are consistent with local policies to the greatest degree possible under federal law. Proposed Alternatives A and B of the draft RMP come closest to consistency with local plans.	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/DRMP, so that the State and local governments have a complete understanding of the impacts of the DRMP on State and local management options.	No

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Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			Alternatives C and E are inconsistent with local plans and the multiple use mandate of FLPMA.		
WSA Supp.	2	OTH	Page 2-7, Table 2.3, Lands and Realty, bottom sentence: ":An easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Creek would no be pursued.	The typographical error has been corrected in the Proposed RMP/Final EIS.	Yes
WSA Supp.	3	OTH	Page 2-10, Table 2.3, Recreation: Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads would not be designed as Back Country Byways.	The typographical error has been corrected in the Proposed RMP/Final EIS.	Yes
WSA Supp.	4	WL	Page 2-20, Table 2.3, Wildlife and Fisheries, 1st paragraph: Are the locations of the McCook and Monument Ride mule deer migration corridors mapped so the reader can determine the location of these corridors?	The migration corridors are mapped in the Draft RMP. See List of Maps and Figures – Figure 34	No
WSA Supp.	5	OTH	Page 4-10, Section 4.3.2.3.6, 2nd sentence: "Alternatives A, C, and E are likely to have the greatest beneficial impacts, because all three involve….".	The language has been changed in the Proposed RMP/Final EIS.	Yes
WSA Supp.	6	TRV	Page 4-21, Section 4.3.2.8.5, Alternative E proposes a 99.9% decrease in areas open to unrestricted OHV travel, closure of 392,818 acres to any OHV travel and closure of 228 miles of OHV routes. This action would be inconsistent with the Duchesne County general plan, which states that: "OHV's have become an important segment of the County's recreation industry. They provide an important tool and mode of transportation for farmers, ranchers and resource developers." Reducing the opportunities for OHV use to the degree proposed by Alternative E will negatively affect the area's motorized recreation industry.	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans	No

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				conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/DRMP, so that the State and local governments have a complete understanding of the impacts of the DRMP on State and local management options. A consistency review of the DRMP with the State and County Master Plans is included in Chapter 5. Additionally, research shows that there are positive recreational industry benefits associated with the protection of public land. (See section 4.12.3.3.3 pages 4-68 and 4-69.	
WSA Supp.	7	FIR	Page 4-26, Section 4.4.2.5.4, Under Alternative E, it is inaccurate to state that forests and woodlands would be "managed to promote biodiversity and multiple use/sustained yield" when woodland harvesting or salvage would be not allowed and vegetation treatment would be limited to prescribed burns under certain conditions.	The wording of this section will be revised to read- "managed to promote biodiversity and multiple use"	No
WSA Supp.	8	FIR	Page 4-27, Section 4.4.2.7.5, at the end of this paragraph, it should be stated that Alternatives C and E have less beneficial impacts on fire management when compared to Alternative B.	The BLM declines to make the suggested wording change for a variety of reasons including, but not limited to, the following: 1. The BLM does not find the suggested changed	No

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Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
				necessary or appropriate. 2. The suggested wording change does not substantively contribute to or clarify the discussion. 3. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. 4. The suggested change expressed personal opinions or preferences. 5. The suggested change had little relevance to the adequacy or accuracy of the RMP/EIS.	
WSA Supp.	9	GRA	Page 4-31, Section 4.7.2.2.5 and Page 4-98 (Table 4.14.1) Forage Management under Alternative E would be inconsistent with the Duchesne County land-use plan in that forage for livestock would be reduced 47.1% in favor of wildlife and wild horses. The county plan states as follows": "Livestock allocations shall not be converted to wildlife allocations as long as the land supports the grazing Animal Unit Months (AUM's) assigned to the allotment. The only justification for decreasing domestic livestock grazing AUM's is for there to be a valid and documented scientific finding that the range district will no longer support the AUM's in question. The BLM and Forest Service are expected to comply with and honor the domestic grazing preference on grazing districts."	In accordance with FLPMA, the BLM reviewed and considered the general plans of Duchesne, Daggett, Uintah, and Carbon counties during development of the management alternatives within the RMP. Where feasible, prudent, and consistent with the purpose and need of the RMP and BLM's multiple-use/sustained yield mandate, the BLM developed a range of alternatives and included them in the RMP/EIS. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans	No

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				conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5.	
WSA Supp.	*10*	*MOG*	*Page 4-36, Section 4.8.2.1.5, this section should mention the amount of acreage in the non-WSA lands with wilderness characteristics that has already been leased (129,468 acres according to Page 4-220). This data gives the reader a more accurate indication of how Alternative E would impact energy and mineral resources. Alternative E, which proposes a 2% decrease in the amount of land available for energy development, is inconsistent with the Duchesne County land-use plan, which contains policies stating that:* *"Access to public lands for mineral development must be increased in the economic interest of the county citizens and government."* *"Development of the solid, fluid, and gaseous mineral*	Table 4.22.1 lists each non-WSA land with wilderness characteristics and provides the number of acres already leased by alternative. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an	*No*

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			resources of the state should be encouraged.:"	inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5.	
WSA Supp.	11	MIN	Page 4-39, Section 4.8.2.1.5.2, Locatable Minerals: the statements in this paragraph seem inconsistent with Page 12 of the 2004 Mineral Potential Report, which blames the low level of development activity for locatable minerals on withdrawals rather than the lack of such resources in the ground.	The paragraph states that "there is moderate potential for the occurrence of locatable minerals within the VPA". The BLM does not anticipate development activity for locatable minerals due to the large area subject to the oil shale withdrawal.	No
WSA Supp.	*13*	*WL*	*Page 4-42, Section 4.8.2.6.5, 2nd paragraph: It should be clear that if Alternative D does not specify what percentage of new surface-disturbing activity will be allowed in wildlife habitat areas and Alternative E will limit such disturbance to 2.4% or 560 acres per township, that Alternative E would have a much greater potential impact on energy and mineral resource development compared to Alternative D-No Action.*	Alternative D, which is the no action alternative, was formed from the Book Cliffs and Diamond Mountain RMP/FEIS. No percentage of new surface-disturbing activity was calculated for wildlife habitat areas. Therefore, an exact relationship cannot be made.	*No*

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WSA Supp.	14	MOG	Page 4-43, Section 4.8.2.8.2, management under Alternative E predicts a total of 6,117 oil, gas and CBNG wells, which appears in Table 4.12.1. However, this section (and Section 4.10.2.4.5) indicates that this is a 4% increase compared to 5,856 wells under Alternative D. Actually, Table 4.12.1 shows a predicted 6,331 wells under Alternative D, making Alternative E management result in a decrease of 214 wells or a 3.4% decrease (see Table 4.12.1). It is Duchesne County's position that such a decrease would violate the county land-use plan and EPCA.	Table 4.12.1 in the DRMP was inaccurate in the number of well potential by alternative. The FEIS will be corrected to reflect the correct numbers. Alternatives A, B, C, and E all reflect a greater well potential than Alternative D due to the proposed availability of lands within the Hill Creek Extension for leasing, which is not the case in Alternative D.	Yes
WSA Supp.	15	GRA	Page 4-47, Section 4.9.2.4.5, 2nd sentence: Why is it that surface disturbances associated with rangeland improvements are deemed beneficial as they would increase the potential of making new paleontological discoveries; while other types of surface disturbances are not found to have the same benefit? For example, in Section 4.9.2.7.5, on Page 4-48, Class I and II VRM management under Alternative E is found to have the fewest adverse impact on paleontological resources. However, using the rationale from Section 4.9.2.4.5, Class I and II VRM would be less beneficial as there would be less surface disturbances and less chance to actually discover and study such paleontological resources.	Section 4.9.2.4.5 indicates that "it is anticipated that the primary indirect impact would be to increase the adverse potential for concentrated trampling of paleontological localities located in areas adjacent to fencing or reservoirs on barren bedrock." This means that more surface-disturbing activities have the greatest potential to impact paleontological resources	No
WSA Supp.	17	REC	Page 4-51, Section 4.10.2.3.5 and elsewhere throughout the supplement: It is the position of Duchesne County that the majority of citizens in our county and across the country do not participate in primitive, non-motorized forms of recreation due to age, mobility, health conditions and economic considerations. The majority needs motorized access	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with	No

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			to enjoy recreation opportunities such as hunting, fishing, and wildlife viewing. The Duchesne County public lands plan states that 12% of the county's land area is already wilderness and this area is highly inaccessible, which makes it off-limits for the majority of citizens. The plan states: "Wilderness designation is inconsistent with the philosophy of multiple use and sustained yield and adversely affects the County's economy in terms of grazing, tourism, timber industries, and water resources." Throughout the supplement, the benefits of protecting wilderness characteristics are mentioned without mentioning the detrimental impacts listed in the county plan.	County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/DRMP, so that the State and local governments have a complete understanding of the impacts of the DRMP on State and local management options. A consistency review of the DRMP with the State and County Master Plans is included in Chapter 5.	
WSA Supp.	*18*	*TRV*	*Page 4-52, Section 4.10.2.4.5, 2nd paragraph, Page 4-58, Section 4.10.2.8.5, Page 4-59, Section 4.10.2.11.5: Closure of 228 miles of vehicle routes under Alternative E would be inconsistent with the Duchesne County land-use plan, which states that "Access to and across public lands, including RS 2477 roads and rights of way, should remain open. All necessary action will be taken to protect access.*	See Response to Comment 10-6-TRV. With specific regards to RS 2477 roads, direction is given within the Draft RMP on pg 1-11 and states: Revised Statute 2477 assertions, concerning the construction of roads across public lands, as proposed by counties within the planning area would be addressed with current policy.	*No*

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WSA Supp.	*19*	*TRV*	*Page 4-64, Section 4.11.2.12.5: In this section and elsewhere throughout the supplement, reference is made to "rehabilitating" roads after it is determined that they no longer serve the permitted purpose. To rehabilitate means to restore, repair, revitalize, recover, regenerate or re-establish. We believe it would be clearer to state that such roads should be obliterated and the land reclaimed to a more natural condition. The Duchesne County plan calls for analysis and county involvement in decisions to obliterate and reclaim roads.*	The BLM does not find the suggested change necessary. As a cooperating agency in the RMP process and a local government entity, BLM would involve the county on decisions concerning general purpose roads.	*No*
WSA Supp.	*20*	*MOG*	*Pages 4-66, 4-67, Section 4.12.3.2.5: The analysis in this Section 4.13.2.4.5 (Page 4-73) seems to be flawed in that it presumes Alternative E would increase the number of oil, gas and CBNG wells when compared to Alternative D, when actually Alternative E would result in 214 fewer wells according to Table 4.12.1 (6,331 wells in Alternative D versus 6,117 under Alternative E).*	See comment response 10-O-14.	*Yes*
WSA Supp.	21	SOC	Pages 4-68 and 4-69, Section 4.12.3.3.3: Duchesne County disputes the findings of studies concluding that wilderness areas add positive economic benefits to local communities. These studies fail to take into account the negative impacts to the grazing, motorized travel, tourism and timber industries and to water resources needed to support the economy, when multiple use is not allowed. Our experience is that "high dollar recreation, such as hunting," referred to on Page 4-69, does not necessarily mean high dollars to the local economy (most hunters will outfit and supply themselves using sources outside the area, exploit the hunting opportunities locally, spending as little money as possible while here, and then return home).	The cited studies concentrate on the purported economic benefits of wilderness; they do not necessarily conclude that there are no costs, nor even that the benefits always exceed the costs. The analysis in Chapter 4 explicitly states that the cited studies generally were done in the context of designated wilderness, and may or may not apply to WSA's or non-WSA lands with wilderness characteristics. The Proposed RMP/Final EIS discusses in Chapter 4 the positive and negative impacts of all plan decisions, including the impacts from the decision to preserve, protect and maintain 106,178 acres for wilderness characteristics.	No

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WSA Supp.	22	SOC	Page 4-69, Section 4.12.3.4.2: The findings under Alternative E are inconsistent with the socioeconomic statements in the Duchesne County land-use plan which promote motorized access to and multiple use of public lands and conclude that additional wilderness designation shall be opposed.	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the Proposed RMP/Final EIS, so that the State and local governments have a complete understanding of the impacts of the Proposed RMP on State and local management options. A consistency review of the Proposed RMP with the State and County Master Plans is included in Chapter 5.	No
WSA Supp.	23	MOG	Page 4-73, Section 4.13.2.4.5: The figure 1,499,461 acres open for leasing under Alternative E appears to be inconsistent with the acreage figure given in Table	The figures are not inconsistent. The 1,547,090 acreage figure given in Table 4.12.1 and also discussed on page 4-66 of the Supplement is	No

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			4.12.1 (1,547,090 acres).	acreage within the planning area open to oil and gas leasing subject to standard, timing and controlled surface use, or NSO stipulations. The 1,499,461 acreage figure given on page 4-73 of the Supplement is acreage within the planning area open to oil and gas leasing subject to standard or timing and controlled surface use stipulations (did not include NSO areas).	
WSA Supp.	24	OTH	Page 4-74, Section 4.13.2.6.5 (Alternative E should be singular). In the last sentence of this section, "These alternatives should be changed to "this alternative".	The language has been changed in the Proposed RMP/Final EIS.	Yes
WSA Supp.	*25*	*SOL*	*Page 4-79, Section 4.13.2.16.5, Page 4-103, Section 4.16.2.8.5 (last paragraph), Page 4-105, Section 4.16.2.10.1 (last paragraph): Duchesne County disagrees that Alternative E would have greatest overall benefits to soil productivity and watershed health. Since Alternative E does not allow vegetation management (other than potential prescribed burns) the alternatives that allow a wider range of vegetation management actually hold more promise to benefit soils and watersheds compared to the "hands-off": approach of Alternative E.*	Several types of vegetation management are allowed as described in Table 2.1.23 of the SRMP/SEIS: "Management Common to All." This large "tool-box" provides management several options for soil and watershed health.	*No*
WSA Supp.	26	ACE	Page 4-80, Section 4.14.1.3.1, paragraph 1, last sentence: Because Alternative C would designate both ACEC's… Second paragraph: Just because Alternatives B and D would not designate such ACEC's we question if pinyon pine habitat and watershed health could be enhanced by other management tools. Is an ACEC absolutely necessary to protect these resources or will other tools do the job?	Through FLPMA, BLM has authority to designate ACECs where special management attention is required to protect and prevent irreparable damage to important cultural, historic, or scenic values; fish and wildlife resources; or other natural systems or processes or to protect life and safety from natural hazards. Where ACEC values and wilderness characteristics coincide, the special management associated with an ACEC, if designated, may also protect "wilderness characteristics: (IM-2003-275).	No

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				However, BLM policy directs that "an ACEC designation will not be used as a substitute for wilderness suitability recommendations: (BLM-M-16513). Wilderness characteristics were not considered relevant or important values when evaluating or designing management for potential ACECs. The RMP presents the various management strategies for achieving the desired range of alternatives. Size and management prescriptions vary between the alternatives. If the protection of the relevant and importance values "outweighs" the other resource uses then the ACEC was proposed under all the alternatives. The relevant and important values of the ACEC extend beyond the 160 acres within which the Old Growth Pinion Pine is located. These values include cultural resources, an important watershed, and a critical ecosystem for wildlife and migratory birds. As such, the area encompassed by the ACEC is larger than the 160-acre pinion forest.	
WSA Supp.	27	WSR	Page 4-85, Section 4.14.1.3.6, last paragraph: Would this statement hold true if the White River were designated Wild and Scenic?	The last paragraph in section 4.14.1.3.6 states: Neither Alternative B nor D – No Action would designate the White River corridor as an ACEC. Accordingly, they would result in greater adverse impacts to the previously described resources along the corridor. However, they would also have fewer restrictions to oil and gas development and OHV use.	No

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				Commenter does not give specific portion of the paragraph that he/she wants to know specifics about. If the commenter is asking if WSR designation would provide protection the White River, it should be noted that the BLM does not designate Wild and Scenic rivers, it only identifies, finds eligible or non-eligible and recommends as suitable to congress specific river segments. However, management prescriptions for the White River would add additional protections to the White River should it be found suitable as part of the Record Of Decision. It would , however, be subject to Valid Existing Rights.	
WSA Supp.	29	WC	Page 4-97, Section 4.15.2.10: This section states that Alternative E protects 277,596 acres; however Table 4.15.2 implies that much less land is protected. Is this due to existing leases	Table 4.15.2 does not imply toward impacts on Special Status Species; however, it does apply to Mineral Development.	No
WSA Supp.	30	ACE	Page 4-104, Section 4.16.2.10.1: Alternative B seems to be left out of the analysis for the Coyote Basin and Four Mile Wash ACEC's.	The commenter is correct that the Alternative B analysis has been left out of the analysis. This will be updated in the Final EIS. Four Mile wash would not be designated under alternative B, and as a result would not impact, or would have the same impact as alternative D.	Yes
WSA Supp.	31	VEG	Page 4-106, Section 4.16.2.12.1, last paragraph and Section 4.16.2.13.3: Closing 228 miles of travel routes and designating Class I and II VRM will likely be detrimental to vegetation resources long-term in that such closures and restrictions will make it more	The benefits from closing 228 miles of travel routes will reduce the amount of weed seed being introduced and dispersed and will likely outweigh the impact to vegetation from reduced weed management.	No

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			difficult to control noxious weeds or manage vegetation for better habitat and reduce fuel loads. This is not mentioned in the supplement until the end of Section 4.16.2.16.5 on Page 4-108.		
WSA Supp.	32	WC	Page 4-109, Section 4.16.2.17.2 and elsewhere in the supplement: The amount of protection is overstated (277,596) due to the presence of valid, existing leases.	The commenter does not provide data to support the amount of valid and existing leases.	No
WSA Supp.	*33*	*VRM*	*Page 4-118, Section 4.17.2.10.3, last paragraph: It should be noted here that Alternative E has the fewest beneficial long-term impacts as beneficial vegetation treatment would be severely restricted in the areas deemed to have wilderness character.*	The BLM declines to make the suggested wording change. The section is concerned with the impacts of vegetation decisions on visual resources. Alternative E emphasizes the protection of all non-WSA lands with wilderness characteristics. The fact that vegetative treatments are severely restricted in wilderness characteristics means that Alternative E does have the greatest long-term beneficial impacts to visual resources and non-WSA lands with wilderness characteristics.	*No*
WSA Supp.	*34*	*VRM*	*Page 4-113, Section 4.17.2.6.5, 4th paragraph: …the long-term adverse impacts of light pollution adjacent to the Dinosaur National Monument would be mitigated, which would benefit night-time visual quality in that portion of the VPA near the monument.*	The BLM agrees that the recommended text would more accurately describe VRM impacts. The text has been changed in the document.	*Yes*
WSA Supp.	35	WD	Pages 4-118 and 4-119, Section 4.17.2.12.5: The 1st paragraph of this section notes that woodland salvage and harvesting would be prohibited under Alternative E. However, in the second paragraph, it gives the impression that woodland salvage and harvesting would be allowed. This apparent inconsistency should be clarified.	Section 4.20.1-Impacts Common to the Proposed RMP and all Alternatives, states: "Woodland resources would be treated or harvested under the Proposed RMP and all of the alternatives; however, under the Proposed RMP and Alternative E, non-WSA lands with wilderness characteristics would be managed with prohibitions on woodland and timber harvesting and salvage. These prohibitions would have adverse impacts on harvesting opportunities in the long term.	Yes

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				The section has been revised in the Proposed RMP/Final EIS. The section number has been changed to Section 4.20.2.9-Alternative E.	
WSA Supp.	*36*	*VRM*	*Page 4-120, Section 4.17.2.13.2: This section fails to account for the loss of benefits associated with the reduction in vegetation management options under Alternative E (as stated in Section 4.17.2.12.5).*	The sections quoted by the commenter concern impacts to visual resources and the beneficial impacts to visual quality. BLM states in the Supplement on page 4-106 that Alternative E would provide long-term beneficial impacts to vegetation by limiting surface and vegetation disturbances.	*No*
WSA Supp.	37	OTH	Page 4-122, Section 4.18.2.3.3: The acronym "HA" (which means Herd Area), is not listed in the list of acronyms included in the RMP.	The acronym has been included in the list of acronyms in the Proposed RMP/Final EIS.	Yes
WSA Supp.	*38*	*WHB*	*Page 4-123 and 4-124, Section 4.18.2.5.3: This section correctly concludes that Alternatives C and E have more beneficial long-term impacts on wild horses than Alternative D; however, it fails to note that these two alternatives would have fewer long-term beneficial impacts than Alternative B, which provides for more rangeland improvements and vegetation treatments than Alternatives C or E (see Table 4.18.2).*	A goal and objective of the Proposed RMP/Final EIS is to provide for the interim management of wild horses as the gathering and removal of all wild horses is completed. In the Proposed RMP FEIS, all wild horses are going to be removed from the Planning Area due to the complexity of surface ownership, manageability of the wild horses, and the continued presence of a the highly infectious disease – Equine Infectious Anemia (EIA). As stated in the "Dear Reader" letter at the front of the Supplement to the Draft RMP/EIS, "Under Alternative E, the proposed decisions that apply to the lands outside of non-WSA lands with wilderness characteristics remain the same as those in Alternative C." The commenter needs to look at both the DRMP and SDEIS to have a full context of the document including a description of	*No*

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Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
				the alternatives, environment, and anticipated impacts. Section 4.18.2.5.2 of the Draft EMP/EIS has been revised in the Proposed RMP/Final EIS to identify short-term benefits. The section has also been renumbered as 4.18.2.5.3 Section 4.18.2.5.3 of the Draft RMP/EIS has been renumbered as 4.18.2.5.4.	
WSA Supp.	39	WHB	Page 4-125, Section 4.18.2.7.2: This section fails to recognize that limited vegetation management options under Alternative E will prohibit some beneficial treatments from taking place to the benefit of wild horses.	See comment response 10G-38.	No
WSA Supp.	40	GRA	Page 4-125, Section 4.18.2.8.3: This section gives the reader the impression that Alternatives C and E provide the most range improvements. Table 4.18.2 shows that Alternative B actually provides the most range improvements.	Table 4.18.2 indicates that Alternatives B would provide more acres of vegetation treatment miles of fencing, and miles of water pipelines than Alternatives C and E. However, Alternatives C and E would allow the development of more wells/springs that Alternative B.	No
WSA Supp.	41	GRA	Page 4-132, Section 4.19.2.6: This section favorably compares Alternatives C and E to Alternative D; however, it fails to recognize that Alternative C and E offer fewer rangeland improvements than Alternative B (see Table 4.19.8).	See comment response 10-O-40.	No
WSA Supp.	42	WD	Page 4-139, Section 4.20.2.2.3 and Page 4-142, Section 4.20.2.6.3: These sections maintain that Alternative E would have long term beneficial impacts on woodland resources by maintaining woodland productivity in those areas. However, if no woodland harvesting or salvage were allowed under Alternative	Section 4.20.2.2.3 is referring to the impacts of Lands and Realty Decisions on Woodland Resources. If ROWs and mining-related surface disturbances are prohibited under Alternative E, then no adverse impacts would occur for lands and realty decisions in non-WSA lands with wilderness	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			E, woodland productivity would actually drop to zero. How can woodland productivity be enhanced by making salvage and harvest impossible?	characteristics. The last paragraph of Section 4.20.2.6.3, page 4-142, states that there would be long-term, adverse impacts on harvesting opportunities and beneficial impacts on resource protection and productivity. A Forest and woodland management plan would be prepared after the Record of Decision is signed. This plan would provide guidance on: the status of forest and woodland management resources; current conditions of the forest and woodland resources; the current level of forest and woodland management activity; opportunities and rational for increasing management activity; resources necessary to increase management activity; and, potential impediments to successfully increasing management activity.	
WSA Supp.	43	WD	Pages -144, 4-145, and 4-212, Sections 4.20.2.10.5, 4.20.2.12.5 and 4.21.2.13.5: Duchesne County does not agree that prohibitions on woodland harvesting and gathering have beneficial impacts on woodland resources. The decades of "hands-off" management of woodlands has led to insect infestation, build-up of fuels and degradation of habitat. Proposed woodland management under Alternative E would actually be detrimental to forest health (providing the least level of woodlands resource protection long-term).	The sections referenced by the commenter refer to the impact of a variety of resource program activities on Woodland Resources. Some of the resource program activities do provide beneficial impacts while others cause adverse impacts. These impacts are discussed in the Supplement to the Draft EIS. A Forest and woodland management plan would be prepared after the Record of Decision is signed. This plan would provide guidance on: the status of forest and woodland management resources; current conditions of the forest and woodland resources; the current level of forest and woodland	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
				management activity; opportunities and rational for increasing management activity; resources necessary to increase management activity; and, potential impediments to successfully increasing management activity.	
WSA Supp.	44	GRA	Page 4-153, Section 4.21.2.4.1: This section focuses on removal of livestock from the Nine Mile--Desolation Canyon areas. It is not clear from this section how the other 24 non-WSA areas will be treated…will livestock be removed from all of them? Does the grazing restriction apply only to lands in Nine Mile Canyon itself or would it also affect the numerous grazing allotments in Duchesne County north of the canyon rim?	As Page 4-153, Section 4.21.2.4.1 states "Under these alternatives, lands acquired in the Nine Mile area would not be grazed by livestock to enhance riparian and watershed values." This only applies to lands acquired in Nine Mile as stated above.	No
WSA Supp.	45	MOG	Pages 4-166 to Page 4-178, Table 4.21.1: Change heading "Oil & as Development Potential" to "Oil & Gas Development Potential".	The FEIS will reflect this correction.	Yes
WSA Supp.	46	WC	Page 4-166 to 4-178, Table 4.21.1, Bourdette Draw: Why 0 acres affected when 5,744 acres are already leased?	The term "Leased" does not pertain to surface disturbance. Areas may have valid and existing leases but do not have surface disturbances.	No
WSA Supp.	47	WC	Cold Springs Mountain: 8,764 acres vs. 8,674?	8,764 is the correct acreage. BLM will make the correction in the Final RMP.	Yes
WSA Supp.	48	WC	Daniels Canyon: Why 0 acres affected when 322 acres are already leased?	Please see Response to ID No. G-10-Comment 46.	No
WSA Supp.	49	WC	Diamond Mountain: Why 0 acres affected when 5,475 acres are already leased?	Please see Response to ID No. G-10-Comment 46.	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
WSA Supp.	50	REC	Page 4-183, Sections 4.21.2.6.5 and 4.21.2.6.6: Are any of the areas proposed for SRMA's located within areas subject to existing energy leases? If so, the conclusions reached by these sections would not be true.	In Section 1.4.1.2 of the Vernal DRMP/DEIS under Planning Criteria, it is noted that "The revised RMP would recognizes valid existing rights. Thus, all SRMAs are subject to Valid existing rights, and would be subject to existing rights for all resources. The Conclusions reached by the sections would remain consistent with SRMA identifications. The goals and objectives for Each SRMA would be maintained and Valid existing rights not be removed as a result of SRMA identification.	No
WSA Supp.	51	TRV	Page 4-184, Section 4.21.2.7.1, end of 2nd paragraph: While it is recognized that there would be long-term, adverse impacts associated with OHV trail widening and extension of the trail system, if the BLM can offer IHV riders sufficient, authorized trails to ride, this should reduce unauthorized cross country use, which would have long-term beneficial impacts on resources. Recent US Forest Service Travel Management Planning shows a 360% increase in OHV use in the Uintah Basin in the past eight years. Sufficient trails are needed to ensure that this increased use occurs in appropriate areas.	Although this issue was raised during scoping, the application in the DRMP/EIS is limited. Under Management Actions Common to All Alternatives, travel routes can be added or deleted from the Travel Plan based on public demand or unacceptable impacts to resources. This action would be based on monitoring and site specific NEPA analysis. A comprehensive travel management plan will be completed within 1-5 years after the Record of Decision. General Planning maps to provide a framework for the Comprehensive plan have been included within the Draft RMP (see figures 25-28) and the Supplement (see figure 28e).	No
WSA Supp.	52	TRV	Pages 4-186 and 4-187, Section 4.21.2.7.3: The 3rd and last paragraphs in this section appear to be repetitive.	The document will be revised to reflect the comment.	Yes

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
WSA Supp.	53	WC	pages 4-190, Section 4.21.2.8.6: This section fails to recognize that, under Alternative E, surface disturbance would be allowed in areas subject to valid, existing energy lease rights.	As stated in Sections 4.21.2.8.5 Alternative E "As with Alternative C, no surface disturbance would be permitted on slopes between 21% and 40% without an approved erosion-control strategy. Further, surface disturbance would not be allowed on slopes over 40%. However, under this alternative, no surface disturbance would be permitted that would impact the natural character of the non-WSA lands with wilderness characteristics. The effects of these actions would preserve the wilderness characteristics of non-WSA lands with wilderness characteristics. Valid and existing lease rights are subject to surface disturbance stipulations.	No
WSA Supp.	54	ACE	Pages 4-198 and 4-199, Section 4.21.2.9.3: In the paragraph associated with the Mine Mile Canyon ACEC and Desolation Canyon, it should be noted that 66% of this area is currently leased for energy development.	Comment noted The BLM declines to add the recommended language.	No
WSA Supp.	*55*	*WSA*	*Pages 4-200 and 4-201, Sections 4.21.2.9.4 and 4.21.2.9.5: In the last paragraph of each section, how can there be opportunities for solitude and primitive recreation in the Cripple Cowboy and Bull Canyon areas when they are 85% and 89% leased for energy development, respectively, according to Table 4.21.1?*	Leasing does not always mean intensive development. Stipulations and mitigation can be included in lease sales to include NSO or timing constraints on development. It is feasible that a large tract of land can be leased and still allows opportunities for solitude and primitive recreation. One example would be along the White River within the VPA. Although a large portion of the area around the White River is leased, river runners report that a major reason they choose the White River are the opportunities for solitude and	*No*

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
				primitive recreation.	
WSA Supp.	56	OTH	Page 4-203, Section 4.21.2.10.6, 1st sentence: "Alternative" should be plural.	The typographical error has been corrected in the Proposed RMP/Final EIS.	Yes
WSA Supp.	57	OTH	Page 4-208, Section 4.21.2.11.6: "150,001 acre" should be plural.	The typographical error has been corrected in the Proposed RMP/Final EIS.	Yes
WSA Supp.	58	OTH	Page 4-213, Section 4.21.2.14.2: 1st line: …would be managed by the following prescriptions: 12th bullet: Construction of wildlife watering facilities.	The language has been changed in the Proposed RMP/Final EIS.	Yes
WSA Supp.	59	WC	Page 4-218, Section 4.21.6, 2nd paragraph: Does the estimate of 124,215 acres losing their wilderness character due to existing leases also take into account the potential leasing and development of SITLA lands that "checkerboard" the region? Duchesne County expects that development of SITLA lands will result in the loss of even more wilderness character on adjoining BLM lands, which makes management of these areas for wilderness even less feasible or desirable.	SITLA lands are not included in the determination of Wilderness Character.	No
WSA Supp.	60	WC	Page 4-219, Section 4.22, 2nd paragraph on this page: The list of other land management agencies in this paragraph fails to mention SITLA, which owns many sections of land abutting non-WSA lands managed by the BLM.	Comment Noted. SITLA will be added.	Yes
WSA Supp.	61	REC	Page 4-219, Section 4.22, last paragraph on this page: Duchesne County questions the listing of "primitive forms of recreation:" to include hunting, fishing, and wildlife viewing, when the majority of the population	The activities can be and are accomplished by both motorized enthusiasts, and non-motorized enthusiasts, and are therefore correctly categorized within primitive forms of recreation, but	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
			uses motorized vehicles to participate in such activities. Creation of wilderness makes such activities difficult to participate in for the majority of citizens.	not excluded from motorized forms of recreation. The commenter offers an opinion of wilderness as follows: "Creation of wilderness makes such activities difficult to participate in for the majority of citizens." This is a general opinion dealing with the philosophy of wilderness and is beyond the scope of the Draft RMP and Supplement.	
WSA Supp.	62	REC	Page 4-221, Section 4.22.19, last paragraph on this page: Focusing on primitive forms of recreation and limiting motorized recreation may increase opportunities for solitude and primitive recreation, but this occurs at the expense of the majority, who don't seek solitude or primitive recreation and need motorized access to enjoy these lands.	Comment noted. The BLM considered a wide range of alternatives for motorized use, including constructing/designating up to 800 miles of additional motorized trails and 400 miles of non-motorized trails (Alt A.) Acres and miles for motorized use (as it relates to OHV's) are clearly stated within the DRMP on table S.1 within the executive summary of the Draft RMP, and additional OHV numbers are stated within table S.4 as part of the Supplement. The BLM has Clearly offered opportunities for Motorized use within the VPA.	No
WSA Supp.	63	WC	Page 4-222, Section 4.22.19, 3rd sentence in 1st paragraph: Remove reference to "a more industrial landscape" and use "reduction of natural landscapes."	Comment noted. The BLM declines to make the suggested wording changes for a variety of reasons including, but not limited to, the following:	No

Table 5.12c. Public Comments and Responses: Duchesne County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
				1. The BLM does not find the suggested changes necessary or appropriate. 2. The suggested wording change does not substantively contribute to or clarify the discussion. 3. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. 4. The suggested change expressed personal opinions or preferences. 5. The suggested change had little relevance to the adequacy or accuracy of the RMP/EIS.	

Table 5.12d. Public Comments and Responses: Uintah County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	GC139 (JSO-19)	Oil shale needs to be added to land use and economic resources.	Oil shale will be addressed in the programmatic EIS. Please see Section 1.12 of the PRMP/FEIS for more information.	No
Draft RMP/EIS	GC140 (JSO-48)	Is this document supposed to be good for 15 or 20 years?	The RMP document is intended to be relevant for as long as 20 years from the completion date. However, the BLM will continually consider the accuracy and applicability of the resource management needs within the planning area and will update the RMP through addenda as needed. The BLM will consider the complete re-writing of	No

Table 5.12d. Public Comments and Responses: Uintah County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			the RMP approximately 15 years from the completion date, unless conditions or policy require early consideration.	
Draft RMP/EIS	SO57 (JPR-9)	As cooperating partners, Uintah County and Duchesne County provided two socioeconomic reports for incorporation into the RMP. They were not included. They must be included before any alternative can be properly analyzed and the impacts disclosed. Reports were: #1 UEO Report addressing cost and related impacts of Drilling a well in Uinta and Duchesne counties, and #2 Uinta Basin Industry Impact Study	See comment response SO2.	No
Draft RMP/EIS	SO62 (JSO-14)	Outdated insufficient or incorrect data and graphs have been used to provide socio-economic information; additional information supplied to BLM was not generally incorporated. Accurate and comprehensive analysis of impacts is not included in all sections and is not consistent throughout document (some sections, like oil/gas mention number of jobs, other areas like grazing or agriculture do not).	The PRMP/FEIS incorporates recent data provided by the US Bureau of Labor Statistics and the State of Utah Division of Oil, Gas and Mining. This data has been used in the recent (November, 2007) study commissioned by the State of Utah: The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase I - The Uinta Basin.	No
Draft RMP/EIS	SO63 (JSO-15)	We provided you with specific data source; there is no reference or indication that it was ever used. (Uinta Basin Industry Impact Study)	This document has been reviewed, and the relevant information has been incorporated into the Final RMP/EIS.	Yes
Draft RMP/EIS	SO64 (JSO-16)	We provided you with specific data source; there is no reference or indication that it was ever used. (UEO Report addressing cost and related impacts of Drilling a well in Uintah and Duchesne counties.) The Draft RMP drilling costs differ by more than 300% from this report, making it impossible to accurately analyze and disclose impacts.	This document has been reviewed, and the relevant information has been incorporated into the Final RMP/EIS. The BLM accepts the identified document as a valid source of information, and the socioeconomic analysis was redone based upon the information provided.	Yes

Table 5.12d. Public Comments and Responses: Uintah County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	SO65 (JSO-17)	You need to update data given economic changes--especially energy prices--since DEIS data was gathered. Failure to do so could constitute a flawed document.	NEPA does not require agencies to wait on studies to be completed, but if there is more current information please acknowledge or show that it does not significantly modify the impacts.	No
Draft RMP/EIS	SO66 (JSO-18)	RMP does not adequately disclose the degree to which BLM lands affect local economy. "…these often-conflicted uses need to be addressed in terms of how they affect local communities…" Without a full economic and fiscal analysis of each alterative, this objective is not met.	The socioeconomic impacts analysis can be found in Section 4.12 and its subsections. See comment response S037.	No
Draft RMP/EIS	SO67 (JSO-20)	The RFD "projects environmental impacts through the next 15-year period." RFD should address economic impacts, too.	Similar to the RFD, the life of the RMP is expected to be 15-20 years. Anticipated economic impacts from management decisions under consideration in the PRMP/FEIS are discussed in Section 4.12.3.2 and its subsections.	No
Draft RMP/EIS	SO68 (JSO-21)	Summary of Impacts, Discipline, Social and Economic Consideration: Mineral Development is erroneous. There is no reference as to where and how these numbers were calculated. Based on upon UEO report, these numbers need to be recalculated. It does not make sense to have $3.8 billion in cost to recoup $437 million in sales.	This document has been reviewed, and the relevant information has been revised into the Final PRMP/FEIS. The BLM accepts the identified document as a valid source of information, and the socioeconomic analysis was redone based upon the information provided. See comment responses to SO31 and SO54.	Yes
Draft RMP/EIS	SO69 (JSO-22)	Recreation section. We question these numbers, are they for BLM managed land only? All 3 counties? Are oil field workers staying in local motels being counted as tourists? Again, there is not reference to check where these stats came from.	It is unclear which statistic in the Recreation Section of Table 2.5 is being questioned. Section 4.12.3.2 in the PRMP/FEIS has been revised to reflect the impact of oil workers in local motels.	Yes

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	SO70 (JSO-23)	The RFD is inadequate and not realistic. Estimates for new wells are extremely low. This number should be increased to a more realistic number.	See comment responses ME47 and ME70.	No
Draft RMP/EIS	SO71 (JSO-24)	Note that a large portion of "tourism tax dollars" come from the oil and gas industry (local motels for housing for oil field workers etc). This should be made clear in all sections of the RMP discussing tourism impacts.	Section 4.12.3.2 in the PRMP/FEIS has been revised to clarify the relationship between oil and gas workers and "tourism tax dollars."	Yes
Draft RMP/EIS	SO72 (JSO-25)	This data from 2000; table needs to be updated. Should use info from Utah Division of Travel not Utah Travel Council. Also this table reflects a percentage change, but does not say what it is changing from.	Table 3.10.1 in the PRMP/FEIS has been revised to incorporate information from the Utah Division of Travel Development.	Yes
Draft RMP/EIS	SO73 (JSO-26)	Update the population data. Although census from 2000, recognized agencies have more updated population data and this data should be used.	There may be more up to date population numbers, but the commenter did not provide that information to use. Population projections for 2020 are given and updated data has been used where applicable. Also, an RMP will never have current, up-to-date information due to the length of time it takes to publish the document. The data is provided for comparison purposes. See comment response SO53.	Yes
Draft RMP/EIS	SO74 (JSO-27)	The information in this table is at least 3 years outdated and does not reflect present employment base. The table should be updated. In addition, numbers shown for 2001 are incorrect. See DWS latest fact sheet.	An RMP will never have current, up-to-date information due to the length of time it takes to publish the document. The data is provided for comparison purposes.	No

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	SO75 (JSO-28)	Table needs to be updated with FY2004 data. Old data does not accurately show present impacts.	Due to changes in recordation at the Minerals Management Service, this information is not available for more recent years. However, Table 3.12.4 in the PRMP/FEIS has been revised to incorporate new minerals revenue figures.	Yes
Draft RMP/EIS	SO76 (JSO-29)	Charts from Utah Division of Oil, Gas and Mining are 2002; need to be updated with 2004.	The charts following Table 3.12.4 in the PRMP/FEIS have been revised to reflect 2004 figures from the Utah Division of Oil, Gas and Mining.	Yes
Draft RMP/EIS	SO77 (JSO-30)	Gas and oil prices per barrel in RMP need to be adjusted to reflect current conditions.	Section 3.12.2.2.3 in the PRMP/FEIS has been revised to reflect 2004 figures from the Utah Division of Oil, Gas and Mining	Yes
Draft RMP/EIS	SO78 (JSO-31)	Conflict between Tax Revenue text and Table 3.10.1 data. ($951,000 vs. $334,514). Use most current data.	Section 3.12.2.2.4 in the PRMP/FEIS has been revised to reflect the correct tax revenue figures. See response to SO6.	Yes
Draft RMP/EIS	SO79 (JSO-32)	Data doesn't truly reflect actual tourism dollars (high % of industry in them).	This has been noted in Sections 3.12.2.2.4 and 4.12.3.2	Yes
Draft RMP/EIS	SO80 (JSO-33)	ALL county revenue should be included in data. Show what portion of revenue goes to state and not county.	Sections 3.12.2.2.3 and 4.12.3.2.1 in the PRMP/FEIS have been revised to indicate shat portion of county revenue goes the state.	Yes
Draft RMP/EIS	SO81 (JSO-34)	Chapter 4 deals with environmental consequences but fails to deal with economic ones. Chapter 4 should include economic impacts within each resource section.	The socioeconomic impacts analysis is contained in Section 4.12 and its subsections.	No
Draft RMP/EIS	SO82 (JSO-35)	Agriculture impacts to the local economy were omitted in Chapter 4.	See Sections 4.12.2.1 and 4.12.3.1 for impacts to grazing as a result of BLM management decisions.	No
Draft RMP/EIS	SO83 (JSO-36)	Need consistency in whether this plan is projecting for 15 or 20 years.	15 to 20 years is the planned projected life of this RMP which is reflected in the analysis. If significant changes were found, a plan	No

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			amendment would be done.	
Draft RMP/EIS	SO84 (JSO-37)	Table 4.2 underestimates potential for development and needs to be re-analyzed to reflect a more accurate development scenario based on today's activity.	The commenter does not provide an alternative estimate of future development or an indication of what would be a "more accurate scenario based on today's activity." As such, the BLM is unable to respond to this comment.	No
Draft RMP/EIS	SO85 (SO-38)	Last paragraph 2nd sentence should read "to the federal government and the State of Utah" rather than "or"	Section 4.8.1.1 in the PRMP/FEIS has been revised to incorporate the change suggested in the comment.	Yes
Draft RMP/EIS	SO86 (JSO-39)	Inconsistency in number of wells between various sections of RMP and Mineral Potential Report. Figure of 6,530 more accurately reflects a minimum for wells, not a maximum.	Errors in the numbers of wells between various sections will be corrected in the FEIS. The maximum number of wells predicted in the RFD was based on the best information available at the time of the report. See comment response AT29.	Yes
Draft RMP/EIS	SO87 (JSO-40)	"Tourism generates tax revenue that is used to support the local community, which would potentially decrease". This is irrelevant. Tourism tax dollars are not applicable to Uintah County BLM lands, nor are there tourist focal points.	Potential tourism-related tax revenue could result from a range of recreation opportunities on BLM lands including Backcountry Byways, SRMA's and trails in the planning area. See section 4.10.2.6 for recreation opportunities in the VPA.	No
Draft RMP/EIS	SO89 (JSO-42)	This statement does not adequately convey the layering of restrictions and their impacts on inhibiting development. Needs to be spelled out to laypeople.	"Layering" is a planning tool. Under FLPMA's multiple-use mandate, the BLM manages many different resource values and uses on public lands. Through land-use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple-use concept, the BLM does not necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same	No

Table 5.12d. Public Comments and Responses: Uintah County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering". The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land-use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. Not all uses and values can be provided for on every acre. That is why land-use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses are considered to determine what mix of values and uses is responsive to the issues identified for resolution in the land-use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations. The FLPMA directs BLM to manage public lands for multiple use and sustained yield (Section 102(a) (7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing land uses and to resolve conflicts and prescribe land uses through its land-use plans. The BLM's	

Table 5.12d. Public Comments and Responses: Uintah County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			Land-use planning Handbook requires that specific decisions be made for each resource and use (See, Appendix C, Land-use planning Handbook "H-1601-1"). Specific decisions must be included in each of the alternatives analyzed during development of the land-use plan. As each alternative is formulated, each program decision is overlaid with other program decisions and inconsistent decisions are identified and modified so that ultimately a compatible mix of uses and management prescriptions result. For example, the BLM has separate policies and guidelines, as well as criteria, for establishing ACECs and when the WSAs were established. These differing criteria make it possible that the same lands will qualify as both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies.	
Draft RMP/EIS	SO90 (JSO-43)	Cost of drilling as stated in RMP is incorrect and results in need for reassessment of all alternatives.	Section 4.12.3.2 in the PRMP/FEIS has been revised to consider the cost of drilling based upon data received by the BLM.	Yes
Draft RMP/EIS	SO91 (JSO-44)	Data on state and local revenues from wells must be included as much wages, support jobs, etc.	See comment responses SO2 and SO28.	No
Draft RMP/EIS	SO92 (JSO-45)	Discrepancy in well numbers (6,312 v. 6,340) in document text vs table. Also well number from MPR of 6,530 not reflected in any alternative.	Section 4.12.3.2.1 in the PRMP/FEIS has been revised so that the number of wells are consistent throughout the RMP. The well number of 6,530 is the maximum RFD. The maximum number of wells was adjusted by the percent of area open for development under each alternative.	Yes
Draft	SO93	All of the impacts are incorrect based on the	See comment responses SO31 and SO54.	No

Table 5.12d. Public Comments and Responses: Uintah County

Comment Period	Comment Number & Resource Category		Comment Text	Response to Comment	Document Modified
RMP/EIS	(JSO-46)		information from the UEO.		
Draft RMP/EIS	SO94 (JSO-47)		Royalties and PILT not connected in any way and the statement that they are suggests that the preparer has no knowledge of BLM and local, or state revenue sources.	Sections 4.12.3.2.2 thru 4.12.3.2.4 in the PRMP/FEIS have been revised to clarify the impacts of royalties and Payments in Lieu of Taxes (PILT).	Yes
Draft RMP/EIS	SO96 (JSO-49)		All three of these sections have inaccurate well counts and extrapolations of impacts. Also they assume that PILT is a royalty payment, this is not correct.	See comment response SO93.	No
Draft RMP/EIS	SO97 (JSO-50)		Table 4.12.1 should be deleted and a new chart prepared with accurate and updated information. The table should also include additional fiscal items (state local revenues, direct/indirect jobs etc) needed for true analysis as required by FLPMA.	An RMP will never have current, up-to-date information due to the length of time it takes to publish the document. The data is provided for comparison purposes. See comment responses SO31 and SO54.	No
Draft RMP/EIS	SO98 (JSO-51)		Section is inadequate and insufficiently detailed to specific locations and counties and does not tie wages to jobs. Also, references are not cited.	The document has been revised such that references used have been cited the text.	Yes
ACEC NOA	1	ACE	The BLM must make a determination for each potential and proposed ACEC that special management attention is required to protect the identified relevant and important values. It has failed to do so in the DEIS/RMP.	The BLM determined that the potential ACECs identified in the PRMP/FEIS have relevant and important values and this provides the need for protection. Where potential ACECs are designated special management attention would be directed at the relevant and important values.	No
ACEC NOA	2	ACE	Similarly, on page 4-203, the draft RMP indicates the lack of designation of some potential ACECs may place the relevant and important values "at some risk of irreparable damage during the life of the plan". This statement is completely backward. BLM must make a determination that a threat of irreparable damage from	The ACEC evaluation appendix (Appendix G) was modified, and a section added to Chapter 2 discussing threats to the relevant and important ACEC values; however, whether the threats currently exist does not preclude a potential ACEC from being considered in the action alternatives. All	Yes

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			some authorized multiple-use activity exists, and is directed toward the identified relevant and important value in order to complete the fundamental requirements for an ACEC.	nominated areas, where the BLM has determined to have relevant and important values, are identified as potential ACECs and are addressed in the action alternatives. Threats to relevant and important values are likely to vary by alternative. The PRMP/FEIS was revised from the draft document to better address potential threats and impacts associated with each alternative. On August 27, 1980, the BLM promulgated final ACEC guidelines (45 Federal Register 57318) clarifying the term "protects" – "To defend or guard against damage or loss to the important environmental resources of a potential or designated ACEC. This includes damage that can be restored over time and that which is irreparable. With regard to a natural hazard, protect means to prevent the loss of life or injury to people, or loss or damage to property." Thus, BLM is to consider the potential for both reparable and irreparable damage when protecting important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems through ACEC designation. This interpretation is consistent with FLPMA's legislative history and implementing policy. Section 2 of the guidelines clarifies that ACECs are special places within the public lands. It states: "In addition to establishing in law such basic protective management policies that apply to all the public lands, Congress has said that 'management of national resource lands [public lands] is to include	

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				giving special attention to the protection of ACECs, for the purpose of ensuring that the most environmentally important and fragile lands will be given early attention and protection' (Senate Report 94-583, on FLPMA). Thus, the ACEC process is to be used to provide whatever special management is required to protect those environmental resources that are most important, i.e., those resources that make certain specific areas special places, endowed by nature or man with characteristics that set them apart. In addition, the ACEC process is to be used to protect human life and property from natural hazards."	
ACEC NOA	3	ACE	The manual section (1613.22) further requires the BLM to consider whether the values within the proposed and potential ACEC are already afforded protection through other designations. BLM Manual Section l613.33E allows that BLM may decline to designate an ACEC "because standard or routine management prescriptions are sufficient to protect the resource or value from risks or threats of damage/degradation", which is clarified to mean that "the same management prescriptions would have been provided for the area in the absence of the important and relevant values". Examples of values that have been used to justify need for protection management are the species cultural resources, riparian and wetland areas and special status species. The counties cannot find any analysis of these factors within the draft RMP and EIS. In fact, the majority of the relevant and important values identified are already afforded such protection.	See comment response 2-2.	No

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ACEC NOA	4	ACE	The failure to conduct the analysis required in section (1613.12) is evidenced by the proposal to create an ACEC in the Winter Ridge WSA and on the White River. These areas are currently protected by Interim Management Plan for WSAs and Provisions of the Threatened and Endangered Species Act.	The BLM has separate policies and guidelines, as well as criteria, for establishing ACECs and WSAs. These differing criteria make it possible that the same lands will qualify as both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies. The values protected by WSA management prescriptions do not necessarily protect those values found relevant and important in ACEC evaluation, and vice versa. The relevant and important values of ACECs within or adjacent to WSAs were noted in the ACEC Evaluation (Appendix I). The ACECs are evaluated and ranked based on the presence or absence of the stated relevant and important values. None of these values includes wilderness characteristics. Additionally, the management prescriptions for the ACECs is limited in scope to protect the relevant and important values, and the BLM maintains that the size of the ACEC areas is appropriate for protection of the relevant and important values identified.	No
ACEC NOA	5	ACE	Further, BLM Manual Section 1613.22(A)(2) requires the BLM to consider the value of other resources when considering the protection of important and relevant values of a proposed and potential ACEC. The intent is that BLM balance the various multiple-uses within the proposed RMP, and consider whether the need for other multiple-uses in the area "outweigh" the need for the ACEC. The discussions in the draft RMP and EIS do not analyze any such balancing, and do not discuss	The rationale for designation of individual ACECs carried forward into the PRMP/FEIS will be provided in the Record of Decision (ROD) including the identified benefits of ACEC designation versus other resource uses. The analysis that forms the basis of the rationale for the final decision to designate or not designate an ACEC can be found in Chapter 4 of the PRMP/FEIS.	No

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			the potential benefits of ACEC designation versus other resource uses for any of the potential and proposed ACECs. As stated above, the impacts on RFD are not disclosed to a level that such analysis could be made.		
ACEC NOA	6	ACE	The counties are concerned that the draft RMP is not specific about the sources and goals of many of the special management designations available to it, leading to the circular and non¬responsive reasoning in the analysis. For example, on page 4-284, the impacts analysis for visual resources and special designations indicates that visual resources will be protected by designation of ACECs and Wild and Scenic River designations. This analysis proceeds under the general presumption that ACECs and WSR segments are "good" for visual resources, but fails to indicate the management prescriptions which actually accomplish this goal. On page 4-280 under a discussion of recreation, the draft RMP indicates that the designation of Special Recreation Management Areas would benefit scenic quality by "limiting surface-disturbing activities". On the other hand, the explanation of management prescriptions for the proposed Bitter Creek ACEC indicates possible use of three of four existing VRM categories. Which designation ¬ACEC, WSR, SRMA or VRM management - is being proposed for the protection of visual resources? The VRM discussion mentions the others, while the ACEC discussion mentions the use of VRM classifications. This lack of clarity in proposed management prescriptions doesn't meet the requirements of full disclosure under the provisions of NEP A, and doesn't allow counties to determine	The PRMP/FEIS has been revised to include the Proposed RMP that reflects the selection of management direction from all alternatives to mitigate impacts to resources "Layering" is planning tool. Under FLPMA's multiple-use mandate, the BLM manages many different resource values and uses on public lands. Through land-use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple-use concept, the BLM does not necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering". The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land-use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. Not all uses	Yes

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			whether or not the BLM is proposing duplicate prescriptions, contrary to the provisions of State law, and the BLM's Manual on designation of ACECs, as discussed above.	and values can be provided for on every acre. That is why land-use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses are considered to determine what mix of values and uses is responsive to the issues identified for resolution in the land-use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations. The FLPMA directs BLM to manage public lands for multiple use and sustained yield (Section 102(a)(7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing land uses and to resolve conflicts and prescribe land uses through its land-use plans. The BLM's Land-use Planning Handbook requires that specific decisions be made for each resource and use (See, Appendix C, Land-use Planning Handbook "H-1601-1"). Specific decisions must be included in each of the alternatives analyzed during development of the land-use plan. As each alternative is formulated, each program decision is overlaid with other program decisions and inconsistent decisions are identified and modified so that ultimately a compatible mix of uses and management prescriptions result.	

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WSA Supp.	1	PRP	Adopting Alternative E would violate the restrictions of BLM's own Instruction Memorandum No. 2003-275, which states, "it is no longer BLM policy to continue to make formal determinations regarding wilderness character, designate new WSAs through the land-use planning process, or manage any lands --[except Section 603 WSAs] in accordance with the non-impairment standard prescribed in the IMP [Interim Management Policy for WSAs]."	See comment response 154-B-6.	No
WSA Supp.	2	PRP	The proposed Alternative E's restrictive management standards that would effectively treat Subject Lands as if they are WSAs, are largely built around BLM's 1999 Utah Wilderness Reinventory. Yet in 2003 the Department of Interior promised the State of Utah, among other things, not to use the 1999 Utah Wilderness Reinventory to manage public lands "as if" they are, or may become, WSAs. Utah v. Norton settlement agreement of April 11, 203 at p. 13 para 14.	The Utah v. Norton Settlement Agreement does not affect BLM's authority to manage public lands. This Agreement merely remedied confusion by distinguishing between wilderness study areas established under FLPMA §603 and those lands required to be managed under §603's non-impairment standard, and other lands that fall within the discretionary FLMPA §202 land management process. See also comment response 154-B-6.	No
WSA Supp.	3	PRP	The State of Utah's policy and plan for managing BLM lands is substantially set forth in Utah Code 63-38d-401(6), (7) and (8). A copy of that portion of the Utah Code (Exhibit 2)(is enclosed for your reference. It is self evident that the management prescriptions and restrictions in the proposed Alternative E are not inconsistent with the standards and policies set forth in this State statutory provision.	See comment response 150-B-2.	No
WSA Supp.	5	WSR	The Wild & Scenic Rivers Act expressly provided that no pre-existing rights shall be impinged, etc. Therefore, BLM should conclude that no proposed segment in Uintah County is suitable for designation, for the addition reason that prohibitions on	Barring congressional action, there is no effect on water rights or in-stream flows related to suitability findings made in a land-use plan decision. Even if Congress were to designate rivers into the National Wild and Scenic Rivers System, any such	No

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			impoundment that accompany designations would violate the pre-existing rights of impoundment granted under the 1922 Colorado River Compact.	designation would have no effect on existing water rights. Section 13(b) of the Wild and Scenic River Act states that jurisdiction over waters is determined by established principles of law. In Utah, the State has jurisdiction over water. Although the Wild and Scenic Rivers Act implies a Federal reserved water right for designated rivers, it does not require or specify any amount, and as noted above, confirms that Utah has jurisdiction over water rights. The BLM would be required to adjudicate the water right, in the same manner as any other entity, by application through State processes. Thus, for congressionally designated rivers, the BLM may assert a Federal reserved water right for appurtenant and unappropriated water with a priority date as of the date of designation (junior to all existing rights), but only in the minimum amount necessary to fulfill the primary purpose of the reservation.	
WSA Supp.	6	GRA	The "close an entire grazing allotment" standard misses the mark of House Bill 264 and is inconsistent with Uintah County Public Land Policy and Plans by a serious margin.	The BLM does not manage public land based on pending draft or proposed legislation.	No
WSA Supp.	7	GRA	From time to time a bonafide livestock permitee in the VFO planning area, acting in good faith and not to circumvent the intent of the BLM's grazing regulations, may temporarily cease grazing operations without losing his or her permitted AUMs. It is proposed in Alternative E to transfer these AUMs to wildlife or to watersheds. This is contrary to BLM regulations that provide for non use, Utah State law, and Uintah County policy.	The different alternatives present a range of forage allocations between livestock and wildlife if adjustments in AUMs are made. The Vernal Field Office RMP determines the allowable uses of the public lands as provided for in FLPMA. FLPMA states in section 202(a) that land-use planning provides for the use of the public lands "regardless of whether such lands previously have been classified, withdrawn, set aside, or	No

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				otherwise designated for one or more uses". FLPMA further provides in Section 202(e) the authority to issue management decisions which implement newly developed or revised land-use plans. Such decisions, including those that exclude one or more uses, are subject to reconsideration, modification and termination through revision of the land-use plan. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local	

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				management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5.	
WSA Supp.	8	GRA	The RMP fails to articulate a legal or factual basis to reduce domestic livestock, and as written, Alternative E violates BLM grazing regulations. BLM may not implement an acres the board reduction in permitted grazing use in the RMP. Permitted use includes non-use, and BLM may only reduce permitted grazing use when monitoring or field observations or ecological site inventory or other data demonstrate that grazing use is causing an unacceptable level or pattern of utilization, that rangeland health standards are not being met or that use exceeds livestock carrying capacity. Furthermore, changes in permitted use may only be effected by appealable decision after consultation, cooperation and coordination with the affected grazing permitee. 43 C.F.R. 4110.3, 4110.3-2, 4110.3-3. Alternative E's across the board elimination of grazing non-use, therefore is illegal.	The Vernal Field Office RMP determines the allowable uses of the public lands as provided for in FLPMA. FLPMA states in section 202(a) that land-use planning provides for the use of the public lands "regardless of whether such lands previously have been classified, withdrawn, set aside, or otherwise designated for one or more uses". FLPMA further provides in Section 202(e) the authority to issue management decisions which implement newly developed or revised land-use plans. Such decisions, including those that exclude one or more uses, are subject to reconsideration, modification and termination through revision of the land-use plan. See comment response LG45A regarding FLPMA policy to manage the public lands on the basis of multiple use and sustained yield. While it is the goal of the BLM to enhance rangeland health while providing for and recognizing the need for domestic sources of minerals, food, timber and fiber, there is no requirement in the Taylor Grazing Act (TGA) or other applicable law for the BLM to maximize the number of domestic livestock AUMs. According to section 2 of the TGA, it is the objective of the act to regulate the occupancy and use of the Grazing Districts and to preserve these lands.	No

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WSA Supp.	9	GRA	The RMP proposes to exclude from forage allocations all land that produces less than 25 or 32 pounds of forage per year. See DEIS 2-11. The grazing rules require that such changes be made in consultation and coordination with the individual permitee rather than unilaterally throughout the planning area. In addition, the grazing rules require consultation with the permitee before amending the permit to exclude land. 43 C.F.R. 4110.4-2	The Vernal Field Office RMP determines the allowable uses of the public lands as provided for in FLPMA. FLPMA states in section 202(a) that land-use planning provides for the use of the public lands "regardless of whether such lands previously have been classified, withdrawn, set aside, or otherwise designated for one or more uses". FLPMA further provides in Section 202(e) the authority to issue management decisions which implement newly developed or revised land-use plans. Such decisions, including those that exclude one or more uses, are subject to reconsideration, modification and termination through revision of the land-use plan. The BLM agrees that changes must be done in consultation, coordination, and cooperation with the permittee. 43 C.F.R. §4110.2-3. The BLM has merely provided criteria to use to when adjustments are required.	No
WSA Supp.	10	GRA	We object to the extent the Supplement attempts to authorize the retirement of grazing permits and their reallocation to wildlife. This violates the Taylor Grazing Act, 43 U.S.C. 315, FLPMA, 43 U.SC. 1742, and the terms of the Executive Orders No 6910, 54 I.D. 539 (1934), and No. 6964 (Feb. 5, 1935), which withdrew public lands as chiefly valuable for grazing.	Voluntary relinquishments of grazing permits and preference, in whole or in part, by a permittee in writing to the BLM will be handled on a case by case basis. The BLM will not recognize as valid, relinquishments which are conditional on specific BLM actions and BLM will not be bound by them. Relinquished permits and the associated preference will remain available for application by qualified applicants after BLM considers if such action would meet rangeland health standards and is compatible with achieving land-use plan goals and objectives. Prior to re-issuance of the relinquished permit the terms and conditions may be modified to meet LUP goals and objectives	No

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				and/or site specific resource objectives. However, upon relinquishment, BLM may determine through a site specific evaluation and associated NEPA analysis that the public lands involved are better used for other purposes. Grazing may then be discontinued on the allotment through an amendment to the existing LUP or a new LUP effort. Any decision issued concerning discontinuance of livestock grazing is not permanent and may be reconsidered and changed through future LUP amendments and updates.	
WSA Supp.	11	GRA	By the same token, BLM cannot purport to authorize wildlife grazing by retiring grazing permits in order to allocate the forage for wildlife. This action would also constitute a change in grazing use without following the procedures set out in BLM grazing rules. 43 C.F.R 4110.3, 4110.4. It is also inconsistent with the grazing rules which provide for BLM to offer a vacant permit to other qualified pemitees.	See comment response 190-O-10. The different alternatives present a range of forage allocations between livestock and wildlife if adjustments in AUMs are made.	No
WSA Supp.	12	GRA	Of particular concern is the proposal to transfer livestock AUMs associated with the BCCI to wildlife. This proposal is counter to provisions of Utah State law and Uintah County Public Land Policy.	See comment response 190-O-12.	No
WSA Supp.	13	ACE	The ACEC concept gives BLM no authority to discontinue oil and gas development activities already approved under the existing Vernal and Diamond Mountain RMP's, this lies in the statutory definitions of ACEC's found in FLPMA, 43 U.S.C. 1702(a).	The RMP and Supplement recognize all valid existing rights within the Vernal Planning Area and would not retroactively apply management prescriptions to existing rights that would conflict with the currently allowable activities accompanying those rights.	No

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				Also, Section 1.4.1.2, Development of Planning Criteria, states that the Final EIS would recognize valid existing rights.	
WSA Supp.	14	ACE	The conjunctive phrase "to protect and prevent irreparable damage to," mandates that ACEC designation is not appropriate when relevant values are merely subject to some impairment. The threatened negative effect on a give relevant value must rise to the level of outright damage to that value. Thus, the ACEC concept does not authorize the Secretary to manage a piece of public land for mere non-impairment of a perceived wilderness characteristic, as if it were or one day may become a Section 603 WSA. Any such attempt to extend, de facto, the non-impairment management mandate to non 603 WSA's in the name of an ACEC, is therefore groundless.	On August 27, 1980, BLM promulgated final ACEC guidelines (45 Federal Register 57318) that clarify that the term "protects" means: "To defend or guard against damage or loss to the important environmental resources of a potential or designated ACEC. This includes damage that can be restored over time and that which is irreparable. With regard to a natural hazard, protect means to prevent the loss of life or injury to people, or loss or damage to property." Thus, BLM is to consider the potential for both reparable and irreparable damage when protecting important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems through ACEC designation. This interpretation is consistent with FLPMA's legislative history and implementing policy. Section 2 of the guidelines clarifies that ACECs are special places within public lands. It states: "In addition to establishing in law such basic protective management policies that apply to all the public lands, Congress has said that 'management of national resource lands [public lands] is to include giving special attention to the protection of ACECs, for the purpose of ensuring that the most environmentally important and fragile lands will be given early attention and protection' (Senate Report 94-583, on FLPMA). Thus, the ACEC process is to be used to provide	No

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				whatever special management is required to protect those environmental resources that are most important, i.e., those resources that make certain specific areas special places, endowed by nature or man with characteristics that set them apart. In addition, the ACEC process is to be used to protect human life and property from natural hazards."	
WSA Supp.	15	ACE	The term "important" in the phrase "important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes," shows that the values sought to be protected must have some objectively recognized importance in order to justify ACEC designations and protection. The Vernal RMP Administrative Draft fails to demonstrate or articulate how the values identified in the proposed ACEC's meet this "importance" threshold.	BLM considered the acreage needed to protect and prevent irreparable damage to relevant and important values. Nominated ACECs or portions of nominated ACECs that failed to meet both relevance and importance criteria were not considered in the Draft RMP/EIS alternatives.	No
WSA Supp.	16	ACE	These other management tools combine with the ACEC proposals to further restrict oil and gas activities on public lands, raising the following additional legal problems under FLPMA: 1. Any combinations of the above-described management tools which eliminate one or major uses for two or more years on tracts of public land in excess of 100,000 acres, must be reported to the House and Senate for potential veto. 43 U.S.C. 1712(3)(2). 2. Regardless of the size of the affected land, any combination of the foregoing management tools which eliminate major uses such as oil and gas exploration arguably constitute a withdrawal triggering FLPMA's	Comment noted. The lands closed to leasing are not proposed to be withdrawn. Therefore the Department of the Interior would not be required to follow the FLPMA process noted in the comment. If the FEIS contains a decision to withdraw lands from mineral entry that are 5,000 acres or more in size, then the process noted would have to be followed.	No

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			withdrawal provisions.		

Table 5.12e. Public Comments and Responses: Daggett County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	LG9	Brown's Park has always been an important winter range for wildlife, and Clay Basin and Brown's Park have been important to farming and ranching. In many areas range lands can continue to be improved with cooperation from the Division of Wildlife Resources. These efforts should not be limited by VRM's or ACEC's.	VRM classification and ACEC designation do not preclude maintenance of rangeland health or range enhancements. Maintenance of rangeland health is listed in Table 2.1.6 Forage – All Localities) in the PRMP/FEI under the subsection entitled Management Common to All Alternatives.	No
Draft RMP/EIS	SD6	Recently the area along the river [the Green River?] has had many recreational facilities put in to take care of public needs such as campgrounds, restrooms, boat ramps, etc. The Division of Wildlife Resources and private land owners divert water from the green River for wildlife refuge and irrigation. Currently the county has an approved application for water that could be sued for the Taylor Flat Subdivision. New diversions and right of way easements will have to be created. The river is currently being managed mostly for recreation. [Daggett County] believes that a proposed designation of "Recreational" is most appropriate for the Green River. Consideration must be given to	The Upper Green River Segment was identified as suitable for designation in the National Wild and Scenic River System in the Diamond Mountain RMP/EIS and has been carried forward in the Proposed RMP/Final EIS. Appendix C of the PRMP/FEIS details the steps undertaken in the eligibility review process including the identification of outstandingly remarkable values as well as the Suitability Considerations by eligible river segments. The BLM complied with all applicable Federal laws, regulations, and policies in the Wild and Scenic Rivers Study Process.	No

Table 5.12e. Public Comments and Responses: Daggett County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		changes and development in use, since the analysis was done in 1980.	Manual 8351, Wild and Scenic Rivers, Policy Program Direction for Identification, Evaluation, and Management, states: "In general, a wide range of agricultural, water management, silvicultural, and other practices or structures could be compatible with scenic river values…"	
Draft RMP/EIS	SD7	[Daggett County] questions if proper analysis and review were done on this in the 1991 Diamond Mountain RMP. It appears management of this area hasn't changed since this designation and that the area could be properly managed under normal BLM management practices.	The analysis and rationale for the designation of the Red Creek ACEC in the 1991 Diamond Mountain RMP were disclosed to the public and available for public comment and protest through the EIS and the ROD. No substantive objections were raised at that time. The potential ACECs analyzed for designation into the Proposed RMP have gone through a rigorous and stringent process in accordance with FLPMA, the planning regulations at 43 CFR 1600, Land-use Planning Handbook (H- 1601-1), and in accordance with BLM Manual 1613 and ACEC Policy and Procedures Guidelines (45 FR 57318). Appendix G outlines the process the interdisciplinary team underwent to determine whether a nominated ACEC had relevance and/or importance values. The size of the proposed ACECs is limited only to the area(s) of geography where the relevance and importance values are manageable to protect and prevent irreparable damage. In the Proposed RMP, the	No

Table 5.12e. Public Comments and Responses: Daggett County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			potential ACECs generally do not have redundant special designations and/or other existing protections applied. The potential ACECs carried forward into the Proposed RMP necessitate an ACEC designation because special management protection is necessary (outside of normal multiple-use management) to specifically protect the relevance and importance values within the areas identified. The special management prescriptions that have been proposed are narrowly tailored to protect the identified relevant and important values; none of which are recognized as wilderness resources. For these reasons, the potential ACEC decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401.	
Draft RMP/EIS	SD14	[Daggett County] believes that the layering, with special designations and other management prescriptions will in many ways, limit how this area can be best managed.	"Layering" is planning tool. Under FLPMA's multiple-use mandate, the BLM manages many different resource values and uses on public lands. Through land-use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple-use concept, the BLM does not necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and	No

Table 5.12e. Public Comments and Responses: Daggett County

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
			actions to the same area of public lands may be perceived as "layering". The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land-use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. Not all uses and values can be provided for on every acre. That is why land-use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses are considered to determine what mix of values and uses is responsive to the issues identified for resolution in the land-use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations. The FLPMA directs BLM to manage public lands for multiple use and sustained yield (Section 102(a)(7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing land uses and to resolve conflicts and prescribe land uses through its land-use plans. The BLM's Land-use Planning Handbook requires that specific decisions be made for each resource and	

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			use (See, Appendix C, Land-use Planning Handbook "H-1601-1"). Specific decisions must be included in each of the alternatives analyzed during development of the land-use plan. As each alternative is formulated, each program decision is overlaid with other program decisions and inconsistent decisions are identified and modified so that ultimately a compatible mix of uses and management prescriptions result. For example, the BLM has separate policies and guidelines, as well as criteria, for establishing ACECs and when the WSAs were established. These differing criteria make it possible that the same lands will qualify as both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies. The values protected by WSA management prescriptions do not necessarily protect those values found relevant and important in ACEC evaluation, and vice versa. The relevant and important values of ACECs within or adjacent to WSAs were noted in the ACEC Evaluation (Appendix G). The ACECs are evaluated and ranked based on the presence or absence of the stated relevant and important values. None of these values includes wilderness characteristics. Additionally, the management prescriptions for the ACECs is limited in scope to protect the relevant and important values, and the BLM maintains that the size of the ACEC areas is appropriate for protection of the relevant and	

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			important values identified.	
Draft RMP/EIS	SD15	Alternative B would be the preferred alternative of [Daggett County]. [T]here are 18,474 acres along the river corridor. Areas outside of this corridor are more rocky and rugged with pinions and junipers. There have been efforts made to reduce the pinion and juniper encroachment and this needs to continue. The state statute requires that potential and proposed ACEC's be limited in geographic size and that the proposed management prescriptions be limited in scope to the minimum necessary to specifically protect and prevent irreparable damage to the relevant and important values. [Daggett County] requests that BLM re-examine and re-justify the need for the Brown's Park ACEC. We feel that under the 18,474 SRMA the BLM could manage this area adequately.	See Response to Comment SD12-G-9.	No
Draft RMP/EIS	SD255 (ASD-11)	On page 1-8 under 1.4.1.1: Identification of Issues, Wilderness Characteristics it still shows that the BLM is planning to manage for wilderness characteristics in areas outside of WSA lands, which is counter to the Utah vs. Norton settlement. An ACEC or special management areas cannot be a surrogate for a former "wilderness" inventory area. Unfortunately, many of the proposed SMAs or ACECs are exactly that and fail to meet the criteria and policy. There is little evidence of positive action on the part of the BLM in these areas of Special designations to meet stated objectives. The Counties have made repeated attempts to get the data used to develop the need for maintaining or expanding the areas of	See Response to Comment SD16A-G22.	No

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		these Special Designations and still has not received the requested information and the RMP does not adequately document the need for maintaining or expanding the size of these special designations.		
Draft RMP/EIS	SD256 (ASD-12)	The number, size, and frequency of special designations that limit or disallow "disturbances" illustrate our concern that the BLM is not managing these lands for multiple use. Policy is being set that constricts the economies of local areas to meet the desires of groups that do not live or in most cases even visit the area.	Under FLPMA's multiple-use mandate, the BLM manages many different resource values and uses on public lands. Through land-use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple-use concept, the BLM does not necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering". The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land-use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. Not all uses and values can be provided for on every acre. That is why land-use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses are considered to determine what mix of values and	No

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			uses is responsive to the issues identified for resolution in the land-use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations. The FLPMA directs BLM to manage public lands for multiple use and sustained yield (Section 102(a)(7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing land uses and to resolve conflicts and prescribe land uses through its land-use plans. The BLM's Land-use Planning Handbook requires that specific decisions be made for each resource and use (See, Appendix C, Land-use Planning Handbook "H-1601-1"). Specific decisions must be included in each of the alternatives analyzed during development of the land-use plan. As each alternative is formulated, each program decision is overlaid with other program decisions and inconsistent decisions are identified and modified so that ultimately a compatible mix of uses and management prescriptions result. For example, the BLM has separate policies and guidelines, as well as criteria, for establishing ACECs and when the WSAs were established. These differing criteria make it possible that the same lands will qualify as both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies.	

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			The values protected by WSA management prescriptions do not necessarily protect those values found relevant and important in ACEC evaluation, and vice versa. The relevant and important values of ACECs within or adjacent to WSAs were noted in the ACEC Evaluation (Appendix G). The ACECs are evaluated and ranked based on the presence or absence of the stated relevant and important values. None of these values includes wilderness characteristics. Additionally, the management prescriptions for the ACECs is limited in scope to protect the relevant and important values, and the BLM maintains that the size of the ACEC areas is appropriate for protection of the relevant and important values identified.	
Draft RMP/EIS	SO7	The BLM is required to incorporate social science and economic considerations into the planning process. The BLM is also required to manage the public lands on the basis of multiple use and sustained yield and to meet the needs of present and future generations. The focus of an RMP should include a detailed analysis for each community based upon current conditions and trends, including projection of future trends.	The RMP is a programmatic document that considers management decisions and impacts analyses on a landscape level, not a site-specific level. As such, the BLM has conducted the socioeconomic analysis at the individual planning area level.	No
Draft RMP/EIS	SO8	The economic effect on Taylor Flat Subdivision and Brown's Park residences from management decisions was not analyzed.	The RMP is a programmatic document that considers management decisions and impacts analyses on a landscape level, not a site-specific level. As such, the BLM has conducted the socioeconomic analysis at the individual planning	No

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				area level.	
Draft RMP/EIS	SO9		The economic effect of proposed management on those outfitting and guiding was not addressed.	The outfitting/guiding/angling industry was included as part of the Tourism industry, which is discussed in Sections 3.12.2.2.4, 3.12.3.2.4, 3.12.4.2.3, 4.12.2.3, and 4.12.3.3.	No
Draft RMP/EIS	VI2		The maximum VRM rating [Daggett County] can see a need for is VRM III. The area you are recommending for VRM I is in view of Taylor Flat Subdivision, which has 1000 lots that are sold and also in view of the Jarvie Ranch Historical Site.	The alternatives present a range of VRM categories from which management can select. It should be noted that VRM Class I is associated with Cold Spring Mountain Wilderness Study Area. While it is possible to look from the Taylor Flats Subdivision into this WSA, this would not change the Cold Springs Mountain VRM Classification, nor would it change the classification for the subdivision or the Jarvie Ranch Historical Site.	No
Draft RMP/EIS	VI3		The Brown's Park area could have mineral development. Utility lines to the Taylor Flat Subdivision, range improvement programs, burning and chaining the pinion and juniper, watering trough's (sic) etc. that would be limited by VRM I designation. VRM I allow (sic) only "very limited management activity" and VRM III would allow more flexibility in management and the view sheds could still be protected and in some cases enhanced.	See comment response VI2.	No
WSA Supp.	1	AA	Managing the Subject Lands Under Alternative E Would Violate Federal Law, BLM Policy, and the State of Utah/Department of Interior Settlement Agreement of 2003. Daggett County's position on this point was set forth in	Please see Response to ID No. G-9-Comment 1. Comment Noted.	No

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			its letter, dated April 2, 2007, jointly addressed to State BLM Director Selma Sierra and Vernal BLM Field Office Manager William Stringer. An extra copy of that letter (Exhibit A) {see attached letter} is enclosed for your reference. At the risk of repeating some of the points in that letter, Daggett County submits the following additional comments concerning the illegality of adopting Alternative E: By adding Alternative E, BLM has exceeded the true intent of the Kimball Decision. Although the Kimball decision itself rests on an adjudged violation of NEPA, Judge Kimball emphasized that NEPA itself is merely procedural, that NEPA does not mandate a particular management standard, but rather NEPA only imposed the duty to analyze the effect of whatever management standard is applied. BLM's duty under Kimball was to analyze the effects of current alternatives on only alleged wilderness characteristics that may be found in the Subject Lands, not to create a non-impairment management standard as to those characteristics. With all respect, the BML has turned the Kimball decision on its head by purporting to create the new Alternative E management standard. Adopting Alternative E would violate the restrictions of BLM's own Instruction Memorandum No. 2003-275, which states "it is no longer BLM policy to continue to make formal determinations regarding wilderness character, designate new WSAs through the land-use planning process, or manage any lands--{except Section 603 WSAs} in accordance with the non-impairment standard prescribed in the IMP {Interim		

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			Management Policy for WSAs}." (Emphasis added.) Under the standard "if-it-walks-like-a-duck-and quacks-like-a-duck-it-must-be-a-duck" analysis, the prescriptions of proposed Alternative E are substantially similar, if not more restrictive, than the restrictions of the BLM IMP for WSAs. Thus the proposed Alternative E squarely contradicts the BLM's own IM 2003-275. The proposed Alternative E's restrictive management standards that would effectively treat the Subject Lands as if they are WSAs, are largely built around BLM's 1999 Utah Wilderness Reinventory. Yet in 2003 the Department of Interior promised the State of Utah, among other things, not to use the 1999 Utah Wilderness Reinventory to manage public lands "as if": they are or may become WSAs. Utah v Norton settlement agreement of April 11, 2003 at p. 13 Para 14. It has long been the County's position that if these lands had "wilderness character: they would have been included in previous inventories as possible wilderness. A more correct title would be "lands that have characteristics associated with the concept of wilderness."		
WSA Supp.	2	PRP	Managing the Subject Lands Under Alternative E Would Clash With State and Local Policies and Plans for Managing Those Lands, and Would Thus Violate the Consistency Requirement of FLPMA Section 202©(9).	See comment response 9-G-12. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the	No

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			The BLM is mandated by FLPMA at 43 U.S.C. 1712©(9) as follows: Land-use plans of the Secretary under this section shall be consistent with State and local plans to the maximum extent he finds consistent with Federal law and the purposes of this Act. The proposed Alternative E is inconsistent with Utah Law and with Daggett County's General Plan. State Public Lands Policies The State of Utah's policy and plan for managing BLM lands is substantially set forth in Utah Code 63-38d-401(6), (7) and (8). It is self evident that the management prescriptions and restrictions in the proposed Alternative E are not inconsistent with the standards and policies set forth in this State statutory provision. There is no way for the BLM to reconcile these sharp inconsistencies; in other words, there is no way for the BLM to adopt Alternative E for the Subject Lands and meet its legal obligations of consistency under FLPMA Section 202 (c)(9). Daggett County's Policies Specific to the Subject Lands Several months ago, the Daggett County Planning Commission and the Daggett County Commission duly approved amendments to the Daggett County General	BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5.	

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			Plan to clarify Daggett County's policies for managing each of the Subject Land Areas that are now the subject of the Supplement. A copy of those plan amendments with a cover letter were sent to the BLM Vernal Field Office after they were adopted. Those plan amendments for each of the Subject Lands are incorporated herein by reference, and for your addition reference copies of those plan amendments (Exhibit B) are enclosed with this letter. Those County plan amendments are consistent with the above-mentions State Law and Policies for managing public lands. Under those plan amendments for the Subject Lands, it is clear that the proposed Alternative E standard for managing those Subject Lands are not consistent with Daggett County's plans and policies for managing the Subject Lands. In short, Daggett County's General Plan sets forth management specific plans that are directly and specifically applicable to each of the Subject Lands. Thus in accordance with FLPMA Section 202 (c)(9), Daggett County respectfully calls upon BLM to follow FLPMA by conforming its plan for managing the Subject Lands to Daggett County's plan for managing the Subject Lands. A first step toward meeting this statutory obligation is for the BLM to not adopt Alternative E for the Subject Lands. This same request also applies to the Alternative C for the Subject Lands, which is equally inconsistent with Daggett County's plan for managing the Subject Lands.		

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WSA Supp.	3	WC	Managing the Subject Lands Under Alternative E Would Arbitrarily and Capriciously Ignore the Volumes of Documentation and Information Submitted by Daggett County Which Show the Subject Lands Lack True Wilderness Character. Daggett County has assembled and submitted extensive information which shows the Subject Lands have been subjected to past resource uses and impacts that are inconsistent with the notion of wilderness character, and that the Subject Lands are better suited to a continuation of those traditional multiple uses, all under the FLPMA 202 principles of sustained yield and avoidance of undue degradation, of course. A map is enclosed with this letter (Exhibit ____), that clearly shows the majority of the Subject Lands are currently under lease for extractive purposes. This alone both disqualifies those lands for consideration for designation as Non-WSA Lands with Wilderness Characteristics and informs against their being managed under the Alternative E prescriptions proposed. Additionally, we provided information on December 31st, which contained detailed analyses of the Subject Lands. These analyses demonstrate that none of the Subject Lands qualify as having wilderness characteristics. The many attributes of the Subject Lands documented in these volumes, such as roads, mineral and energy development, extractive leasing,	Please see Response to ID No. G-9-Comment 15.	No

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			existing leasing, livestock improvements, need for access for vegetated treatment, and other uses clearly show that the imprint of man and the previous resource allocations preclude any rational finding of solitude and naturalness necessary to rationally designate those areas as having wilderness characteristics. Do any of the Subject Lands possess wilderness character worthy of Alternative E management (even if Alternative E were not illegal and not inconsistent with State and Local Policies)? We believe the answer to this question is "no:"		
WSA Supp.	4	SOC	Economic studies/socio economics Utah State University & the University of Utah completed a number of economic and social-attitude studies regarding the use of and value attributed to public land resources by Utah residents. These studies assess: general attitude of the citizens toward the public lands, off-highway vehicle use on public lands, grazing on public lands, potential Wild and Scenic River designation, and economic impacts of oil and gas exploration. Recent information from that study shows that oil & gas exploration and production (E&P) accounts for 60 percent of all wages paid in the Uinta Basin. (See attachment A). The extractive industry is extremely important to the economic viability of the Uintah Basin both directly and indirectly. Studies show that this industry has and will sustain itself for many years to	The results of the Utah State University public lands survey and the University of Utah study on the economic impacts of oil and gas development in the Uintah Basin have been incorporated into the Proposed RMP/Final EIS. Chapter 3 summarizes the public lands survey results, and an Appendix has been added showing the raw results for the three counties in the planning area. Data from the University of Utah study has been extensively incorporated into Chapter 4 analysis. The Proposed RMP/Final EIS recognizes the importance of the oil and gas industry to the economic health of the Uintah Basin. The Plan seeks to strike a reasonable compromise between demands on resources and resource protection, within the framework of the BLM's sustained yield, multiple use mandate.	No

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			come. (See attachment B). The Basin is very rich in its natural resources. The importance of the extraction industry reaches far beyond the Uintah Basin. The Rocky Mountains west will play an increasing roll in meeting the nation's needs for gas. The annual energy outlook 2004 with projections to 2025, clearly shows the increasing roll of the rocky mountain area in gas production. The Uintah Basin makes up a considerable portion of the area and its associated production. Page 4-68 and 4-69 of Alternative E. Daggett County disputes the findings of studies concluding that wilderness areas add positive economic benefits to local communities, especially for the limited retail capacity of our county. The positive economic benefit does not exist if oil and gas development is excluded from the same areas. Especially if oil and gas is precluded from these areas. Page 4-66 of Alternative E. The document states that minerals under Alternative E would increase the costs of developing the total predicted oil and gas wells by $.6 billion, compared to Alternative D-no action, because there would be more wells drilled under Alternative E. Such development would potentially create a total cost of development of $12.5 billion over 20 years, or approximately $623 million over one year. The paragraph itself demonstrates the socio economic values on these properties. It would appear the extractive industry has a far greater economic value to		

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			the local economy than does the recreational industry. The document states that "Alternative E would provide the least amount of oil and gas related jobs compared to other action alternatives and slightly more compared to Alternative D-no action." Once must assume this is based on the estimated number of wells for each alternative. Although this may be correct, it does not accurately reflect the impact of management prescriptions proposed in Alternative E. The addition of wells to be drilled on Indian Trust surface and the addition of lands available for oil and gas leasing in the Diamond Mountain area to the RFD prevents realistic comparison of other alternatives to Alternative D. It should be clear that the proposal to close wilderness characteristic areas to oil and gas leasing will drastically reduce future wells under Alternative E when you compare like acres.		
WSA Supp.	5	AQ	We feel it is important to install air quality monitoring stations. We are aware that there is an air quality monitoring station in Vernal. We do not believe that one air quality station accurately reflects the conditions of the Uintah Basin. We encourage BLM Vernal Field Office to request operators apply best available control technology and to install air quality monitoring stations within, or adjacent to, major field development to establish an air quality baseline and to detect deviations from such baseline. A proper baseline should be established. Absence of such a base line undermines the quality of any such worse-case scenarios. According to air quality expert	1. BLM shares EPA's concern about the lack of monitoring in Eastern Utah and will consider establishing additional monitoring sites in the region as circumstances and resources allow. 2. NEPA no longer requires "worse [sic]-case scenarios. 3. The County is welcome to be a formal cooperating agency on future NEPA analyses.	No

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			Howard Vickers, "a slight variation in how data is presented can alter greatly and sometimes unfairly, the analysis of air quality." He states, "Small differences in data or modeling technique can produce substantial problems with the results." It is important to the County, as stake holder, that we be involved in any air quality analysis that is done so that we can be assure that proper modeling and data techniques are used.		
WSA Supp.	6	WSR	Daggett County's well thought out and documented position is that no river segments in the Vernal Field Office planning area should be recommended as suitable for designation in the Wild & Scenic River system on BLM lands. Moreover, Daggett County believes that BLM's process by which it attempted to study Wild & Scenic River suitability is procedurally flawed by its failure to follow NEPA procedures and Wild and Scenic guidelines for determining suitability. Additionally it failed to address and fully consider the impact on the Colorado River Compact. In 1922 the Colorado River Compact granted the liberal right of impoundment on rivers and streams that constitute part of the Colorado drainage system. The Wild & Scenic Rivers Act expressly provided that no pre-existing rights shall be impinged, etc. Therefore, BLM should conclude that no proposed segment in Daggett County is suitable for designation, for the additional reason that precipitations on impoundment that accompany designation would violate the pre-existing rights of impoundment granted under the 1922 Colorado River Compact. Furthermore, it is obvious BLM failed to consider for NEPA purposes, the impact	Appendix J of the DRMP/DEIS details the steps undertaken in the eligibility review process including the identification of outstandingly remarkable values as well as the Suitability Considerations by eligible river segments. The BLM complied with all applicable Federal laws, regulations, and policies in the Wild and Scenic Rivers Study Process. The BLM is aware that there are specific State laws relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, BLM is bound by Federal law. As a consequence, there may be inconsistencies that cannot be reconciled. The FLPMA requires that BLM's land-use plans be consistent with State and local plans "to the extent practical" where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved. The BLM will identify these conflicts in the FEIS/PRMP so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local	No

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			of a suitability designation on the pre-existing right of impoundment provided under the 1922 Colorado River Compact. Daggett County cannot support a position recommending any river segment in Daggett County as suitable.	management options. The WSR Act states within the wild, scenic and recreational definitions that they are subject to valid existing rights. 0	
WSA Supp.	7	GRA	UCA 63-38d-401 - Essentially states that if rangeland conditions improve that suspended AUMs would be returned to livestock before additional AUMs would be provided for wildlife. We are concerned that this has not and is not being adhered to with respect to the proposal presented in Alternative E. Because of the value of grazing, state law prohibits permanent closure of grazing allotments and conversion of livestock AUMs to wildlife or other uses. The correct standard is not whether BLM may permanently close an entire grazing allotment, but whether BLM may diminish a single grazing AUM for any reason other than rangeland conditions. The "close an entire grazing allotment" standard misses the mark of House Bill 264 and is inconsistent with Daggett County Public Land Policy and Plans by a serious margin. Those policies and plans are summarized as follows: Domestic livestock and forage in the VFO planning area expressed in animal unit months, for permitted active use, as well as the wildlife forage included in that amount, should be no less than the maximum number of animal unit months sustainable by range conditions in grazing districts and allotments in the VFO planning area, based on an on-the-ground and	In accordance with FLPMA, the BLM reviewed and considered the general plans of Duchesne, Daggett, Uintah, and Carbon counties during development of the management alternatives within the RMP. Where feasible, prudent, and consistent with the purpose and need of the RMP and BLM's multiple-use/sustained yield mandate, the BLM developed a range of alternatives and included them in the RMP/EIS. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled. While County and Federal planning processes,	No

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			scientific analysis. Where once available grazing forage in the VFO planning area has succeeded in pinion, juniper and woody vegetation and associated biomass, or where rangeland health in the Region has suffered for any other reason, a vigorous program of mechanical treatments such as chaining, logging, seeding, lopping, thinning, and burning and other mechanical treatments should be applied to remove the woody vegetation and biomass and stimulate the return of the grazing forage to its historic levels for the mutual benefit of livestock, wildlife and other agricultural industries in the VFO planning area. The land which comprises the grazing district and allotments in the VFO planning area is still more valuable for grazing than for any other use which might exclude livestock grazing. Such other uses include, but are not limited to, conservation of AUMs to wildlife watershed or wilderness uses. Accordingly, animal month units in the VFO planning area may not be relinquished or retired in favor of conservation, wildlife, or other uses. From time to time a bonafide livestock permitee in the VFO planning area, acting in good faith and not to circumvent the intent of the BLM's grazing regulations, may temporarily cease grazing operations without losing his or her permitted AUMs it is proposed in Alternative E to transfer these AUMs to wildlife or to watersheds this is counter to state law, BLM	under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5. Voluntary relinquishments of grazing permits and preference, in whole or in part, by a permittee in writing to the BLM will be handled on a case by case basis. The BLM will not recognize as valid, relinquishments which are conditional on specific BLM actions and BLM will not be bound by them. Relinquished permits and the associated preference will remain available for application by qualified applicants after BLM considers if such action would meet rangeland health standards and is compatible with achieving land-use plan goals and objectives. Prior to re-issuance of the relinquished permit the terms and conditions may be modified to meet LUP goals and objectives and/or site specific resource objectives. However, upon relinquishment, BLM may determine through a site specific evaluation and associated NEPA analysis that the public lands involved are better used for other purposes. Grazing may then be discontinued on the allotment	

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			regulations that provide for non use and Daggett County policy. However, BLM-imposed suspensions of use or other reductions in domestic livestock animal unit months should be temporary and scientifically based on rangeland conditions. The RMP fails to articulate a legal or factual basis to reduce domestic livestock and as written, Alternative E violates BLM grazing regulations. BLM may not implement an across the board reduction in permitted grazing use in the RMP. Permitted use includes non-use, and BLM may only reduce permitted grazing use when monitoring or field observations or ecological site inventory or other data demonstrate that grazing use is causing an unacceptable level or pattern of utilization, that rangeland health standards are not being met or that use exceeds livestock carrying capacity. Furthermore, changes in permitted use may only be effected by appeal able decision after consultation, cooperation and coordination with affected grazing permitee. 43 C.F.R 4110.3, 4110.3-2, 4110.3-3. Alternative E's across the board elimination of grazing non-use, therefore, is illegal. The transfer of grazing animal unit months (AUMs) to wildlife for supposed reasons of rangeland health imputed, in each AUM, a reasonable amount of forage for wildlife component. Any grazing animal unit months that may have been reduced in the VFO planning area due to rangeland health concerns should be restored to livestock when	through an amendment to the existing LUP or a new LUP effort. Any decision issued concerning discontinuance of livestock grazing is not permanent and may be reconsidered and changed through future LUP amendments and updates.	

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			rangeland conditions improve, not converted to wildlife use. Moreover, Daggett County wants the Subject Lands to be eligible for prescriptive uses of grazing that are flexible and adaptive to the full extent allowed by relevant BLM grazing regulations, in order to minimize rangeland fire danger, curb noxious week incursions, and otherwise promote rangeland health and to continue to sustain the social-economies base that grazing provides to the local economy.		
WSA Supp.	8	GRA	Of particular concern is the proposal to transfer livestock AUMs associated with the BVVI to wildlife this proposal is counter to provisions of Utah state law and Daggett County Public Land Policy. No where in the Environmental Assessment or the Record of Decision associates with the purchase of these lands is it proposed or even suggested that livestock AUMs would be or could be transferred to wildlife. The BCCI agreement lacks the same language. It has long been the County's position that such agreements were made without public input, were and are illegal, and never had local government input. Alternatives that directly or indirectly converts livestock AUMs to wildlife must not be selected.	In accordance with FLPMA, the BLM reviewed and considered the general plans of Duchesne, Daggett, Uintah, and Carbon counties during development of the management alternatives within the RMP. Where feasible, prudent, and consistent with the purpose and need of the RMP and BLM's multiple-use/sustained yield mandate, the BLM developed a range of alternatives and included them in the RMP/EIS. The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)).	No

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				As a consequence, where State and local plans conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5. Voluntary relinquishments of grazing permits and preference, in whole or in part, by a permittee in writing to the BLM will be handled on a case by case basis. The BLM will not recognize as valid, relinquishments which are conditional on specific BLM actions and BLM will not be bound by them. Relinquished permits and the associated preference will remain available for application by qualified applicants after BLM considers if such action would meet rangeland health standards and is compatible with achieving land-use plan goals and objectives. Prior to re-issuance of the relinquished permit the terms and conditions may be modified to meet LUP goals and objectives and/or site specific resource objectives.	

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				However, upon relinquishment, BLM may determine through a site specific evaluation and associated NEPA analysis that the public lands involved are better used for other purposes. Grazing may then be discontinued on the allotment through an amendment to the existing LUP or a new LUP effort. Any decision issued concerning discontinuance of livestock grazing is not permanent and may be reconsidered and changed through future LUP amendments and updates.	
WSA Supp.	9	GRA	The phrenology criteria described in Alternative A are an appropriate consideration in setting seasons of use for an allotment, but not as an across-the=board prescription for the entire planning area. As used, the RMP does not allow managers or permitees sufficient flexibility to accommodate yearly variations in weather, precipitation, and plant phrenology or variations in elevation, topography, or aspect within the identified areas. The RMP proposes to exclude from forage allocations all land that produces less than 25 or 32 pounds of forage per year. See DEIS 2-11. The draft RMP and DEIS do not analyze the effects of doing so even though much of the planning area is a high mountain desert and produces less than 25 pounds of forage a year. These criteria could remove significant volume of forage and acreage from livestock grazing. Range science does not support this proposal and the DEIS inadequately discloses and assesses the effects.. While livestock may use the steep slopes less, wildlife	The BLM agrees that changes must be done in consultation, coordination, and cooperation with the permittee. 43 C.F.R. §4110.2-3. The BLM has merely provided criteria to use to when adjustments are required.	No

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			and wild horses graze these areas. By excluding these areas from the forage allocation and calculations, the RMP actually allocates significantly more forage for wildlife and wild horses than is disclosed in the RMP and imposes domestic grazing reductions by removing land from the permit. The grazing rules require that such changes be made in consultation and coordination with the individual permitee rather than unilaterally throughout the planning area. In addition, the grazing rules require consultation with the permitee before amending the permit to exclude land. 43 C.F.R.□4110.4-2.		
WSA Supp.	10	GRA	We object to the extent the Supplement attempts to authorize the retirement of grazing permits and their reallocation to wildlife. This violates the Taylor Grazing Act, 43 U.S.C. § 315, FLPMA, 43 U.S.C. § 1742, and the terms of the Executive Orders No. 6910, 54 I.D. 539 (1934), and No. 6964 (Feb. 5, 1935), which withdrew public lands as chiefly valuable for grazing. Any such decision would also require amending the Presidential Executive Orders, which BLM cannot do, since authority to amend a withdrawal is limited to the Interior Secretary. The Tenth Circuit in Public Lands Council v. Babbitt, 167 F.3d 1287 (10th Cir.1999), aff'd on other grounds, 529 U.S. 728 (2000), held that BLM could not offer permits not to have domestic livestock graze public lands, since grazing permits are limited to domestic livestock. By the same token, BLM cannot purport to authorize wildlife grazing by retiring grazing permits in order to allocate the forage for wildlife. This action would also constitute a change in grazing use without following the procedures set out in the BLM grazing rules. 43 C.F.R. §§ 4110.3, 4110.4. It is also	Voluntary relinquishments of grazing permits and preference, in whole or in part, by a permittee in writing to the BLM will be handled on a case by case basis. The BLM will not recognize as valid, relinquishments which are conditional on specific BLM actions and BLM will not be bound by them. Relinquished permits and the associated preference will remain available for application by qualified applicants after BLM considers if such action would meet rangeland health standards and is compatible with achieving land-use plan goals and objectives. Prior to re-issuance of the relinquished permit the terms and conditions may be modified to meet LUP goals and objectives and/or site specific resource objectives. However, upon relinquishment, BLM may determine through a site specific evaluation and associated NEPA analysis that the public lands involved are better used for other purposes. Grazing may then be discontinued on the allotment	No

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			inconsistent with the grazing rules which provide for BLM to offer a vacant permit to other qualified permitees. 43 C.F.R. §4130.1-2.	through an amendment to the existing LUP or a new LUP effort. Any decision issued concerning discontinuance of livestock grazing is not permanent and may be reconsidered and changed through future LUP amendments and updates	
WSA Supp.	13	LAR	Of particular concern is the amount of land closed to oil and gas leasing for protection of wilderness character lands and ACEC's. A review of the Lands and Realty's section proposals does not list these closures to be reported as withdrawals. FLPMA defines a withdrawal as "withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws. …" 43 U.S.C. § 170(j). For tracts of lands greater than 5,000 acres, the Interior Secretary must provide Congress a variety of information in order to fully disclose the closure's impacts, costs, and need so that Congress can decide whether to disapprove the withdrawal. A withdrawal also requires public notice and hearing, and consultation with state and local governments. 43 U.S.C. at § 1714(c)(1)-(12), (h); 43 C.F.R. Parts 2300, 2310. By a 2006 Directive from the BLM Director, BLM cannot effect a de facto closure of thousands of acres of public lands to oil and gas leasing without following FLPMA's Section 204 withdrawal procedures: "Except for Congressional withdrawals, public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative actions are clearly justified in the national interest in	Withdrawals are actions specific to mineral entry, not leasing. Table 2.1.7 (Lands and Realty Management) identify which lands are being considered for withdrawal in the Proposed RMP as well as the alternatives. Table 2.1.7 also states the following regarding withdrawals: Withdrawals Review existing withdrawals and classifications on BLM-administered lands on a case-by-case basis to determine their need and consistency with the intent of the withdrawals in accordance with section 204(l) of FLPMA, and recommend continuing, modifying, or terminating as applicable (Figure 6). Any lands becoming unencumbered by withdrawals or classifications would be managed according to the decisions made in this RMP. If the RMP has not identified management prescriptions for these lands, they would be managed in a manner consistent with adjacent or comparable public lands within the planning area. If the unencumbered lands fall within two or more management scenarios where future-planning criteria may not be clear, a plan amendment may	No

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			accordance with the Department of the Interior Land Withdrawal Manual 603 DM I, and the BLM regulations at 43 C.F.R 2310." BLM Energy and Non-Energy Mineral Policy (April 21, 2006). BLM formally adopted this policy through IM 2006-197. Consequently, the 2006 Energy and Non-Energy Mineral Policy with which BLM must comply, conditions the closure of lands available to mineral exploration and development on FLPMA's withdrawal procedures. This direction is consistent with legal precedent. See Mountain States Legal Foundations v. Andrus, 499 F. Supp. 383, 392-93 (D. Wyo. 1980) (BLM could not decline to issue leases in RARE II areas without complying with §204 of FLPMA): Mountain States Legal Foundation v. Hodel, 668 F. Supp. 1466, 1474 (D. Wyo. 1987) (Forest Service violated (FLPMA when it imposed an oil and gas leasing moratorium pending completion of its land-use plan). These decisions do not hold the BLM must offer public lands for mineral leasing, only that is must follow FLPMA's withdrawal and reporting procedures, when it wishes to foreclose that land use.	be required. Non-WSA lands found either to have wilderness characteristics or likely to have wilderness characteristics will be managed according to the direction established in this land-use plan. Unlike for WSAs, there is no statutory or policy directive requiring BLM to protect the wilderness characteristics of these non-WSA lands. These non-WSA lands have many resource values, and the draft RMP/EIS considered all available information and a range of alternative prescriptions for how the values and uses of the non-WSA lands would be managed. In Alternative B, most of the non-WSA lands are open to oil and gas leasing subject to standard terms and conditions. On the other hand, Alternative C is designed to provide maximum conservation and protection of natural resources from development and use. Under Alternative C, some non-WSA lands would be closed to leasing and most non-WSA lands would be leased subject to either minor constraints like timing limitations or controls on surface use or major constraints like no surface occupancy. Alternative D reflects existing management direction, and Alternative A (the Preferred Alternative in the draft plan) is designed to provide for a wide variety of resource needs, including mineral resource development and some level of protection of natural resources.	

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WSA Supp.	*14*	*VRM*	*VRM handbook requires the BLM to modify the VRM inventory classifications to fit the underlying land allocations. Southern Utah Wilderness Alliance, 144 IBLA 70, 84 (1998) ("Visual Management Objective classes are developed through the RMP process for all bureau lands.) The approved VRM objective shall result from, and conform with, the resource allocation decision made in the RMP." BLM manual 8400.0-6 a.2 (emphasis supplied).) An existing lease is a resource allocation unless the lease is NSO. Our research shows that the existing leases in these areas are not NSO. Thus, any VRM class proposed must be adjusted to reflect previous resource allocations.* *The County opposes any VRM Class I or II's being applied to any lands which have not been determined by Congress to be designated as wilderness. Additionally, such designations should not extend beyond the specific tract to which the VRM Class is applied. As an example, to a view shed.*	The BLM disagrees that only formally designated lands by Congress can have VRM Classes I or II applied. Chapter 2 of The Proposed RMP/Final EIS provides a summary of specific management directives for the area's visual resources. Chapters 3 and 4 provide additional information. The Visual Resource Management maps for each alternative illustrate the VFM Classes for lands administered by the BLM.	*No*

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	AT7	The 2002 RFD was completed along with the mineral potential report in 2002. Since then BLM has provided additional direction on resource planning and incorporation of EPCA into planning. The draft	The BLM incorporated EPCA into planning. In the PRMP/FEIS see:	No

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

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		should be reviewed to insure compliance with these directives. Based on this review alternatives should be created or selected that fully embraces the direction including the selection of alternatives that are performance based or outcome based.	Section 1.13 (Relationship to the President's National Energy Policy and The Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves, and The Extent and Nature of Restrictions or Impediments to their Development) Section 1.7 (How Vernal Field Office RMP Considered EPCA Inventory Information and Concerns).	
Draft RMP/EIS	GC23	It should be made clear in the Record Of Decision (ROD) and the final RMP that the total number of wells cited in reasonable foreseeable development do not represent a ceiling or cap on the number of wells that can be drilled in the VRA during the life of the plan. The ROD and RMP should state that the RFD well total were developed for the purpose of assessing impacts for decision making and that the total number of wells will be determined by NEPA analysis of field development projects of possible RMP revisions. This clarification is supported by case law.	Additional text has been added Section 4.1.2 in the PRMP/FEIS to describe the role of the RFD as a general metric used to assess relative impact and does not represent a ceiling on the number of wells that can be drilled within the VPA during the life of the RMP. The additional text is as follows: "It should be noted that the total number of wells cited in the RFD report do not represent upper limits on the number of wells that could be drilled in the VPA during the life of the plan. The RFD well totals were developed for the purposes of assessing impacts for decision-making. The total number of wells permitted will be determined through site-specific NEPA analysis of field development projects."	Yes
Draft RMP/EIS	GC24	The information under Section 3.14.3.2, page 3-84, should more fully and accurately represent the specific management requirements found in Manual Section 8351.32C, particularly regarding valid existing rights.	The specific management guidelines of Manual 8351, along with other guidance, are incorporated by reference in Section 3.14.3.2 of the PRMP/FEIS and do not require reiteration in the RMP. Information contained in Section	No

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			3.14.3.2 does not conflict with or otherwise imply rejection of management policy outlined in Manual 8351. Additionally, as is mentioned in Section 1.9 as well as the introductions to Chapters 2 and 4, all management actions contained within the PRMP/FEIS recognize valid existing rights and do not apply retroactively to said rights.	
Draft RMP/EIS	GC25	The meaning of the statement "to the extent that BLM has the authority to do so" needs to be clarified.	Section 3.14.3.2 in the PRMP/FEIS has been revised to add language to clarify it relative to the authority bestowed upon the BLM by FLPMA, the Wild and Scenic Rivers Act, and BLM policy. This statement is also intended to acknowledge that the BLM does not manage all lands through which the proposed wild and scenic rivers pass and cannot impose restrictions on other land owners and land managers. The additional text is as follows: 'It is BLM policy (8351 Manual, Section .32C) to manage eligible segments to protect their free-flowing nature, outstandingly remarkable values, and tentative classifications to the extent that BLM has the authority to do so through FLPMA, the Wild and Scenic Rivers Act, and BLM policy."	Yes
Draft RMP/EIS	GC26	Some of the information presented in Table S.3 Alternatives Comparison, page S-4, and is not found in Table 2.3 Alternatives, page 2-57. Table S.3 indicates that the Upper and Lower segments of the Green River are recommended, in all Alternatives, for Wild and Scenic River designation. However, these segments are not identified in Table 2.3.	The segments have been identified in Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS.	No

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Draft RMP/EIS	GC27	The draft fails to address the impact of management restrictions on valid existing rights including oil and gas leases. Throughout the draft, restrictive conditions of approval are proposed, without analysis or disclosure of impacts or even clearly stating restrictions to be applied.	Section 1.9 in the PRMP/FEIS states: "All decisions made in the RMP and subsequent implementation decisions will be subject to valid existing rights." Valid existing rights are considered Administrative Actions by the BLM and do not require a specific planning decision to implement. As noted in Chapter 1 under Planning Criteria and as outlined in the BLM's Land-use Planning Manual (Section 1601.06G), all decisions made in land-use plans and subsequent implementation decision are subject to valid existing rights. The BLM will work with and subject to the agreement of holders of valid existing rights to modify proposed actions or activities to reduce the effect of the actions or activities on resource values and uses. These modifications may be necessary to maintain the choice of alternatives being considered during land-use plan development and implementation, and may include appropriate stipulations, relocations, redesigns, or delay of proposed actions.	No
Draft RMP/EIS	GC28	The impact analysis at 4.8.2.3.1 only addresses the impact from light and sound and NSO restrictions adjacent to Dinosaur National Monument. Appendix K indicates there are other areas that would be impacted.	Section 4.8.2.3.1 of the Draft RMP/EIS only addresses impacts from light and sound and NSO restrictions for recreation purposes around the monument since these are the only management decisions for this area as it relates to recreation (the subject of Section 4.8.2.3.1. Impacts from non-recreation management	No

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			decisions on minerals and energy development are addressed in the remainder of Section 4.8, including discussions of special status species and wildlife decisions for sensitive areas identified in Appendix K. Note: Section 4.8.2.3.1 of the Draft RMP is renumbered as Section 4.8.2.4.1 of the PRMP/FEIS.	
Draft RMP/EIS	LG58	The RMP proposes to exclude from forage allocation the land that produces less than 32 pounds of forage per year. The draft RMP and DEIS do not analyze the effects of doing so but given the fact that much of the planning area is a high mountain desert, this would remove significant volume of forage. The majority of range science does not support this proposal and the DEIS inadequately assesses the effects of adopting such a proposal.	In Section 2.4.5.2 in the DRMP, the actual number cited is 25 pounds per acre, which equated to 32 acres per AUM. The commenter does not provide substantial information to refute these suitability criteria.	No
Draft RMP/EIS	LG59	The draft RMP fails to recognize current livestock grazing in these areas as legitimate and authorized land uses.	The commenter does not identify which areas the BLM allegedly fails to recognize as current grazing areas. The RMP recognizes livestock grazing as a legitimate and authorized use of public lands within the Vernal Planning Area (VPA) and provides for its continuance under the new RMP. See Table 2.1.8 (Livestock and Grazing Management) in the PRMP/FEIS for provisions related to livestock and grazing within the VPA.	No
Draft RMP/EIS	LG60	Throughout the draft there are proposals to directly and indirectly convert livestock AUMs to wildlife and watersheds. State law (U.C. §§63-38d-401(6), (7) and (8)) broadly outlines criteria for state plans	The Taylor Grazing Act, FLMPA, and PRIA authorize the BLM to manage grazing to achieve multiple use and sustained yield and for the full range of resource values. The 1995 rangeland	No

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		concerning the management of federal lands located in Utah and the natural resources on those lands. The law contains provisions which generally disfavor diminishment of forage allocated to livestock grazing, the law also recognizes the state's interest in providing forage and habitat for wildlife, and the general provision that increases in forage ought to be shared among all users who participate in managing the forage of the area. Uintah and Duchesne County Plans also provide that livestock AUMs cannot be converted to other uses.	policy (see Office of the Solicitor IM 37008, and the subsequent clarification) authorizes the BLM to convert livestock AUMs to wildlife, so long as the conversion does not constitute a permanent withdrawal grazing on lands that have been identified as chiefly valuable for such activity.	
Draft RMP/EIS	LG61	There is no discussion of impacts of wild horse management decisions on livestock.	The anticipated impacts of wild horse management decisions on livestock are addressed in Section 4.7.1. See also the discussion of forage management decisions on livestock found in Section 4.7.2.2.	No
Draft RMP/EIS	LG87 (PR14)	At page 2-48 table 2.3 Alternatives, Livestock and Grazing Management, Season of Use, it is proposed to establish new seasons of use for designated Seasons of Use for Livestock Grazing. As proposed C and D of the Alternatives are inconsistent with the Federal Land Policy Management Act (FLPMA) 43 U.S.C. 1752(b) and the terms of the ten-year grazing permits. To the extent that the proposal purports to change the season of use, it also conflicts with the Utah Rangeland Health Standards, which do not adopt a phenology criteria. BLM must follow rangeland health and is not at liberty to unilaterally change the standards. Even assuming BLM could and should change seasons of use in an RMP, it cannot do so without violating the requirement that it coordinate, consult, and cooperate with the permittee or lessee in doing so. 43 U.S.C. 1752 (d); 43 C.F.R.	The PRMP/FEIS doesn't propose to change the Utah Standards for Rangeland Health. The limitation on season of use proposed by the RMP is a common rangeland management practices to maintain or improve range conditions. The proposed seasons of use have been developed on an area specific basis (Figures 7 through 10) to help assure that Rangeland Health Standards continue to be met or are met in the future. The Guidelines for Grazing Management include implementing grazing management practices that "meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants" (1(c)). The proposed seasons of use will provide for these	No

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		4110.2-3.	plant needs. The DRMP also includes flexibility providing for extended seasons of use when deferment and/or rest are provided for and for authorization of use outside of the specified season of use when certain criteria are met (Section 2.4.7.2). There is no requirement in FLPMA to maintain seasons of use as currently specified in grazing permits. Alternative D continues the current grazing management practices including the seasons of use as indicated on existing grazing permits. FLPMA indicates that it is the policy of the United States to manage the public lands on the basis of multiple use and sustained yield and in such a manner as to best meet the present and future needs of the American people without permanently impairing the productivity of the land. The proposed seasons of use will provide for the use of the public lands while helping to insure that no permanent loss of productivity will occur. The BLM does not propose to violate any consultation, coordination or cooperation requirements as indicated in the grazing regulations. The public participation process associated with this RMP and EIS effort as well as with that of the site specific environmental analysis and administrative decision process involved with any changes to the season of use will comply with the grazing regulation requirements to consult, coordinate and	

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			cooperate with the permittee and other interested publics.	
Draft RMP/EIS	LG88 (PR16)	The RMP attempts to authorize the retirement of grazing permits and their "reallocation" to wildlife. This violates the Taylor Grazing Act, 43 U.S.C. 315, The Federal Land Policy and Management Act (AFLPMA"), 43 U.S.C. 1752, and the terms of the Executive Orders Ns. Executive Order 6910, 54 I.D. 539 (1934), and Executive Order 6964 (Feb 5, 1935) which withdrew public lands that were determined to be chiefly valuable for (10th Cir. grazing. The Tenth Circuit in Public Lands Council v. Babbitt, 167 F.3d 1287 (10th Cir. 1999) aff'd on other grounds, 529 U.S. 728 (2000), held that BLM could not offer permits "not to graze" public lands, since grazing permits are limited to domestic livestock. By the same token, BLM cannot purport to retire grazing permits for wildlife. Any such decision would require amending the Presidential Executive Order, which BLM cannot do, since authority to amend a withdrawal is limited to the Interior Secretary. It is also inconsistent with the grazing rules, which provide for BLM to offer a permit to qualified permittees whose base property is nearby. 43 C.F.R. 4130.1-2.	The PRMP/FEIS determines the allowable uses of the public lands as provided for in FLPMA. FLPMA states in Section 202(a) that land-use planning provides for the use of the public lands "regardless of whether such lands previously have been classified, withdrawn, set aside, or otherwise designated for one or more uses". FLPMA further provides in Section 202(e) the authority to issue management decisions which implement newly developed or revised land-use plans. Such decisions, including those that exclude one or more uses, are subject to reconsideration, modification and termination through revision of the land-use plan. As provided for in FLPMA, the RMP proposed to re- allocate retired livestock AUMs to in order to meet the overall goals and objectives of the plan. The Secretary has the discretion under FLPMA to use the land-use planning process to close areas to grazing, change levels of use, or to devote the land to another public purpose in accordance with the relevant land-use plan. The transfer of AUMs from livestock to wildlife reflects the desire of BLM to modify the levels of use and in this particular instance to recognize the importance of wildlife values. These changes in use are made within the rangeland's ability to sustain the allocations of use. Any AUMs allocated by the land-use plan, whether for livestock or wildlife, are within the productive capability of the public	No

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			lands involved. FLPMA indicates that it is the policy of the United States to manage the public lands on the basis of multiple use and sustained yield. While it is the goal of the BLM to enhance rangeland health while providing for and recognizing the need for domestic sources of minerals, food, timber and fiber, there is no requirement in the Taylor Grazing Act (TGA) or other applicable law for the BLM to "maximize the number of domestic livestock AUMs" or to continue allocations "at historical levels." According to FLPMA, BLM is to manage for "multiple uses" which best meets the present and future needs of the American people without permanently impairing the productivity of the land. According to Section 2 of the TGA, it is the objective of the act to regulate the occupancy and use of the Grazing Districts and to preserve these lands. The Grazing Districts were established through a classification system established in the TGA. Under FLPMA, uses of the land are allocated during the land-use planning process. The combinations of uses proposed in the RMP are varied and diverse across the planning area taking into consideration the current and future needs of the public. This is consistent with both FLPMA and the TGA. Also, see comment response LG4.	
Draft	ME55	The DEIS/RMP fails to properly disclose the impacts	Section 4.8 (Minerals and Energy Resources)	Yes

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RMP/EIS		of the proposed management prescriptions on mineral development. It appears that Table 5.1 on 5-3 and Table 4.8.1 on page 4-100 was an attempt to disclose these impacts as at 4.8.2.1.1.1 the text presents these changes form Alternative D, the no action alternative. These figures are simply a tabulation of acres assigned to each leasing category and not a disclosure of impacts required in IM 2004-089 on FRD. In the Chapter 4 analysis it is the only data presented to show impacts on oil and gas development with respect to the loss of wells and acreage for future development. IM 2004-089 requires the creation of a baseline of well numbers and acres that would be developed if such development were governed by BLMs standard lease form. As management prescriptions are proposed the baseline is to be reduced by the number of well and acres affected. The result of this analysis is a clear disclosure of the impact of proposed management restrictions on oil and gas development.	discusses the effects of cultural, reaction, Soils, Special Status Species, Wildlife, and Visual decisions on mineral development. Section 4.8 has been revised to discuss impacts of Special Designations on mineral development. Chapter 4.12 Socioeconomics discusses the loss or gain of revenue from oil and gas development by alternative. The reduction of wells imposed by management prescriptions can be seen in Table 4.8.2 (Alternative A), 4.8.3 (Alternative B), 4.8.4 (Alternative C), 4.8.5 (Alternative D), and 4.8.6 (Alternative E).	
Draft RMP/EIS	ME56	The tabulation of acres assigned to the mineral leasing categories in Tables 1 and 4.8.1 include 188,499 acres of split estate land where no management restrictions will be applied as a result of the RMP. Additionally approximately 80,000 of low mineral potential acres that were closed and moved to timing and controlled surface use, and heavily developed lands from controlled surface use to standard stipulation. These additions of acres mask the impacts of management decisions proposed in the draft, the preventing required analysis and	The 188,500 acres (which represents the Hill Creek Extension) is proposed as open to oil and gas development with timing and controlled surface use under all action alternatives (Alternatives A, B, C and E). The acreage for Hill Creek is not included in Alternative D and is noted in Section 4.1.1 (Analytical Assumptions). The 80,000 acres were included in the calculations and the analysis.	No

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		disclosure. A map of current oil and gas leases and mineral occurrence potential was not included in the map section; this also hampers proper analysis and disclosure.	A map of current oil and gas leases and mineral occurrence potential were not included in the Draft RMP due to space limitations but were utilized during alternative development and analysis.	
Draft RMP/EIS	ME57	The VFO is located primarily in the Uintah/Pieance oil and gas basin, one of seven areas identified as priority basins in the EPCA inventory. As a focus area the basin must be reviewed for appropriate levels of stipulations or unnecessary impediments to oil and gas production. The EPCA inventory must be integrated into the planning process to determine oil and gas leasing stipulations and restrictions. Page 1-15 of the RMP discusses the President's National Energy Policy, issued in May 2001, which directed the Secretary to "..examine land status and lease stipulation impediments to federal oil and gas leasing, and review and modify those where opportunities exist (consistent with the law, good environmental practice, and balanced use of other resources)." This includes the evaluation of lease mitigation requirements to determine whether they are consistently applied, science based, appropriate and effective. While the RMP states that the VFO conducted an extensive review of the inventory regarding energy resources within the planning area, nowhere in the document is this review apparent. Information, clarification, and justification for leasing stipulations are not found in the document. In addition, stipulations not necessary to accomplish desired protection must be dropped. Without further information the counties cannot determine if the	See comment responses ME165 and ME167.	No

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		stipulations and mitigation measures laid out in the draft are the least restrictive possible as required by EPCA. FLPMA provides that land must be managed in a manner that recognizes the nations need for domestic sources of minerals. 43USC 1701(a)(12). EPCA provides that proposed actions must be analyzed to determine if the proposed actions are the least restrictive necessary and documents the scientific basis for the restriction. The fact that the Vernal plan revision was classified as a Time-Sensitive Plan to address energy resources under EPCA does not allow BLM to merely reference the data on leasing constraints without further evaluation as required by law.		
Draft RMP/EIS	ME59	The analysis required in IM 2004-089 must be accomplished and management restriction re-evaluated in accordance with IM 2003-233 to insure they are the least restrictive as required by EPCA. The reasonable foreseeable development (RFD) should be recalculated based on the most recent statistics on development.	See comment responses ME165 and ME167. The RFD was developed from the Mineral Potential Report, which was completed in 2004 using the best available data. The RFD is merely a measure for estimating relative total surface disturbance by alternative and does not represent a cap or ceiling. As such, the BLM finds the existing RFD to be sufficiently accurate for evaluating the potential impact of management decisions on resources and land uses within the planning area.	No
Draft RMP/EIS	PR4	The counties believe that the BLM has not sufficiently divulged the proposed management prescriptions for the river segments discussed in the draft RMP and EIS. BLM Manual Section 8351.32C	Table 2.1.19 (Special Designation – Wild and Scenic Rivers) of the PRMP/FEIS under the subsection entitled Management Common to All Alternatives refers to new classifications and	No

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		reads "public notification of protective management shall occur no later than publication and release of the draft RMP, or plan amendment." This section requires exactly what it says; that the proposed management conditions be discussed in the draft RMP and EIS in order that the effects of the management can be ascertained before the ROD is signed. The information found at pages 4-211 through 4-214 consists simply of general statements of "concerns," rather than an evaluation of identified impacts, and support for the concerns cannot be found within the RMP.	establishes protective measures to prevent impairment of outstandingly remarkable values within line of sight, up to ¼-mile from centerline on each side of the river, not to exceed 320 acres per mile. BLM believes the non-impairment standard would allow for individual proposals to be evaluated on a case-by-case basis, whereas specific management criteria could unnecessarily restrict some proposals.	
Draft RMP/EIS	PR5	Section 3.14.3.2 and Appendix C contain the VFO's reasons and rationale for a determination of eligibility for segments of rivers within the VFO. Table 4, page C-11, discusses the identified required "values" for each segment. The Table does not contain the information necessary to demonstrate that the values mentioned are river-related, "outstandingly remarkable," or significant on a regional basis. The information presented in the table does not satisfy the guidance provided at page 7 of the 1996 Process and Criteria document adopted by the Bureau of Land Management (Utah State Office), the USDA Forest Service (Intermountain Region), and the National Park Service (Rocky Mountain Region), which requires that "in order to determine regional significance of river resources, it is imperative that similar rivers be compared to each other."	As discussed in Appendix C, a BLM interdisciplinary team used their professional judgment to review all nominations, and in fact all drainages within the planning area, to come up with a list of "potentially eligible" rivers, which were then further scrutinized. Table 4 summarizes the findings of the BLM after a thorough review involving input from outside entities, including cooperating agencies and the public at large.	No
Draft RMP/EIS	PR6	Table 4 does not meet the requirements of the law, or BLM policy; it merely describes attributes that may support designation of the proposed ORVs in general glowing terms. The counties request that the	See comment response PR5.	No

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		BLM review these eligibility determinations with the state and local governments, in order to fully explore the rationale for each.		
Draft RMP/EIS	PR7	On page 2-57, the draft RMP suggests river segments found to be eligible during the current RMP preparation process would continue to be managed to protect their eligibility under the "no-action" alternative, Alternative D. The counties do not believe this is an accurate representation of federal law and does not comply with BLM policy and direction, or State law.	The BLM has broad discretionary authority to manage the public lands. It is BLM's policy (BLM Manual Section 8351.33A) to manage and protect the free-flowing character, tentative classification, and identified ORVs of eligible and suitable rivers. This protection occurs at the point of eligibility determination, so as not to adversely constrain the suitability assessment or subsequent recommendation to Congress. For eligible rivers where a suitability determination has yet to be made, management is addressed on a case-by-case basis as actions involving these rivers are proposed. For rivers determined suitable in the ROD for the Vernal RMP, protection continues and resource allocations (such as VRM, OHV and mineral decisions) that are compatible with such protection are made for the suitable river corridor as part of the decision. Eligible streams not determined suitable will no longer be managed to protect wild and scenic values, but will be managed in other ways according to the plan.	No
Draft RMP/EIS	PR8	Utah Code c63-38d-(8)(a)(A) and (B) require that federal agencies conduct all studies of rivers for possible inclusion in the NWSRS completely through the suitability phase. Alternative D, as represented at page 2-57, is unacceptable and does not meet the requirements of BLM policy or State law since it states that no suitability determinations would be	Alternative D is the baseline (the No Action Alternative) against which all of the other alternatives (the action alternatives) are compared, and is the current management direction.	No

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		made.		
Draft RMP/EIS	PR9	The Wild and Scenic Rivers Act and BLM Manual Section 8351 require consideration of characteristics which "do" or "do not" make a river segment a worthy addition to the NWSRS. Unfortunately, Table 5 only contains a discussion of the "do" characteristics (the ORVs) under the "Consideration" heading. Table 5 fails to acknowledge related information found in Table 3 of Appendix C, which represents some of the "do not" characteristics. For example, information from Table 3 regarding Argyle Creek states "[t]he high percentage of private land adjacent to the stream has resulted in the construction of numerous ranch houses and summer homes in the corridor. A power line parallels the stream for approximately 7 miles." This information not only caused Argyle Creek to receive a proposed "recreational" classification, but should also be considered relevant to a suitability determination.	The information from Appendix C Table 3 relative to the characteristics that do not contribute to or detract a river segment's suitability for WSR designation has been added to Appendix C Table 5. Please note that the information from Table 3 is added in other appropriate sections such as Land Ownership within Table 5.	Yes
Draft RMP/EIS	PR10	The statement at page 4-210, which reads "In the No Action Alternative, a suitability determination would not be made," does not meet the requirements of State law. Utah Code 63-38d-(8)(a)(A) and (B) require that federal agencies conduct all studies of rivers for possible inclusion in the NWSRS completely through the suitability phase.	See comment response PR8.	No
Draft RMP/EIS	PR13	BLM is proposing to manage the area under a non-impairment standard, in violation of state law (U.C. 63-38d-401(8)(c)() (ix) and 6(b)) and the settlement in the case of Utah v. Norton.	The range of alternatives contained in the RMP clearly demonstrate that the BLM is allowing multiple uses throughout the planning area to the extent that they are compatible with the goals and objectives of the plan and existing law.	No
Draft	PR15	The assignment of resources is a legitimate purpose	See comment response LG87.	No

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RMP/EIS		of an RMP. In the RMP assignments of AUMs and a determination of season of use could be made but the proposals here establish dates for permitted use. The process for establishing the dates is within law and regulations cited above (in comment PR87). These alternatives should be rewritten to comply with RMP purposes and law and regulation.		
Draft RMP/EIS	PR17	A "not to designate" [ACECs] alternative was not provided, which fails the full range of alternatives test.	There is no requirement in NEPA, FLPMA, other federal legislation or BLM policy to examine an exhaustive range of alternatives that represent extremes in proposed options. Rather, law and policy require BLM to consider a reasonable range of alternatives that meet the purpose and need of the undertaking, which in this case is the purpose and need for the BLM to manage the lands and resources of the Vernal Planning Area (VPA) under a multiple use and sustained yield regime. The BLM is authorized to designate ACECs and other special management areas where the need for such consideration exists. The range of alternatives considered in the RMP provide for anywhere from 165,944 acres to 681,310 acres in ACECs. The BLM believes that this range is sufficient to offer a variety of options for management and still meet the BLM's goal of managing VPA lands for multiple use and sustained yield.	No
Draft RMP/EIS	SD40	This area has been layered with special designations and other management prescription without consideration to manageability of these designations and current use.	See Response to Comment SD14-G-13.	No
Draft	SD41	The Wild and Scenic River Act give agencies no	See Response to Comment SD19-G-22.	No

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RMP/EIS		authority to manage rivers, determined to be suitable for WSR designation, to protect their outstanding remarkable characteristics. Thus BLM lacks authority to manage the Upper Green River as provided in Chapter 2.		
Draft RMP/EIS	SD42	Suitability of [the Upper Green River] segment should be re-analyzed in this document. A review of the Diamond Mountain RMP and ROD indicates no analysis of suitability for WSR designation was analyzed in them. In the Diamond Mountain Plan, at SEA 08 page 2-4, it indicates that the Upper Green River suitability determination was made prior to that RMP.	The Diamond Mountain RMP/EIS Record Of Decision at SEA08 on page 2-4 reflects the Areawide Decision made concerning the two river segments. The Upper Green River and Lower Green River segments were analyzed in the Diamond Mountain RMP/EIS and Wild and Scenic Suitability Analysis reports may be found in Appendix 7, Special Emphasis Areas, in the referenced RMP/EIS.	No
Draft RMP/EIS	SD43	The DEIS/RMP and the AMS are silent on the origin of the suitability designation. Research of determination history shows that suitability was determined in Wild and Scenic River Study Environmental Statement July 1980. This document addresses the Green and Yampa Rivers.	See Response to Comment SD42-G-23.	No
Draft RMP/EIS	SD44	The 1980 EIS [for the Wild and Scenic River Study], which is the only analysis of impacts of a suitability determination, is woefully inadequate. A review of Chapter 3 beginning on page 229 indicates that impacts to private landowners with respect to current uses, agriculture, grazing and family residential occupancy, was not analyzed. Analysis was not made based on the assumption that scenic easement and/or agreement would be purchased or made, thus impacts would be eliminated. This has not happened. In short the analysis and disclosure of	See Response to Comment SD19-G-22.	No

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		impacts related to a suitability determination on this stream segment has not been made.		
Draft RMP/EIS	SD45	The Wild and Scenic River Review in Utah, process and criteria for interagency use pages 2 and 3, suitability states "The purpose of the suitability component is to determine whether eligible rivers are appropriate additions to the national system by considering trade-offs between corridor development and river protection." It further states "suitability considerations include the environmental and economic consequences of designation and the manageability of the river if it is designated." Appendix E lists suitability factors to be considered in analysis. This analysis required for determination of suitability has not been accomplished in this DEIS/RMP nor in previous analysis of suitability. BLM has relied on faulty analysis that is 25 years old.	Appendix C in the PRMP/FEIS has been revised to include additional information regarding suitability determinations.	Yes
Draft RMP/EIS	SD48	The apparent loss of focus of the BLM on the statutory rationale for an ACEC becomes important because in Handbook Section 1613.1, the characteristics of an ACEC are discussed. The first subsection (Section 1613.11) discusses the need for "relevance" and "importance," and the second (Section 1613.12) discusses the requirement for special management attention. Again, however, the regulatory requirement to discuss the need for special management attention does not focus on the statutory requirement to "protect and prevent irreparable damage" to resources; rather it only speaks to the need to "protect" the important and relevant values. This loss of focus has been carried through the entire DEIS/RMP from the proposed	See Response to Comment SD27-G-22.	No

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		alternative through affected environment and into analysis.		
Draft RMP/EIS	SD49	State statute requires that the BLM analyze the required relevant and important values of an ACEC on a regional basis, analyze the need to "protect and prevent irreparable damage to those relevant and important values" from activities which may occur in the area, requires the BLM to explain the need for "special" management for the ACEC and explain how this management is different from normal BLM management and authority, that the protections proposed by the required "special management" do not duplicate or constitute simple restatements of protections afforded by other federal and State laws, and contain other analytical and procedural requirements. (See Utah Code 63-38d-401(8)(c).	See Response to Comment SD12-G-9	No
Draft RMP/EIS	SD50	The discussion of ACEC management (page 4-203) contains the general statement that ACECs would benefit from the "special management attention they would receive if designated." Special management attention is more than a coincidental benefit that flows from designation. It is a fundamental prerequisite to designation. The BLM must make a determination for each potential and proposed ACEC that special management attention is required to protect the identified relevant and important values. It has failed to do so in the DEIS/RMP.	The FLPMA states that in developing land-use plans the BLM shall give priority to the designation and protection ACEC. The BLM gave full consideration to the designation and preservation ACEC during this land-use planning process. Nominations for ACECs from the public were specifically solicited during the scoping period. A total of 35 ACEC nominations were received and the relevance and importance of each were determined. Fourteen of the ACEC nominations were found to meet both the criteria of relevance and importance and all these were included for special management as proposed ACECs in Alternative B. The BLM Manual 1613.23 states that "After	No

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			completing the analysis of the effects of each alternative, the manager selects the preferred plan alternative which best meets the planning criteria and the guidance applicable to the area. The preferred alternative reflects the BLM's proposals for designation and management of ACECs." The BLM has full discretion in the selection of ACECs for the various alternatives. In the selection of the preferred alternative, a comparison of estimated effects and trade-offs associated with the alternative leads to development and selection of the preferred alternative. Should BLM choose not designate potential ACECs, BLM Manual 1613 .33E provides direction in this process. Rational for not proposing designation of a potential ACEC in the preferred alternative must be provided, that is, the reasons for the decision not to provide special management attention must be clearly set forth. Such reasoning may include: Special management attention is not required to protect the potential ACEC because standard or routine management prescriptions are sufficient to protect the Relevance and Importance Values from risks or threats of damage/degradation. The area is being proposed for designation under another statutory authority such as wilderness and would require no further management	

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			attention. The manager has concluded that no special management attention is justified either because of exposure to risks of damage to threats to safety is greater if the area is designated or there are no reasonable special management actions which can be taken to protect the resource from irreparable damage or to restore it to a viable condition. BLM ACEC guidance (Areas of Critical Environmental Concern; Policy and Procedures Guidelines, 45 FR 57318, 57319 (Aug. 27, 1980)) allows a manager to exercise discretion not to protect a potential ACEC through ACEC designation, but that decision has to be documented through the planning process. If the manager decides to provide the necessary protection through another form of special management, the documentation will include specifics of the special management proposed. Rationale for all ACEC decisions will be provided in the Record of Decision and supported by analysis in the EIS. If the decision is to allocate the resources with relevant and important values, in whole or in part, to another use which would in result in damage or loss to such resource, the authorized officer must first find that there is an overriding public need for such other use; that the public benefits of such other use outweigh the public benefits of use appropriate with ACEC designation, and that such other use will best	

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			meet the present and future needs of the American people. In addition, any allocations to such other use will include all feasible planning and management to prevent, minimize, mitigate or restore any consequent damage to the resource, and these requirements will be specified in the documentation. The BLM, in developing the PRMP/FEIS, can chose management actions from within the range of the alternatives presented in the DRMP/DEIS and create a management plan that is effective in addressing the current conditions in the planning area based on FLPMA's multiple-use mandate.	
Draft RMP/EIS	SD51	On page 4-203, the draft RMP indicates that the lack of designation of some potential ACECs may place the relevant and important values "at some risk of irreparable damage during the life of the plan." This statement is completely backward. BLM must make a determination that a threat of irreparable damage from some authorized multiple-use activity exists, and is directed toward the identified relevant and important value in order to complete the fundamental requirements for an ACEC. The identification of required threat of irreparable damage cannot be supported from simple hypothetical musings postulating that the lack of the very management structure (ACEC) BLM is trying to justify may result in damage to the resources.	The BLM followed the ACEC designation process outlined in BLM Manual 1613 and analyzed the implications of designating or not designating areas as ACEC. In particular, in Chapter 4 of the DRMP/DEIS analyzes the impacts of ongoing and future uses on the relevance and importance values associated with potential ACECs under all alternatives. Appendix G of the Proposed RMP/Final EIS provides information concerning the interdisciplinary team review. The rationale for designation of individual ACECs carried forward into the PRMP/FEIS will be provided in the Record of Decision (ROD). The analysis that forms the basis of the rationale for the final decision to designate or not designate an ACEC can be found in Chapter 4 of the	No

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			PRMP/FEIS.	
Draft RMP/EIS	SD52	BLM Manual section 1613.22 requires the BLM to consider whether the values within the proposed and potential ACEC are already afforded protection through other designations. BLM Manual Section 1613.33E allows that BLM may decline to designate an ACEC "because standard or routine management prescriptions are sufficient to protect the resource or value from risks or threats of damage/degradation," which is clarified to mean that "the same management prescriptions would have been provided for the area in the absence of the important and relevant values." Examples of values that have been used to justify need for protection management are the special cultural resources, riparian and wetland areas and special status species. The counties cannot find any analysis of these factors within the draft RMP and EIS. In fact the majority of the relevant and important values identified are already afforded such protection.	See Response to Comment SD51-G-25.	No
Draft RMP/EIS	SD53	BLM Manual Section 1613.22(A)(2) requires the BLM to consider the value of other resources when considering the protection of important and relevant values of a proposed and potential ACEC. The intent is that BLM balance the various multiple-uses within the proposed RMP, and consider whether the need for other multiple-uses in the area "outweigh" the need for the ACEC. The discussions in the draft RMP and EIS do not analyze any such balancing, and do not discuss the potential benefits of ACEC designation versus other resource uses for any of	See Responses to Comment SD24-G-22 and Comment SD8-G-9. The projected RFD for each alternative accounts for restrictions resulting from closures associated with special designations, special status species protections, and other resource program decisions.	No

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		the potential and proposed ACECs. The impacts on RFD are not disclosed to a level that such analysis could be made.		
Draft RMP/EIS	SD54	The majority of the ACEC boundaries extend well beyond the boundaries of what is reasonable to protect the relevant and important values identified.	See Response to Comment SD14-G-13.	No
Draft RMP/EIS	SD55	The counties are concerned that the BLM views potential and proposed ACECs as convenient vehicles to generally focus agency management attention on an area, rather than a very focused management tool with strict criteria for creation of particular concern is that most of these areas mirror proposed WSAs.	The potential ACECs analyzed for designation into the Proposed RMP have gone through a rigorous and stringent process in accordance with FLPMA, the planning regulations at 43 CFR 1600, Land-use Planning Handbook (H- 1601-1), and in accordance with BLM Manual 1613 and ACEC Policy and Procedures Guidelines (45 FR 57318). Appendix G outlines the process the interdisciplinary team underwent to determine whether a nominated ACEC had relevance and/or importance values. The size of the proposed ACECs is limited only to the area(s) of geography where the relevance and importance values are manageable to protect and prevent irreparable damage. In the Proposed RMP, the potential ACECs generally do not have redundant special designations and/or other existing protections applied. The potential ACECs carried forward into the Proposed RMP necessitate an ACEC designation because special management protection is necessary (outside of normal multiple-use management) to specifically protect the relevance and importance values within the areas identified. The special management prescriptions	No

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			that have been proposed are narrowly tailored to protect the identified relevant and important values; none of which are recognized as wilderness resources. For these reasons, the potential ACEC decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401.	
Draft RMP/EIS	SD56	The discussions concerning potential recommendations for addition to the Wild and Scenic River System in the draft RMP and EIS are confusing, contradictory and incomplete, and do not meet the requirements of federal or state law or BLM policy and direction. The counties believe it is imperative that the BLM properly disclose the reasons and rationale for determinations of eligibility and suitability for proposed additions to the NWSRS, and to fully meet the requirements of state and federal law in doing so.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.	Yes
Draft RMP/EIS	SD57	The counties are concerned that the designation of stream segments as "Wild & Scenic" could jeopardize the ability of local communities, industry, farmers, Indian tribes, and other water users to appropriate and develop water and to get change applications approved in order to meet their future water needs. Fundamentally, the counties are concerned that Wild & Scenic River designations would: 1. limit the ability of communities to develop water needed for future growth 2. limit additional industrial growth including oil shale development	See Response to Comment SD19-G-22.	No

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		3. limit additional agricultural growth 4. affect water right settlements with the Northern Ute Tribe 5. affect completion of the Central Utah Project 6. affect operation of Flaming Gorge Reservoir 7. reduce funding to the Colorado River Salinity Control Program, or affect agreements already in place for the Endangered Fishes Recovery Program		
Draft RMP/EIS	SD58	The counties acknowledge the VFO is required to conduct Wild and Scenic Rivers studies as part of the RMP process. However, the counties also understand and support the Wild and Scenic Rivers Act's standards of classification, eligibility and suitability and the requirement for proper analysis in the assignment of such designations.	See Response to Comment SD19-G-22.	No
Draft RMP/EIS	SD59	State plans, as outlined by State law (U.C. §63-38d-401(8)(a) through (b)), expand upon the requirements of the WSR Act by delineating the necessary analysis which must be conducted on river segments considered for possible inclusion in the NWSRS. These state requirements are not in opposition to the federal requirements, but are designed to fully flesh out studies that the federal agencies should perform, in order to assure that the full and complete nature of the proposal is made public. State law expands upon the requirements for study by requiring that river segments proposed for inclusion in the NWSRS contain water at all times, that the river segment contain an outstandingly remarkable value which is significant within a physiographic regional context, that the rationale and justification for the determination of the outstanding	The State of Utah has worked as a Cooperating Agency throughout this planning process and has been intimately involved with the BLM's wild and scenic river planning process. The State has assisted Field Office specialists to help determine eligibility findings for each of the river segments, and has provided social and economic expertise and advice as the BLM determined which eligible segments to carry forward as suitable into the Proposed RMP. BLM has committed to working cooperatively among Federal, State, and local governments and communities during the post-planning wild and scenic river study phase when statewide recommendations for inclusion of river segments into the National Wild and Scenic Rivers System would go forward to Congress. Prior to this post-planning phase, BLM would	No

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		value is fully disclosed, all segments considered eligible are evaluated for suitability of designation, a "suitable" or "not suitable" decision is made for each segment, and that studies of the effects of designation on uses within the river corridor, and upstream and downstream from the corridor are analyzed and disclosed.	work with affected partners to help identify in-stream flows necessary to protect the outstandingly remarkable values for which the subject river segments were found suitable via this planning process. Thus, because there are no effects of this planning decision on valid existing rights, and because suitability findings in this planning process do not create new water rights for the BLM, the land-use planning wild and scenic river suitability determinations are found by BLM to be consistent with the Utah Code 63j-4-401.	
Draft RMP/EIS	SD60	State law requires the BLM to fully disclaim any rights to water in the segments recommended for inclusion in the NWSRS as a result of adoption of the final Resource Management Plan. (U.C. §63-38d-401(8)(a)(viii)c)). Although there is language on page 4-210 which discusses in-stream flows, this language does not address this State statutory requirement directly. Additionally, the paragraph at the top of page 2-28 which states that the BLM will develop additional and maintain existing water rights" is unsupported. We suggest that the BLM provide more detail and specifics for this statement, and more affirmative language clearly disclaiming any water rights.	See Response to Comment SD19-G-22.	No
Draft RMP/EIS	SD61	We have concerns regarding the language at page 4-210 which passively mentions the Colorado River Compact. Under the 1948 Upper Colorado River Basin Compact, Utah is allotted a depletion of 1,369,000 acre-feet per year from the Colorado River system. Obviously, the Compact is of major significance to the state and any actions that may	Section 13(e) of the Wild and Scenic Rivers Act says: "Nothing contained in this Act shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by any	No

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		affect the compact are of concern. Utah Code §63-38d-401(8)(a)(x)(A)and(B) require clear demonstration that including rivers in the NWSRS and terms and conditions for managing such rivers will not impair or otherwise interfere with interstate compacts.	States which contain any portion of the national wild and scenic rivers system."	
Draft RMP/EIS	SD62	We are concerned that the BLM is not stating, in a full and complete manner, the authority for protection of river segments while studies pursuant to Section 5(d) of the Act are underway and protection until Congress may act upon any recommendations made in planning documents pursuant to BLM planning authority.	See Response to Comment SD19-G-22.	No
Draft RMP/EIS	SD63	The draft RMP indicates on page 2-29 that "new river segments found suitable" would be managed in accordance with the "Wild and Scenic River Act to prevent non-impairment of outstandingly remarkable values." We do not find the term "non-impairment" in either the Act or BLM policy direction. The Wild and Scenic Rivers guidelines of federal agencies indicate that Section 10(a) of the Act is interpreted to provide for a "nondegradation and enhancement policy for all designated river areas." However, this provision does not apply to rivers found suitable for recommendation during planning processes. The counties are concerned the statement of management found on page 2-29 is too simplistic, doesn't meet the intent of the statements found on page 3-84 or page 4-210, and fails to give the stakeholders or the public sufficient notice of criteria or process the BLM intends to employ as part of the proposed management for the river segments determined to be suitable for inclusion in the	Actions Common to all for Wild and Scenic Rivers have been moved to Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS. The Actions Common to All have been revised to more clearly define how BLM intends to manage segments determined suitable as a result of this planning process. The correct phrasing should be "prevent impairment" instead of "prevent non-impairment."	Yes

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		NWSRS. We request that the BLM revise the document to address these concerns.		
Draft RMP/EIS	SD64	Table 2.3, page 2-57, contains no information regarding the rationale related to wild and scenic river considerations, nor proposed protective management, for any of the various segments listed in the table. The counties request that the BLM revise the RMP to address these concerns.	See Response to Comment SD24-G-25,G-1.	Yes
Draft RMP/EIS	SD65	The discussion of Upper and Lower segments of the Green River in the draft RMP is incomplete. BLM assumes that the rationale, findings and protective management identified in the Diamond Mountain and Book Cliffs RMPs, completed in the 1980's still applies. Numerous significant recreation related facilities (i.e. campgrounds, picnic areas, boat ramps, vehicle parking), and other types of development, are now present along the Green River corridor, particularly the Upper segment. Much of this development has occurred since the Diamond Mountain RMP was completed and the ROD was signed. This development may affect not only the determination of suitability for these segments, but the current classification of "scenic" for the segment as well. The counties oppose simply carrying over the Upper and Lower segments of the Green River as recommended additions to the NWSRS from the Diamond Mountain and Book Cliffs RMPs. The counties believes that the BLM must consider all new information which has developed since the Diamond Mountain and Book Cliffs RMPs were finalized, to determine whether the segment still qualifies and should still be recommended, and to meet the	The Upper and Lower Green River Segments were identified as suitable for designation in the National Wild and Scenic River System in the Diamond Mountain RMP/EIS and has been carried forward in the Proposed RMP/Final EIS. Appendix C of the PRMP/FEIS details the steps undertaken in the eligibility review process including the identification of outstandingly remarkable values as well as the Suitability Considerations by eligible river segments. The BLM complied with all applicable Federal laws, regulations, and policies in the Wild and Scenic Rivers Study Process. Manual 8351, Wild and Scenic Rivers, Policy Program Direction for Identification, Evaluation, and Management, states: "In general, a wide range of agricultural, water management, silvicultural, and other practices or structures could be compatible with scenic river values…"	No

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		requirements of the State law.		
Draft RMP/EIS	SD66	Table 5 includes "[m]anageability of the river if designated, and other means of protecting values" as a "Suitability Consideration." However, in the "Consideration Applied" column which is supposed to provide the information about manageability, the document simply states "[m]anageability ... and other means of protecting values would be extrapolated from the impact analysis for the Vernal RMP/EIS." This analysis goes nowhere as an explanation, and is inadequate to meet the requirements of Federal law and BLM Manual 8351, and further, is not supported by the impact analysis information presented on pages 4-210 through 4-215.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.	Yes
Draft RMP/EIS	SD67	The draft RMP provides only cursory acknowledgment of the White River Dam project and fails to adequately represent its significance, and characterizes the impacts of an eligibility or suitability determination, and associated "protective management" on the proposed project in a contradictory manner. Statements found on pages 4-212 and 4-213 illustrate the cursory analysis, as follows: "...a suitable decision for Segment 1 of the White River would be incompatible with the continuation of an existing permit for a dam site" and t]he suitability decision for Segment 1 of the White River would result in the discontinuance of the existing permit for the dam site." The White River is also described as part of Alternative D, on page 2-57, as follows: "[u]nder this alternative, suitability findings would not be made and eligibility would	Alternatives B and D are part of the range of alternatives. There is an existing right of way for a dam on the White River in segment 1. Segment 1 was carried forward for analysis purposes under the wild and scenic river situation. Also, see Response to Comment SD8-G-9.	Yes

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		continue with BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river." The discussion of Alternative D on page 4-214, reaffirms that Segment 1 of the White River "would remain eligible." However, in a contradictory manner, the discussion also states, "Segment 1 has been identified for a potential dam site." Subsequently, the last paragraph on page 4-214 concludes the description of Alternative D, as follows: "Under this alternative, the continued eligibility decision for Segment 1 of the White River would be incompatible with continuance of the existing permit for the dam site. Because this permit would continue under this alternative, the free-flowing nature of Segment 1 would not be maintained and this segment would no longer be eligible as a Wild and Scenic River." Further, Appendix C, Wild and Scenic River Eligibility, Suitability, Classification and Review does not include any information regarding the White River Dam Project.		
Draft RMP/EIS	SD68	On pages 4-211 and 4-212, the discussion of Alternative A contains contradictory statements. For example, on page 4-211, the RMP states that "where mineral leasing [is] allowed with standard stipulations or timing and controlled surface use, or where other mineral development would be allowed within the corridor of the White River (Segments 1 and 3) .... the outstandingly remarkable values of these rivers would be at risk." Segment 1 of the White River is addressed again under this same alternative, at page 4-212, which states that "the White River (Segments 1 and 2) would largely be protected from	Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction.	Yes

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		disturbance related to mineral development by either being closed to mineral leasing or by no surface occupancy stipulations." Based on this information, Segment 1 of the White River is both "at risk" and "largely protected" from mineral development under Alternative A. The same language, and thus the same apparent contradiction, exists in the discussion of Alternative C. No information, which offers any clarity, exists elsewhere in Chapters 2, 3 or 4 of the RMP. The counties request that the RMP be revised to correct these issues concerning the White River.		
Draft RMP/EIS	SD69	The discussion of Alternative B on page 4-213 includes the following statement, "If acquired lands along Nine Mile Creek are grazed, the outstandingly remarkable cultural and scenic values would be more at risk than with Alternatives A and C". Unfortunately, nowhere in the draft RMP and EIS is there other mention of this apparent concern, or other information that would enable the reviewer to grasp its relative significance. We strongly object to this unsupported assertion that grazing threatens the ORVs in the area, especially on lands that may be acquired. Grazing can be managed to protect cultural and riparian values. The BLM needs to carefully explain the potential difficulties of this area, and analyze them in terms of proper mitigation, rather than making unsupported blanket statements such as this. In addition, the discussion of Alternative A at pages 4-211 and 4-212, contains no reference to any "acquired lands along Nine Mile Creek."	Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction.	Yes
Draft RMP/EIS	SD70	As a matter of clarification, the document, at page S-3, refers to sections of rivers, ranging from one to six rivers, which are recommended for Wild and Scenic	Table S.3 of the Executive Summary in the PRMP/FEIS has been corrected and the issue clarified regarding the number of rivers and river	Yes

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		River designation. Throughout the remainder of the document, the discussion of wild and scenic rivers refers to segments of rivers, rather than separate individual rivers. The confusion is immediately apparent when the reader looks to Table S.3, as directed by the text on page S-3. Clarity could be achieved by indicating the number of segments associated with the rivers, i.e., "Alternative C ... recommends 9 segments of six rivers."	segments.	
Draft RMP/EIS	SD71	The information at page 2-29 does not fully characterize proposed interim management of WSRs, because the discussion of management of eligible segments, found at page 3-84, is not presented here. We recommend that information similar to that found at page 3-84 be included at page 2-29.	Chapter 2 of the PRMP/FEIS has been revised to be consistent with the information found in Section 3.14.3.2 regarding WSRs.	Yes
Draft RMP/EIS	SD72	The information presented in Table 2.3, at page 2-57, does not include the Upper and Lower segments of the Green River. Additionally, the descriptions of the Alternatives, in Table 2.3, should reflect either a finding of "suitable," or a finding of "non-suitable," as BLM policy directs. (See BLM Manual 8351.33A).	The Upper and Lower segments of the Green River are discussed in Table 2.1 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS under the subsection entitled Management Common to All Action Alternatives, where it states: "Continue to manage previously recommended segments of the Upper Green and Lower Green Rivers to protect their outstandingly remarkable values and the tentative classifications until such time that a designation decision is made." Also as stated in Appendix C, determination of whether or not each eligible segment is suitable will be made in the Record of Decision for the	No

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			Vernal RMP.	
Draft RMP/EIS	SD73	The RMP, at Table 2.3 and elsewhere, must include information regarding management of segments found to be "non-suitable," as directed by Manual Section 8351.53B, which states "[f]or river segments determined nonsuitable in the RMP, the river shall be managed in accordance with the management objectives as outlined in the RMP."	The management objectives for the RMP are outlined in Chapter 2 Management Common to All. All segments would be managed under riparian objectives.	No
Draft RMP/EIS	SD74	Table 2.5 Summary of Impacts, at page 2-99, does not adequately characterize the impacts associated with wild and scenic river recommendations. The counties suggest that the impacts be more fully described.	The impacts of special designations, including wild and scenic rivers, on each resource program are discussed in Chapter 4.	No
Draft RMP/EIS	SD75	The draft correctly lists the purposes for which an SRMA designation would be used. SRMAs are for the purpose of managing recreational activities. Throughout the draft, SRMAs have been used to place restrictions on other resources and permitted uses. In Brown's Park an SRMA was used to justify a VRM I. This has been accomplished without an analysis of need or impacts or even discussion on the specific goal of the SRMA.	The West Cold Springs and the Diamond Breaks WSAs are protected by VRM Class 1. This is not associated with a SRMA identification.	No
Draft RMP/EIS	SD76	In looking at Figures 21 through 24, one immediately notices that ACECs and SRMAs are proposed for the same geographic areas. The draft RMP and EIS does not define the reasons for the proposed SRMAs, nor the functional difference between an ACEC and an SRMA.	Definitions of SRMAs and ACECs are provided in the Glossary. Additional description of SRMAs is provided in Chapter 3.	No
Draft RMP/EIS	SD77	This section lists some of the things that would be included in an integrated activity plan for recreation. The draft RMP does not discuss what would	Table 2.1 (Recreation Resources) of the PRMP/FESI is related to recreation goals and objectives and; therefore, correctly lists	No

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		constitute the remaining portion of the integrated activity plan. Does the plan only integrate recreational activities, or does the plan propose to consider other resource uses?	possibilities, but does not limit those possibilities, for comprehensive integrated activity level planning.	
Draft RMP/EIS	SD78	Page 4-143 discusses the possibility of closing some SRMA areas to mineral leasing and establishing no-surface occupancy zones in others. It states that closing SRMAs to mineral leasing would have direct, long-term, beneficial impacts on recreation resources by preserving natural, undisturbed qualities of these recreation areas. Does closing the areas to leasing go beyond SRMA management prescriptions? Page 4-52 states "all SRMAs would be managed according to the philosophy of multiple-use." Can the recreation goals described here be accomplished without no-surface occupancy stipulations? Does this conflict with the policy directives of EPCA and the Presidents National Energy Policy?	Closures of portions of SRMAs are related to one of two factors: WSA lands within SRMAs and areas to be managed for primitive recreation opportunities, including associated high scenic value. A comparison of Figures 11-14 and 21 will shown that the vast majority of proposed SRMA areas are open to leasing under standard, timing and controlled surface use, or no surface occupancy stipulations. The BLM would only enact closures or non-standard stipulations where opening an area to leasing or leasing under standard stipulations would be incompatible with other resource values and management goals for the area. The BLM believes the SRMA alternatives and accompanying stipulations are consistent with EPCA and the NEP. Also, see Response to Comment SD8-G-9, concerning a range of reasonable alternatives.	No
Draft RMP/EIS	SD79	The counties object to the proposed areas of critical environmental concern (ACECs) when such proposals will impact forage allocations to livestock or grazing use. First, the expansions are not documented. Second, the expansions are justified based on wildlife and/or wildlife habitat for big game	Special designations would not alter livestock grazing. Management of livestock grazing in areas of special designations would be consistent with the management provisions outlined in Chapter 2, Table 2.3, Appendix F, and Appendix L.	No

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		species, which are numerous. These factors alone do not merit establishment or expansion of ACEC's. If the RMP were to assure current land users, especially livestock permittees that the ACEC will not be managed to the detriment of grazing, it would be less problematic.	Also, see Appendix G for information on the relevant and important values considered for each proposed ACEC.	
Draft RMP/EIS	SD80	Throughout the DEIS/RMP the outstanding remarkable values listed for this section of [the Lower Green] river are recreation and fish, yet the tentative classification for this segment of river is "scenic". A tentative classification of "recreational" is the only one supported by the eligibility finding and suitability analysis.	Recreation as a value and a recreational designation for a wild and scenic river are not necessarily synonymous. Viewing the scenery is considered a passive form of recreation. The Final EIS carries forward the decision from the Diamond Mountain RMP ROD.	No
Draft RMP/EIS	SD81	This segment of the river should be reanalyzed for suitability due to the flawed analysis and in light of recent decisions regarding management for the segment of the river south of T12S. Here it was provided that the river adjoining the Naval Oil Shale Reserve (NOSR) would not be managed as Wild & Scenic. This was done in an agreement with Department or Interior and ratified by Congress. It was recently agreed by the Secretary of Interior and ratified by Congress that on the river segment adjoining NOSR lands to the south of the subject segment, that 1/4 mile was adequate to protect such values as proposed by this ACEC.	The area to which the commenter refers is well south of the VFO's proposed ACEC/WSR for the Lower Green River. This area is outside the scope of the Vernal RMP as it relates to lands not managed by BLM.	No
Draft RMP/EIS	SD82	The attributes of both the Upper and Lower sections of the river are the same with the possibility of the Naval Oil Shale Reserve being even more remote than the area proposed suitable in the Lower Green	See Response to Comment SD81-G-27, concerning the Naval Oil Shale Reserve.	No

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		segment.		
Draft RMP/EIS	SD83	On page 55, Table 2.3 Alternatives, Special Designations, Areas of Critical Environmental Concern - it is proposed to manage both sides of the Lower Green (line of sight) up to ½ mile as an ACEC to protect high value scenic resources and riparian ecosystems.	See Response to Comment SD81-G-27.	No
Draft RMP/EIS	SD84	It was recently agreed by the Secretary of Interior and ratified by Congress that on the river segment adjoining NOSR lands to the south of the subject segment, that 1/4 mile was adequate to protect such values as proposed by this ACEC.	See Response to Comment SD81-G-27.	No
Draft RMP/EIS	SD85	The DEIS/RMP contains no analysis that indicates this subject area is threatened by irreparable damage and that the riparian ecosystems are unique to the region, or even the immediate area. Meaningful analysis of impacts on RFD and socioeconomics are missing.	See Responses to Comments SD19-G-9 and SD51-G-25. The RFD scenarios described for each alternative incorporate potential reductions based upon restrictions related closing areas for minerals exploration and development, whether for ACEC designation or other allocation. The impacts analysis for socioeconomics has been expanded and clarified in Chapter 4 of the Proposed RMP/Final EIS.	No
Draft RMP/EIS	SD86	Analyze and then rewrite these alternatives including ones not to designate.	See Response to Comment SD8-G-9.	No
Draft RMP/EIS	SD87	The alternatives as presented are clearly an attempt to manage this area to a non-imparement standard and circumvent multiple-use.	See Response to Comment SD8-G-9.	No
Draft	SD88	In Alternative A, sections of Nine Mile Creek are	The statements in question should reference the	Yes

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RMP/EIS		proposed not to be identified as suitable for inclusion in the Wild & Scenic River System. There appears to be an error in the description of the first section discussed. Nine Mile Creek between the Green River and the Duchesne County line is not in Duchesne County. The outstanding ORVs identified for this section are not dependent on the river for their existence and not directly river-related as required in IM 2004-196. There is lack of detailed analysis of the need for a WSR designation, how the ORVs meet the above analysis, what management prescription will be applied and impacts on current development leases or permits. Alternative A is the only acceptable alternative, as lack of analysis, location and need to protect the ORV fail to support designation. The ORVs used to support designation have other laws or regulations to protect them or are currently protected.	portion of Nine Mile Creek in Duchesne and Uintah counties, from the Green River to the Duchesne-Carbon County Line. Under Alternatives C and E the river segment would be found suitable for inclusion in the NWSRS. Chapter 2 in the PRMP/FEIS has been revised to clarify that suitable rivers/river corridors will be managed to protect their outstandingly remarkable values, tentative classifications, and free-flowing nature. Specific resource allocations and management prescriptions within and outside of eligible river corridors are shown on alternative maps, whether or not such information is described in the wild and scenic river section of Chapter 2.	
Draft RMP/EIS	SD89	It is proposed to designate 98,000 acres in Nine Mile Canyon as an ACEC. As written the alternative proposed here fails to clearly show that the Lears Canyon ACEC is included in the Nine Mile Canyon ACEC proposed in Alternative C and D.	Table 2.1 (Special Designations – Areas of Critical Environment Concern (ACECs)) of the PRMP/FEIS has been revised to show that Lears Canyon ACEC is a separate and not part of the Nine Mile Canyon ACEC for all alternatives.	Yes
Draft RMP/EIS	SD90	There is no analysis of the need to retain the existing ACECs. The requirement in BLM manual 1613.21(A)(I) for reconsideration of existing is not met by the brief comment at 3.14.1.1.1 where it states "Based on a current analysis of the areas, the present designations have been effective in protecting the relevant values they exhibit, and these will be carried forward as ACECs in the Vernal RMP." This analysis, if it exists, should be presented	The analysis and rationale for the designation of ACECs in the 1991 Diamond Mountain RMP were disclosed to the public and available for public comment and protest through the EIS and the ROD. No substantive objections were raised at that time. The potential ACECs analyzed for designation into the Proposed RMP have gone through a	No

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		in the draft for analysis and disclosure.	rigorous and stringent process in accordance with FLPMA, the planning regulations at 43 CFR 1600, Land-use Planning Handbook (H- 1601-1), and in accordance with BLM Manual 1613 and ACEC Policy and Procedures Guidelines (45 FR 57318). Appendix G outlines the process the interdisciplinary team underwent to determine whether a nominated ACEC had relevance and/or importance values. The size of the proposed ACECs is limited only to the area(s) of geography where the relevance and importance values are manageable to protect and prevent irreparable damage. In the Proposed RMP, the potential ACECs generally do not have redundant special designations and/or other existing protections applied. The potential ACECs carried forward into the Proposed RMP necessitate an ACEC designation because special management protection is necessary (outside of normal multiple-use management) to specifically protect the relevance and importance values within the areas identified. The special management prescriptions that have been proposed are narrowly tailored to protect the identified relevant and important values; none of which are recognized as wilderness resources. For these reasons, the potential ACEC decisions carried forward into the Proposed RMP are considered by BLM to be consistent with Utah Code 63j-4-401.	

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Draft RMP/EIS	SD91	Management decisions [for ACECs] must be disclosed in the DEIS/RMP.	ACEC management plans will be developed subsequent to the RMP and the designation of ACECs through the Record of Decision.	No
Draft RMP/EIS	SD92	At Section 3.14.2.9 the draft discusses the Nine Mile Canyon expansion ACEC but does not disclose the values to be protected, the impacts on existing development, leases and permits.	The final sentence of Section 3.14.2.9 of the DRMP/DEIS identifies the values to be protected as "significant cultural resources, special status plant species, and high quality scenery." The analysis of impacts from the expansion were included in those disclosed in Chapter 4 for Alternative C, which is the only alternative under which the expansion would be implemented.	No
Draft RMP/EIS	SD93	The DEIS fails to analyze management decisions [for the Nine Mile Canyon ACEC] to insure they are the least restrictive yet protect identified and substantiated values as required by EPCA.	Appendix G in the PRMP/FEIS has been revised to clarify the relevance and importance of the Nine Mile Canyon ACEC.	Yes
Draft RMP/EIS	SD94	On page G-8, Table 1, Relevance and Importance Summary, all areas list the values needing protection as Fremont, Ute, Archaic Rock Art and Structures, and Special Status Plant Habitat. There are current laws and regulations that protect these values plus management prescriptions proposed in this DEIS/RMP. It is likely that these are the reason for the condition of existing values, not the ACEC. The fact that these values are currently protected is not analyzed in the draft as well as the threat of irreparable damage. This lack of recognition of existing protections, and analysis of impact of the proposed designation on oil and gas development and other resources, and uses, renders all alternatives presented here as unacceptable.	See Response to Comment SD50-G-25.	No

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Draft RMP/EIS	SD95	ACECs proposed here must be analyzed, impacts disclosed, and an alternative not to designate proposed. Such analysis and disclosure must include management prescription carried forward from the Diamond Mountain RMP and those that will be applied in this RMP.	See Response to Comment SD51-G-25.	No
Draft RMP/EIS	SD96	The Goals and Objectives at 2.4.11.1 are proper uses of an SRMA, however, the guidelines at 2.4.11.2.1 and 2.4.11.2.2 step outside these goals and objectives, and are not proper use of an SRMA. SRMAs are not for the purpose of enforcement of rangeland standards or the management of resource development. The issues of light and sound should be addressed in NEPA analysis of a proposed project not in the RMP. It should be made clear throughout the text that all SRMA management will be limited to those presented in 2.4.11.1 and that SRMAs are for the management of recreation to protect other resources and not the protection of other resources.	The management actions related in Table 2.1 (Recreation Resources) is consistent with the BLM's policy on recreation management and are directly related to proper management of SRMAs. Although SRMA identification is not, in and of itself, an enforcement tool for rangeland standards, the BLM policy is to manage recreation on Bureau lands, both within and outside of SRMAs, within parameters consistent with Rangeland Health Standards. Establishing general parameters related to issues of light and sound intrusion around a nationally designated monument (for which recreational opportunity is a primary component) surrounded by BLM lands is consistent with the BLM's overall management goals and with SRMA identification.	No
Draft RMP/EIS	SD97	There is no analysis of the need to expand the size of the SRMA. It should be limited to areas that have considerable recreational use and not expanded to areas receiving casual use.	The decision to expand the size of the SRMA under two of the alternatives was made during alternative development in response to identified issues and public comment on cultural resources.	No
Draft RMP/EIS	SD98	The DEIS/RMP fails to address the impacts of individual and collective special designations placed on this area. The impacts to RFD was not analyzed or disclosed except for a collective listing of acres and well numbers affected. There is no discussion that this area has high potential for oil & gas.	The Mineral Potential Report and Reasonable Foreseeable Development Scenario discuss the potential for oil and gas development in the planning area. The information in these documents was considered during alternative development.	No

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		Additionally, EPCA and guidelines providing for its incorporation into an RMP provides that management restrictions must be the least restrictive while providing protections where it is documented that protection is needed. This analysis has not been done. There are areas of NSO located in VRM III & IV that are NSO for oil and gas with no apparent reason for the restriction. NSOs are proposed in Nine Mile Canyon without analysis of impacts or consideration of existing rights and existing development. The layering of special designations in the Canyon is an attempt to manage the area to a non-impairment standard and to circumvent multiple-use.	Chapter 1 of the PRMP/FEIS explains how the EPCA was incorporated during the planning process of the RMP	
Draft RMP/EIS	SD99	More than 25 development projects have taken place with the Browns Park/Upper Green River area since the 1980 eligibility and suitability analysis was completed. The 1980 analysis is used in the DEIS to support special designations in the area, and was not updated to account for changes in the landscape resulting from these development projects. A determination of eligibility and suitability based upon these changes of use and development and current conditions and state law must be made in the DEIS/RMP. It is clear that the majority of use and values on this segment of the river is recreational in nature as opposed to classifications of scenic that exist in the RMP. Proper analysis would show that with existing or proposed protection, a WSA designation would not be needed to protect existing values.	The Upper Green and Lower segments of the Green River were determined eligible and suitable in the Diamond Mountain RMP (1994). The findings were based on development that was in place at that time. Any development on public lands within the river corridor would have to be consistent with the Diamond Mountain RMP decision, so findings should not have changed since 1994. However; the outstandingly remarkable values and tentative classifications for these river segments were reassessed for the Vernal RMP planning effort. (Refer to Appendix C), and existing developments were taken into consideration in the suitability analysis. It is true that these river segments were brought forward as suitable in all alternatives for the Vernal RMP. This is because these river segments had been thoroughly analyzed in the EIS for the Diamond Mountain RMP, and because no objection to this	No

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			approach was raised during scoping for the Vernal RMP.	
Draft RMP/EIS	SD100	There are no management prescriptions for this segment of the river and thus no analysis or disclosure of impacts of management restrictions that are to be applied. This should be done in the DEIS/RMP.	See Response to Comment SD72-G-25, G-1.. As such, management prescriptions were included in the RMP (e.g., Appendix K) and included in the analysis of impacts from special designations decisions on other resources and uses.	No
Draft RMP/EIS	SD110	At page 2-29 under 2.4.13.3.1.2. It is proposed that Red Creek watershed (24,475 acres) be managed to protect the high value watershed and wildlife habitat resources by continuing the designation. The wording here is not consistent with that in Chapter 3 and Chapter 4 where it provides that Browns Park, Red Mountain, Dry Fork, and Lower Green River corridor would continue to be managed as ACEC's for the protection of high value watersheds and Class I fishery Chapter 3 and historical, cultural, scenic, fish and wildlife resources.	See Response to Comment SD8-G-9.	No
Draft RMP/EIS	SD111	Section 1613.21 of Chapter 1 of the ACEC Handbook provides that existing ACEC's must be analyzed in RMP planning. There is no analysis in the DEIS/RMP that indicates a need for the continuation of existing ACEC's. The only attempt to justify continuing existing ACEC's is at 3.14.1.1.1. It states "based on current analysis of the areas, the present designation has been effective in protecting the relevant values they exhibit, and these will all be carried forward as ACEC's in the Vernal RMP." There is no reference to this analysis in the AMS, which by regulation is to drive the formation of	See Response to Comment SD51-G-25.	No

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		alternatives.		
Draft RMP/EIS	SD112	Other than brief ambiguous statements in the draft that say that relevance and importance criteria exist there is no analysis that supports the need for existing ACEC's in Brown Park and Red Creek or the need to carry them forward. To the contrary in the AMS at 5.4 Current ACEC's there is a listing of Completed or Under Consideration Work Projects in these ACEC's None of the projects would require a ACEC designation to be accomplished. In fact these projects could be accomplished on any lands not covered by an ACEC. A review of the management prescription in the Diamond Mountain RMP indicates the work project is consistent with that plan. Current activities and proposed work on this ACEC is not consistent with the values identified as relevant and important. In the DEIS/RMP BLM claims there is a need to continue the existing ACEC in Red Creek and Browns Park, but it offers no analysis of need or impacts and substantiates the need with work projects that are not ACEC management prescriptions. BLM has fallen short of substantiating the need for ACEC, in these areas.	See Response to Comment SD90-G-24.	No
Draft RMP/EIS	SD113	At Table 2.3, Page 56, Alternative A, it is proposed an ACEC to mange Browns Park to develop a comprehensive integrated activity plan that would address protection of scenic, wildlife, cultural and historical values. It goes on to place restriction on oil and gas development, OHV and other uses by establishing a VRM class I and II for the area. The development of an activity plan is not a basis for an ACEC designation and would not pass the relevance and importance as other protections exist for the	The development of a comprehensive integrated activity plan is not the basis upon which the ACEC would be established but would be the plan under which the ACEC, established to focus special management attention on the relevant and important scenic, wildlife, and cultural/historical values of the area, would be managed. VRM Class I and II allocations would not be enacted for the sole purpose of excluding oil and gas development and OHV use but are	No

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		values to be protected. In addition the restrictions listed are not supportive of the need for a plan development.	part of the overall strategy to manage this area, in part, for its high scenic value. The relevant and importance criteria for this ACEC are discussed in Chapter 3 and in Appendix G.	
Draft RMP/EIS	SD114	SRMA, Table 2.3 on Page 52, Alternative A provides for an SRMA to provide for outstanding scenic vistas and enhancement of resources and associated activities such as riparian, fisheries, special status species, water quality, water based recreation, hunting, trail system for hiking, biking, horseback riding and OHV use, camping, cultural and historical interpretation and facility development that goes on to establish non-impairment standards for a portion of the area. As with the ACEC's, here again is an attempt to layer restrictions and management to circumvent multiple use requirements and manage to a non-impairment standard. Protection of scenic vistas, enhancement of resources, riparian, fisheries, special status species and water quality are not recreational use and are already protected under other proposed management prescriptions, law or regulation. They have no place in an SRMA.	Scenic vistas (including riparian corridors), fisheries, special status species, and cultural/historical sites are all resources that contribute significantly to the recreational uses of the area. As such, management for these resources is appropriate within a SRMA. While other regulations may provide a measure of protection for such resources, they do not provide a comprehensive strategy that manages the resources for the maintenance and enhancement of recreational opportunity.	No
Draft RMP/EIS	SD383 (SO32a)	There is no analysis of the impacts on RFD or socioeconomic impacts from the proposed Nine Mile Canyon SRMA.	There is no requirement in NEPA to do the detailed analysis that the commenter demands. This is outside the scope of the RMP and EIS. Section 4.12 of the PRMP/FEIS states: "If impacts to some aspect of the socioeconomic situation are not mentioned in this analysis, then a negligible effect should be assumed."	Yes

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
Draft RMP/EIS	SO21	The draft attempts but falls short of analyzing the socioeconomic impacts of Lands and Realty, Forage, Minerals, and Recreation and OHV decisions. Notably missing is an economic analysis of the lost shared mineral revenue from federal lands that have an economic impact on the community as well as other mineral sharing programs within the state. Socioeconomic impacts must be reanalyzed and the results used to reassess impacts of proposed management decisions and a preferred alternative selected based on this new analysis.	The anticipated socioeconomic impacts of each alternative can be found in Section 4.12.3 and its subsections. Further qualitative and quantitative clarifications have been provided in the PRMP/FEIS.	No
Draft RMP/EIS	VI26	We are concerned about the lack of real discussion in the Draft EIS about the management of visual resources. The proposed management prescriptions laid out on page 2-62 do nothing more than indicate the aggregate amount of acreage to be managed in each VRM management class. The management "common to all" discussion on page 2-36 indicates only, in one simple sentence, that the objectives for each specific visual resource management class, outlined in BLM Handbook H-8410-1, and repeated on page J-3, would be implemented.	Table 2.1.24 (Visual Resource Management) of the PRMP/FEIS Section 2.4.16.1 identifies the Goals and Objectives for visual resource management. Section 3.17 provides a discussion of the affected environment regarding visual resources. Section 4.17 provides a discussion of the environmental consequences for visual resources.	No
Draft RMP/EIS	VI27	We are concerned about the apparent lack of an updated visual inventory. This ties in with the rationale for the "Sensitivity Level Analysis" required by BLM Manual Handbook H-8410-1.III.A. - Factors to Consider. Many of these factors change over time, and a simple rollover of an older inventory would not accurately reflect these adjustments. In addition, the lack of updated inventory information makes interpretation of the differences between the inventory and management classes impossible to	See comment response VI7A. Some major travel corridors were elevated in their visual sensitivity, (which is one of the criteria in visual sensitivity rating), because of the increase in use and visitation. Two areas were re-inventoried because of both the dramatic increase in oil and gas activity and the perceived increase of both user numbers and attitude perception toward natural landscapes. As a result	No

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		determine. The draft RMP needs to fully explain how the visual inventory was accomplished, so that differences in visual management prescriptions proposed in the various Alternatives may be compared to the inventory classes. This indicates to the reader exactly how the VRM management classes are assisting in the resource management goals of each Alternative.	of the re-inventories, both areas were elevated in VRM rating as seen in Figures 29 and 32 which are reflected in Alternatives A and D respectively. The alternatives provide a range of VRM classification from which management can select from for the final RMP and the VRM classification within the final RMP will be consistent with general overall management direction.	
Draft RMP/EIS	VI28	The maps on Figures 29-32 are hard to interpret concerning the VRM management classes, as the figures are not specific enough to determine the exact geographic location of most of the boundary lines. Because of this, the counties cannot determine if the criteria for VRM inventory have been correctly followed, and exactly where, on-the-ground, the BLM proposes to change management from one class to another, except for certain geographical areas which fully correspond to other proposed management designations.	The BLM acknowledges that the scale of Figures 29-32 may not provide sufficient detail to delineate VRM boundary lines for the various classifications; however, electronic files are well defined and provide sufficient detail.	No
Draft RMP/EIS	VI29	The draft RMP purports to discuss the impacts of various resource management decisions on visual resources, but, in actuality, this discussion is either misleading or circular and non-responsive. As an example of a misleading statement, the discussion of VRM resources on pages 3-117 to 3-118 lays out the management criteria and requirements for the four VRM management classes. The discussion indicates that currently the only areas in the VFO managed as VRM management class I are Wilderness Study Areas, and one WSA equivalent, an Instant Study Area. It continues by stating that minerals exploration	Minerals exploration and development are presently occurring in areas not designated has high VRM classes but in areas of lower VRM classification (Class IV to be specific—see Figure 32), where greater levels of visual intrusion are tolerated. Smaller areas are designated as VRM Class III and Class II, wherein slightly higher restrictions on visual alteration exist and visual mitigation measures are used. As such, the DEIS statements referenced in the document are not contradictory. Under Alternatives A and C, changes in VRM classification across the VFO	No

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		and development "is not presently exceeding VRM class objectives" throughout the Vernal Field Office, due to proper visual mitigation methods. Yet on page 4-122 the document indicates that VRM management classes I and II "allow little or no alteration to the line, form, color and texture that characterize the existing landscape," thereby raising the potential for greater impacts to minerals development. On page 4-123, the analysis clearly states that an increase in the number of acres of VRM Classes I and II would lead to a direct decrease in the number of available well locations, thereby leading to less production (and royalties). We ask for clarification of the correct standards for VRM management in the VFO, and that the VFO analyze VRM I and II designations as a possible withdrawal of the mineral resources.	would increase the number of acres under Class I and II designation (with more VRM Class I under Alternative C than A). More of these VRM Class I and II areas would overlap with areas desirable for minerals and energy exploration and development. As such, under these alternatives, there would be greater impacts on minerals and energy development through increased restrictions related to visual resources management.	
Draft RMP/EIS	VI30	We are concerned that the draft RMP is not specific about the sources and goals of many of the special management designations available to it, leading to circular and non-responsive reasoning in the analysis. For example on page 4-284 the impacts analysis for visual resources and special designations indicates that visual resources will be protected by designation of ACECs and Wild and Scenic River designations. This analysis proceeds under the general presumption that ACECs and WSR segments are "good" for visual resources, but fails to indicate the management prescriptions which actually accomplish this goal.	Table 2.1.18 (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS provides information about the management foci for each proposed ACEC or special designation. Many of these foci, such as controlling noxious weeds, limiting OHV use to designated routes, and establishing controlled surface use stipulations on minerals and energy exploration and development would reduce visual intrusions and alteration of the landscape. Such an outcome would be beneficial to the preservation of visual resources. Also, designation under the Wild and Scenic Rivers Act and through the ACEC process confers a level of resource management that protects and preserves the important and relevant values of an	No

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

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			area from the potential effects of actions that would otherwise be permitted by the RMP. In general, emphasis is given to protecting the aesthetic, scenic, wildlife, historic, archaeological, unique or distinctive, and/or scientific features of these areas.	
Draft RMP/EIS	VI31	Which designation - ACEC, WSR, SRMA or VRM management - is being proposed for the protection of visual resources? The VRM discussion mentions the others, while the ACEC discussion mentions the use of VRM classifications. This lack of clarity in proposed management prescriptions doesn't meet the requirements of full disclosure under the provisions of NEPA, and doesn't allow us to determine whether or not the BLM is proposing duplicate prescriptions, contrary to the provisions of state law, and the BLM's Manual on designation of ACECs.	Visual resources benefit from a variety of different special management designations, not just VRM classification. While VRM classification is specific to visual resources, ACEC, WSR, and SRMA designation can also consider visual resource values, and the management goals of such designations typically include actions that afford protection to visual resources as an ancillary benefit. Overlapping of program decisions is not optional for BLM, but is required by the FLPMA, 1976 and National BLM planning and program specific regulations. The FLPMA directed that management of public lands be on the basis of multiple use (Section 102(a) (7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing land uses and to resolve conflicts and prescribe land uses through its land-use plans. For example, 43 CFR Group 2500 provides guidance and requirements for Disposition; Occupancy and Use of public lands; Group 2800 for Rights-of-way; Group 3400 for Coal Management; Group 6000 for Designated Wilderness, and Group 8200 for Natural History, part 8351 for Wild and Scenic Rivers. Multiple-use management requires a balancing of the	No

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

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			mandates for these separate programs. BLM's Land-use Planning Handbook requires that specific decisions be made for each resource and use (Appendix C, H-1601-1). The required decisions must be included in each of the alternatives analyzed during development of the RMP. The RMP will include the decisions required for each program. See comment response VI29.	
Draft RMP/EIS	VI32	The counties and State of Utah cannot support any proposed VRM class management specifications that will prevent habitat enhancement, fuels reduction, and prescribed fire activities from occurring in the VFO. The RMP must choose VRM management classes which allow vegetation and habitat treatments that improve wildlife habitat and reduce the likelihood of catastrophic fire events.	The BLM is aware that there are specific County and State plan decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, the BLM is bound by Federal law. The FLPMA requires that the development of an RMP for public lands must be coordinated and consistent with County plans, to the maximum extent possible by law, and inconsistencies between Federal and non-Federal government plans be resolve to the extent practical (FLPMA, Title II Sec. 202 (c)(9)). As a consequence, where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved or reconciled. Thus, while County and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to County plans, planning processes, or planning stipulations. The BLM will identify	No

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

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			these conflicts in the FEIS/PRMP, so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options. A consistency review of the PRMP with the State and County Master Plans is included in Chapter 5. See also comment response VI1. No VRM classification precludes limited management actions, which may include fuels reductions, prescribed fire, and/or habitat enhancements. VRM Class I and II require that these management activities be conducted in ways that have minimal impact on visual resources over the long term.	
Draft RMP/EIS	VI33	The VRM I proposed for primitive recreation values is not shown on map 29. A shape file recently received from the BLM indicates that this is an area on the south side of the river and appears to be the entire north slope of the mountains that make up the visual barrier when looking south from the river. The majority of the area proposed as a VRM I are within full view of the Taylor Flats subdivision and in some cases less than a mile from it. The area is also within sight and sound of recreational activities, and vehicle traffic along the river and residential activity on Taylor Flats, which has been divided into one thousand lots. The existing uses of [the area's classified as VRM I], and the fact the area receives very little recreational use, demonstrates poor analysis of need and planning for this proposal and	The West Cold Springs and the Diamond Breaks WSAs are protected by VRM class 1. This is not associated with the Taylor Flat area.	No

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Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		should be struck from all alternatives.		
Draft RMP/EIS	VI34	As with other VRM classes proposed in the area, a VRM I here would prevent needed wildlife habitat improvement in an area BLM has proposed to protect crucial habitats.	See comment response SD99.	No
Draft RMP/EIS	VI35	The proposal to establish a VRM I here is counter to direction provided in BLM's VRM handbook which provides that a VRM I is only to be applied where previous management decisions have been made to manage an area for it's natural landscapes such as wilderness areas. A VRM I has also been applied to the two WSA's in the area. These are inappropriate as they are inconsistent with provisions of the IMP, which guide management of WSA's. There are uses allowed in the IMP that would be prohibited under a VRM I.	See comment response VI1D	No
Draft RMP/EIS	VI36	In all alternatives this area is to be managed as a VRM II. Neither the DEIS/RMP nor the AMS justifies the need for change from the VRM III and VRM IV that is currently applied to the area. The condition of the area at this time would support that the current VRM III and VRM IV adequately protect the area.	BLM visual inventories use scenic quality and visual sensitivity to evaluate the visual resource condition of an area. As described in BLM Handbook H-8410-1 Visual Resource Inventory, a more protective VRM Class may be assigned to an area if the VRM inventory process determines that an area has become more visually sensitive and management decisions have been made to preserve or maintain the area's landscape and scenic quality. See comment response VI14.	No
Draft RMP/EIS	VI37	A VRM II applied to this area is inconsistent with existing developments and uses within the area and ignores the existence of road and utility corridor that	This statement merely refers to the fact that the BLM does not have the authority to impose restrictions on non-Bureau landholders within	No

Table 5.12f. Public Comments and Responses: Duchesne, Uintah, and Daggett Counties (Collaborative Comments)

Comment Period	Comment Number & Resource Category	Comment Text	Response to Comment	Document Modified
		crosses it. Much of the area is private or state land, which BLM does not control. There is a strong possibility that private property rights would be impacted. There is a possibility on need for holders of water rights to develop those rights or to construct or reconstruct diversions for those rights; in many cases a VRM I or II could impact those rights.	areas that contain VRM I or II designation, nor does it have the authority to usurp legal water rights.	
Draft RMP/EIS	WH24	The expansions of the HMAs are proposed without proper analysis of need, the availability of forage, manageability of impacts on vegetation, soils and riparian areas and impacts on wildlife and their habitats.	The Wild Horse and Burro Act authorizes the BLM to manage Wild Horses on public lands. Table 2.1.25 of the PRMP/FEIS outlines the management goals and measures that would be implemented under the alternatives in order to appropriately manage wild horse herds relative to forage availability and quality. The potential impacts of wild horse management decisions on vegetation, soils, riparian areas, and wildlife are discussed in Sections 4.11.2.2, 4.13.2.2, 4.16.2.14, and 4.19.2.13, respectively.	No

Table 5.13a. Comments Requiring a Change in the Document: Adequacy and Analysis

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	US EPA	G-6	47	Table 4-1, Disturbance Assumptions, page 4-3: The basis assumption is that surface disturbance can be reclaimed within one year after completion of operations. Soil conditions, annual precipitation, and presence or absence of invasive plant species may lengthen reclamation time significantly.	The sentence has been rewritten as follows: Interim reclamation will occur on 0.9 acres of surface disturbance within 1 year after completion of operations.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SD130	The analysis indicates that ACECs may benefit from "fire resources, soil and watershed actions, and vegetation resources (including riparian areas and woodlands)," yet be negatively affected by mineral activities and OHV use. No explanation is given for these statements. Vegetation, fire, and soil treatments may affect the appearance of the land as much as mineral development, yet the end result is healthier vegetation. The bias against mineral development is evident, because no mention is made concerning the balance of uses which results in the extraction of resources useful to society versus the potential benefits of the ACEC, and because the analysis fails to	The distinction between fire resources, soil, watershed, and vegetation management actions and minerals activity and OHV use is that changes to the character of the landscape, including visual appearance, for the former category of actions are of far shorter duration and more consistent with the management objectives of ACECs than those of the latter category of actions. Also, see Response to Comment SD125-G-1.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				recognize the effect of proper mineral mitigation measures upon the ultimate effect on the relevant and important values. The state requests the BLM revisit these superficial analyses, consider mitigation part of the determination of effect, and consider the balance of uses as required.	
Draft RMP/EIS	State of Utah	G-1	SD143	The discussion of the relevant and important values of the proposed Nine Mile Canyon ACEC is inadequate in that it does not provide an actual description of said values, but rather it offers merely a recitation of the regulatory requirements for the nature of those values. How are these values significant in a regional context? What specifically are the qualities to be protected and managed through the ACEC?	The inconsistencies in cited relevant and important resource values have been corrected. Appendix G contains the correct list of values.
Draft RMP/EIS	State of Utah	G-1	SD168	Section 3.14.2.1 on page 3-80 discusses the Coyote Basin ACEC. Black-footed ferrets were released in 1999 under 10j status designation. However, this section is vague on that point. It only mentions ferrets as being raised for release but does not mention that ferrets are already successfully reproducing in the wild. The document fails to mention that the UDWR is also cooperating with the Vernal BLM and Utah State University in continuing the research project relating to the recovery of black-footed ferrets.	Chapter 3 in the PRMP/FEIS has been revised to clarify 10j status of black-footed ferrets in Coyote Basin.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SD320 (JSD-60)	Please change this section to state: "Manage to protect high value wetland, wildlife,	Table 2.1 (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS has been revised to implement the suggested change.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				and plant habitat resources," On page 3- 79, Table 3.14.1, it is stated for Pariette Wetlands that this is "Special status bird and plant species' habitat, a wetlands ecosystem, Significant population of the federally threatened plant species Sclerocactus glaucus."	
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SD322 (JSD-62)	The section on "Currently Designated ACECs" states that the management relevance and importance criteria (which include plan fish, and wildlife resources) are detailed in Chapter 3 of the Diamond Mountain RMP and ROD. As Chapter 3 of the Diamond RMP and ROD document provides little discussion on ACECs, their management relevance and importance, this discussion needs to be fully presented and expanded within this current RMP/EIS.	The inconsistencies in cited relevant and important resource values have been corrected. Appendix G contains the correct list of values.
Draft RMP/EIS	UBAOG	G-22	SD32	VRM Classes 2 and 3 are proposed here without discussion of need and what they are intended to protect. Approximately one half of the ACEC is VRM Class 2 and the other half Class 3. Given the definition of VRM Class 2 which states: "A low level of change in landscape characteristics, and activities not attracting the attention of the casual observer," it appears this would prevent development of existing leases and also on future leasing. The impacts to oil & gas and other permittee's was not analyzed or disclosed. The impacts of a VRM II must be analyzed in Chapter 4 and reflected in reasonable foreseeable	Based on the analysis of and response to the public comments, BLM has changed the proposed VRM classes to be more consistent with overall management objectives.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				development, and be analyzed to insure they are the least restrictive necessary. As written it implies that the area would be open to oil and gas leasing subject to standard lease terms or controlled surface use. Oil and gas leasing and development are two different things given the fact that much of this area is VRM II. Being able to develop a lease in the majority of the area described here is questionable at best and not analyzed.	
Draft RMP/EIS	UBAOG	G-22	SD38	When Alternative D includes an ACEC designation in the Lower Green River Expansion of only 1,700 acres less than Alternatives A and C, how could Alternative D "not have the benefits" described for Alternatives A and C? It should provide the same benefits but to a slightly lesser degree.	Chapter 4 in the PRMP/F EIS has been revised to indicate that Alternative D would have lesser benefit than Alternatives A, C, and E.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-24	SD89	It is proposed to designate 98,000 acres in Nine Mile Canyon as an ACEC. As written the alternative proposed here fails to clearly show that the Lears Canyon ACEC is included in the Nine Mile Canyon ACEC proposed in Alternative C and D.	Table 2.1 (Special Designations – Areas of Critical Environment Concern (ACECs)) of the PRMP/FEIS has been revised to show that Lears Canyon ACEC is a separate and not part of the Nine Mile Canyon ACEC for all alternatives.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-24	SD93	The DEIS fails to analyze management decisions [for the Nine Mile Canyon ACEC] to insure they are the least restrictive yet protect identified and substantiated values as required by EPCA.	Appendix G in the PRMP/FEIS has been revised to clarify the relevance and importance of the Nine Mile Canyon ACEC.
Draft RMP/EIS	J.C. Brewer	I-111	SD215 (SD-JJ)	Black-footed ferrets were introduced in Coyote Basin under 10-J status and do not require special protections. The population of prairie dogs is not being threatened by current	Section 3.14.2.1 in the PRMP/FEIS has been revised to clarify 10j status of black-footed ferrets in Coyote Basin.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				activities. All other values listed under Alternative A, B or C can be achieved by other means. This proposed ACEC does not meet the test of Relevance under 43 CFR 1610.7-2. Drop from further consideration.	See Appendix G for additional information on the relevance and importance of this proposed ACEC.
Draft RMP/EIS	Questar	O-12	SD329 (LSD-4)	The DEIS does not contain sufficient information to explain why the Nine Mile Canyon Expansion ACEC was created and why this area is more restricted under Alternative A than under B or D. There is no explanation of the 'importance criteria' for this area.	The inconsistencies in cited relevant and important resource values have been corrected. Appendix G contains the correct list of values.
Draft RMP/EIS	IPAMS	O-14	SD329 (LSD-4)	The DEIS does not contain sufficient information to explain why the Nine Mile Canyon Expansion ACEC was created and why this area is more restricted under Alternative A than under B or D. There is no explanation of the 'importance criteria' for this area.	The inconsistencies in cited relevant and important resource values have been corrected. Appendix G contains the correct list of values.
Draft RMP/EIS	IPAMS	O-14	SD331 (LSD-6)	No support is given for the statement that the Coyote Basin ACEC provides a 'crucial habitat' for special species	Appendix G in the PRMP/FEIS has been expanded to include more information for the rationale behind proposed ACECs.
Draft RMP/EIS	EOG Resources	O-17	SD200 (SD-V)	Alternative A would designate acreage along the White and Green River corridors as ACECs to protect unique geologic and high-value riparian areas. With closures in large portions of this proposed ACECs, oil and gas development would be precluded from potentially thousands of acres; however, EOG is not sure about the specifics impacts as no mapping or description of the dividing line between the western and eastern parts is presented.	Figures 22-24 in the PRMP/FEIS have been revised to show the boundaries of both the old and current ACECs for the different alternatives. A written description of the ACEC areas is described in Appendix G.
Draft	EOG	O-17	SD211	Under Alternative B, the Nine Mile Canyon area	See Response to Comment SD50-G-25.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	Resources		(SD-FF)	would continue under the current program. There are current and existing laws and procedures in place to protect cultural resource areas. Therefore, additional protection is unwarranted. The analysis needs to address the detrimental impacts that implementation of these alternatives would have on oil and gas development.	Chapter 4 in the PRMP/FEIS has been revised to clarify the anticipated impacts of special designations on minerals and energy development.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SD381 (ME-CCC)	Appendix K states that the 71,000-acre Bitter Creek ACEC is established to protect 71,000 acres containing pinyon pines. This acreage differs from the 68,834 acres designated as the potential Bitter Creek ACEC on page 3-81 of the draft RMP/EIS. Please correct.	The Proposed RMP/Final EIS has been revised to correct acreage amounts or rationale provided for the differences.
Draft RMP/EIS	Julander Energy	O-34	SD288 (JSD-32)	There is no discussion of white-tailed prairie dogs or black-footed ferrets in this appendix, though there is a lot of discussion of various spatial and seasonal restrictions for raptors. This is further evidence that the BLM is not proposing any special management for white-tailed prairie dogs and that ACECs are not justified.	Appendix K has been revised in the PRMP/FEIS to include additional prescriptions.
Draft RMP/EIS	Center for Native Ecosystems	O-38	SD260 (JSD-4)	Prescriptions for the Coyote Basin ACEC are vague. Noxious weeds would be controlled but the primary weed in this area is cheatgrass, and we are unaware of any effective control strategy. Natural fire regimes would be restored, but we are not sure how this will be possible since it is overrun with cheatgrass, which alters fire regimes and is often better able to out-compete natives after fire. Page 4-232 says prescribed burns would take place in	Table 2.1 (Special Designations – Areas of Critical Environmental Concern (ACECs)) has been revised to clarify the prescriptions for the Coyote Basin ACEC under the various alternatives.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				desert shrublands, but also says fire won't take place in black–footed ferret habitat, which is confusing. The main special management that could benefit prairie dogs (the reason for ACEC designation) consists of "implementing actions to maintain or enhance…habitat". What ARE the actions? What about prohibiting actions that reduce habitat? Instead, BLM proposed to continue to lease habitat with standard lease terms, or perhaps with timing limitations, but does not spell out what the stipulations would be in place where.	
Draft RMP/EIS	Enduring Resources	O-40	SD177 (JPR-2) SD-Temp1	NEPA and BLM policy require that the BLM make available for public comment the information upon which the decision to designate ACECs were reached, including the underlying analysis for the proposed and existing.	Information on the evaluation and determination of ACEC designations was provided in Appendix G of the Draft RMP, which was available for public review and comment. The information in this appendix has been expanded in the PRMP/FEIS. Additional opportunities for public input were provided during the scoping process as well as the public comment period for the Vernal Supplement to the DRMP and EIS. Section 4.21.2.9 and Table 4.21.2 discuss ACECs.
Draft RMP/EIS	Utah Petroleum Association	O-42	SD305 (JSD-47)	The proposed Lower Green River ACEC Expansion fails to meet regulatory criteria of importance and relevance. There is no documentation in Chapters 3 or 4, or in Appendix G, that verifies that this area has "substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable exemplary and unique". Appendix G states that the significance of these importance resources	See Responses to Comments SD14-G-13,SD27-G-22. Additional information has been added to Appendix G and Chapters 3 and 4 to clarify the proposed Lower Green River Expansion ACEC.

Table 5.13b. Comments Requiring a Change in the Document: Areas of Critical Environmental Concern

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<tr><th>Comment Period</th><th>Commenter Name</th><th colspan="2">Comment Number & Resource Category</th><th>Comment Text</th><th>Response to Comment</th></tr>
<tr><td></td><td></td><td></td><td></td><td>has been recognized (no citation given). Without such supporting documentation, this area should be eliminated from consideration as an ACEC. Figure 22 shows many areas of overlap in current and proposed ACECs. This is inconsistent with the text in the RMP, since the stated goal is not to re-propose or layer additional restriction onto the existing ACEC areas within the planning area.</td><td></td></tr>
<tr><td>Draft RMP/EIS</td><td>Utah Petroleum Association</td><td>O-42</td><td>SD306 (JSD-48)</td><td>The RMP should include a table that clearly identifies the stipulations for each proposed ACEC under all the alternatives. The table should approximate the following:
<table>
<tr><td></td><td>Standard</td><td>T&CSU</td><td>NSO</td><td>closed</td></tr>
<tr><td>ACEC1</td><td></td><td></td><td></td><td></td></tr>
<tr><td>ACEC2</td><td></td><td></td><td></td><td></td></tr>
<tr><td>etc</td><td></td><td></td><td></td><td></td></tr>
</table></td><td>This information has been added to the Final EIS.</td></tr>
<tr><td>Draft RMP/EIS</td><td>Utah Petroleum Association</td><td>O-42</td><td>SD309 (JSD-50b)</td><td>Appendix K states that the Bitter Creek ACEC is 71,000 acres. Page 3-81 says it is 68,834 acres. Please correct this contradiction.</td><td>The Proposed RMP/Final EIS has been revised to correct acreage amounts or rationale provided for the differences.</td></tr>
<tr><td>Draft RMP/EIS</td><td>Westport Oil and Gas Co.</td><td>O-44</td><td>SD296 (JSD-40)</td><td>Even if ACEC designation was supported, BLM has not provided the requisite legal or factual support for the management actions it has proposed. The draft RMP does not adequately describe the Coyote Basin management requirements, and the limited management descriptions provided are inappropriate and unnecessary for the protection of the white-tailed prairie dog in the White River corridor. The RMP fails to provide information as to</td><td>See Responses to Comments SD27-G-22, SD8-G-9,

The white-tailed prairie dog is considered a sensitive species under IM 2007-078 and BLM Manual 6840 provides guidance that does not allow actions that would lead to listing. In addition, the 1999 Black-footed Ferret Reintroduction Plan Amendment and those portions of the Cooperative Plan for the</td></tr>
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				resource use limitations, particularly with respect to oil and gas production. The RMP indicates that the appendices list all the surface use stipulations in the Vernal Planning area. However, Appendix K does not contain any timing limitation stipulation or controlled surface use stipulations for white-tailed prairie dogs. BLM needs to address this.	Reintroduction and Management of Black-footed Ferret in Coyote Basin, Uintah County, Utah that are consistent with this plan amendment affords mitigation to the white-tailed prairie dog. Appendix K has been modified to incorporate mitigating measures for the white-tailed prairie dog.
ACEC NOA	The Wilderness Society	O-1	6	BLM did not recognize the economic benefits to be gained from designation of ACECs. In considering the designation of ACECs, BLM did not adequately recognize either the potential benefits to local economies from protecting these areas or the potential costs from permitting oil and gas and ORV use to continue at the expense of protecting special places. In fact, in discussing socioeconomic analysis, the Draft RMP/EIS did not discuss this aspect of ACEC designation at all. See, DEIS, Sections 3.12 and 4.12.	Information on the economics of designation of ACECs had been added to the Socioeconomic section of Chapter 4.
ACEC NOA	Uintah County Commission	G-2	6	The counties are concerned that the draft RMP is not specific about the sources and goals of many of the special management designations available to it, leading to the circular and non¬responsive reasoning in the analysis. For example, on page 4-284, the impacts analysis for visual resources and special designations indicates that visual resources will be protected by designation of ACECs and Wild and Scenic River designations. This analysis proceeds under the general presumption that ACECs and WSR segments are "good" for visual resources, but fails to indicate the management prescriptions	The PRMP/FEIS has been revised to include the Proposed RMP that reflects the selection of management direction from all alternatives to mitigate impacts to resources "Layering" is planning tool. Under FLPMA's multiple-use mandate, the BLM manages many different resource values and uses on public lands. Through land-use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple-use concept, the BLM does not necessarily manage every value

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				which actually accomplish this goal. On page 4-280 under a discussion of recreation, the draft RMP indicates that the designation of Special Recreation Management Areas would benefit scenic quality by "limiting surface-disturbing activities". On the other hand, the explanation of management prescriptions for the proposed Bitter Creek ACEC indicates possible use of three of four existing VRM categories. Which designation ¬ACEC, WSR, SRMA or VRM management - is being proposed for the protection of visual resources? The VRM discussion mentions the others, while the ACEC discussion mentions the use of VRM classifications. This lack of clarity in proposed management prescriptions doesn't meet the requirements of full disclosure under the provisions of NEP A, and doesn't allow counties to determine whether or not the BLM is proposing duplicate prescriptions, contrary to the provisions of State law, and the BLM's Manual on designation of ACECs, as discussed above.	and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering". The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land-use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. Not all uses and values can be provided for on every acre. That is why land-use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses are considered to determine what mix of values and uses is responsive to the issues identified for resolution in the land-use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations. The FLPMA directs BLM to manage public lands for multiple use and sustained yield (Section 102(a)(7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing

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					land uses and to resolve conflicts and prescribe land uses through its land-use plans. The BLM's Land-use Planning Handbook requires that specific decisions be made for each resource and use (See, Appendix C, Land-use Planning Handbook "H-1601-1"). Specific decisions must be included in each of the alternatives analyzed during development of the land-use plan. As each alternative is formulated, each program decision is overlaid with other program decisions and inconsistent decisions are identified and modified so that ultimately a compatible mix of uses and management prescriptions result.
ACEC NOA	Uintah County Commission	G-2	2	Similarly, on page 4-203, the draft RMP indicates the lack of designation of some potential ACECs may place the relevant and important values "at some risk of irreparable damage during the life of the plan". This statement is completely backward. BLM must make a determination that a threat of irreparable damage from some authorized multiple-use activity exists, and is directed toward the identified relevant and important value in order to complete the fundamental requirements for an ACEC.	The ACEC evaluation appendix (Appendix G) was modified, and a section added to Chapter 2 discussing threats to the relevant and important ACEC values; however, whether the threats currently exist does not preclude a potential ACEC from being considered in the action alternatives. All nominated areas, where the BLM has determined to have relevant and important values, are identified as potential ACECs and are addressed in the action alternatives. Threats to relevant and important values are likely to vary by alternative. The PRMP/FEIS was revised from the draft document to better address potential threats and impacts associated with each alternative. On August 27, 1980, the BLM promulgated final ACEC guidelines (45 Federal Register 57318) clarifying the term "protects" – "To defend or

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					guard against damage or loss to the important environmental resources of a potential or designated ACEC. This includes damage that can be restored over time and that which is irreparable. With regard to a natural hazard, protect means to prevent the loss of life or injury to people, or loss or damage to property." Thus, BLM is to consider the potential for both reparable and irreparable damage when protecting important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems through ACEC designation. This interpretation is consistent with FLPMA's legislative history and implementing policy. Section 2 of the guidelines clarifies that ACECs are special places within the public lands. It states: "In addition to establishing in law such basic protective management policies that apply to all the public lands, Congress has said that 'management of national resource lands [public lands] is to include giving special attention to the protection of ACECs, for the purpose of ensuring that the most environmentally important and fragile lands will be given early attention and protection' (Senate Report 94-583, on FLPMA). Thus, the ACEC process is to be used to provide whatever special management is required to protect those environmental resources that are most important, i.e., those resources that make certain specific areas special places, endowed by nature or man with characteristics that set them apart. In addition, the ACEC process is to be

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					used to protect human life and property from natural hazards."
ACEC NOA	IPAMS	B-3	12	We have also noted that the draft RMPEIS does not contain any discussion, in Chapter 4, Section 4.8 (Minerals and Energy Resources), on the effects of designation of new ACECs on mineral leasing and development. Since the impacts of the additional stipulations for ACECs would be exceptionally restrictive, a discussion of the impacts to mineral development from designation of new ACECs must be included in Chapter 4 of the RMP/EIS.	This information has been added to the Special Designations section of the PRMP.
ACEC NOA	IPAMS	B-3	11	The RMP should include a table (that shows the oil and gas leasing stipulations for each ACEC), similar to the one included below, that clearly identifies the stipulations for each proposed ACEC under all alternatives.	This information has been added to the Special Designations section of the PRMP.
ACEC NOA	IPAMS	B-3	10	Figure 22 (Special Designations – Alternative A) shows many areas of overlap in current and proposed ACECs. This is inconsistent with the text in the RMP since the stated goal is not to re-propose or layer additional restrictions onto the existing ACEC areas within the planning area.	The BLM has separate policies and guidelines, as well as criteria, for establishing ACECs and WSAs. These differing criteria make it possible that the same lands will qualify as both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies. The values protected by WSA management prescriptions do not necessarily protect those values found relevant and important in ACEC evaluation, and vice versa. The relevant and important values of ACECs within or adjacent to

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					WSAs were noted in the ACEC Evaluation (Appendix I). The ACECs are evaluated and ranked based on the presence or absence of the stated relevant and important values. None of these values includes wilderness characteristics. Additionally, the management prescriptions for the ACECs is limited in scope to protect the relevant and important values, and the BLM maintains that the size of the ACEC areas is appropriate for protection of the relevant and important values identified. The Proposed RMP has been inserted into the PRMP/FEIS to more easily understand differences between the Propose Plan and the alternatives analyzed.
ACEC NOA	IPAMS	B-3	9	The 'importance criteria" given in the draft RMP for the Lower Green River Expansion ACEC state that the relevant values "have substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable, exemplary, and unique." There is no documentation in Chapter 3, 4 and Appendix G, of any documents that verify these qualities. Appendix G also states that the significance of these important resources has been recognized (no citation is given). Without any supporting documentation for these statements in the draft RMP, therefore the Lower Green River Expansion ACEC should be eliminated from consideration as an ACEC.	The Proposed RMP did not designate the nominated Lower Green River Expansion area as an ACEC. The Nine Mile Canyon Expansion was not designated. Chapter 4 has been revised to include protective measures that protect relevant and important resources.
ACEC NOA	IPAMS	B-3	7	The 'importance criteria" given in the draft RMP for the Nine Mile Canyon Expansion ACEC state that the relevant values "have	The Proposed RMP continues the designation of the existing Nine Mile Canyon ACEC that was carried forward from the Diamond Mountain

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable, exemplary, and unique." There is no documentation in Chapter 3, 4 or Appendix G, of any relevant documents that verify these qualities. Appendix G also states that the significance of these important resources has been recognized (no citation is given). The draft RMP does not contain adequate data to support the designation of the proposed ACEC. Without any supporting documentation of the draft RMP of the "importance" of this area, the Nine Mile Canyon Expansion ACEC should be eliminated from consideration as an ACEC	Resource Area RMP of 1993. The Nine Mile Canyon Expansion was not designated. Chapter 4 has been revised to include protective measures that protect relevant and important resources.
ACEC NOA	IPAMS	B-3	6	The USFWS requires that black footed ferret surveys be conducted prior to commencing construction and drilling operations in prairie dog colonies, provided that a minimum of 200 acres of white-tailed prairie dog colonies with a minimum density of 8 burrows/acre are present (U.S. Fish and Wildlife Service 1989). It is not indicated in the draft RMP whether these purportedly critical areas meet the USFWS criteria, information that must be included in the RMP. The USFWS, BLM, and Utah DWR are closely monitoring the released black-footed ferret populations. Therefore, the white-tailed prairie dog and black-footed ferrets are more than sufficiently protected, and the overlapping restrictions that would result from designating an ACEC in the Coyote Basin are completely	The Proposed RMP does not designate the Coyote Basin or Coyote Basin Complex as an ACEC. Chapter 4 has been revised to include protective measures that protect relevant and important resources. The Proposed RMP continues the designation of the existing Nine Mile Canyon ACEC that was carried forward from the Diamond Mountain Resource Area RMP of 1993. The Nine Mile Canyon Expansion was not designated. Chapter 4 has been revised to include protective measures that protect relevant and important resources.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				unnecessary.	
ACEC NOA	IPAMS	B-3	5	Coyote Basin- Under Alternatives A and B the Coyote Basin ACEC would include 87,743 acres and 47,659 acres, respectively. The draft RMP claims this ACEC would protect a high value "critical" ecosystem for the white-tailed prairie dog and numerous special status wildlife species. No documentation is provided to verify that this area contains "critical" white-tailed prairie dog habitat and no mention is made that the US Fish and Wildlife Service decided against listing the white-tailed prairie dog as a threatened or endangered species because it was found to be in abundance and in no threat of extinction. In addition, page 3-80 states that this proposed ACEC provides "crucial habitat for the pronghorn, as well as for several special status species including the ferruginous hawk, peregrine falcon, sage grouse, long-billed curlew, grasshopper sparrow short-eared owl, big free-tailed bat, black-footed ferret, and ringtail cat." Many of these species occur throughout the West, which does not support the conclusion that the proposed ACEC provides "crucial habitat" for these species. In addition, no supporting data are provided to even support the assertion of the area provides crucial	The BLM used the scoping process to explore and objectively determine a reasonable range of alternatives that best addressed the issues, concerns, and alternatives identified by the public. As a result, five alternatives including Alternative E in the Supplement and the No Action Alternative (D) were identified further analysis. The management prescriptions and actions outlined in these alternatives consider various levels or degree of resource use or resource protection to give the public the ability to fully compare the consequences of each management prescription or action. The PRMP/FEIS has been revised to more easily identify the Proposed RMP and the different management prescriptions of each alternative.

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				habitat for these species.	
WSA Supplement	Duchesne County Commission	G-10	30	Page 4-104, Section 4.16.2.10.1: Alternative B seems to be left out of the analysis for the Coyote Basin and Four Mile Wash ACEC's.	The commenter is correct that the Alternative B analysis has been left out of the analysis. This will be updated in the Final EIS. Four Mile wash would not be designated under alternative B, and as a result would not impact, or would have the same impact as alternative D.

Table 5.13c. Comments Requiring a Change in the Document: Alternatives Development

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	AT100 (R-AT10)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Soil types and climatic variations would be major determinates to reclamation that would range from ten years or longer to permanent scarring of the landscape." There is no record of oil and gas development "permanently scarring" the landscape.	Section 4.14.3 in the PRMP/FEIS has been completely rewritten. The paragraph cited in the comment has been deleted. The suggested wording change is not longer applicable.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	AQ1	Table 3.2.5 Sensitive Areas to Be Considered in the Analysis: Brown's Park NWR and Ouray NWR are managed by the USFWS not the NPS.	Table 3.2.5 of the 2004 Air Report has been revised to clarify that the Brown's Park NWR and the Ouray NWR are managed by the USFSW and not the NPS.
Draft RMP/EIS	USFS—Ashley National Forest	G-19	AQ103	Please add existing deposition and lake ANC conditions relating to the High Uintas Wilderness to the Affected Environment discussion for the area, including the larger area considered in the cumulative effects analysis. The High Uintas Wilderness is in the same State defined airshed as most of the oil and gas development (www.utahsmp.net/GRAPHICS/UTAirs1.jpg).	Section 3.2.3 in the Final EIS has been revised to make some of the change(s) as suggested. The 4th paragraph of this section now reads as follows: "In addition to these requirements, the National Park Service (NPS) Organic Act requires the NPS to protect the natural resources of the lands it manages from the adverse effects of air pollution. In 1978, the US Forest Service (USFS) Air Monitoring Program was established to protect all USFS managed lands from the adverse effects of air pollution. In 1988, the USFS became a primary participant in the national visibility monitoring program titled Interagency Monitoring of Protected Visual Environments (IMPROVE). Starting with the enactment of the Regional Haze Rule, the USFS has provided regional haze monitoring representing all visibility-protected federal Class I areas where practical."
Draft RMP/EIS	USFS—Ashley National Forest	G-19	AQ140	There seem to be discrepancies between this table (which does not identify air quality concerns) and information in the Air Quality Assessment Report (Trinity, 8/04). For example: At least 1 day >5% would occur in the High Uintas Wilderness and Flaming Gorge NRA	Table 4.2.7 in the PRMP/FEIS has been revised so that it is consistent with the TSD. See comment response AQ134.

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				(p. 113,Trinity report) under all alternatives. The narrative (p. 110, Cumulative) states that, "Visibility for BLM sources only showed no impacts >1.0 deciview for any sensitive area. Some sensitive areas exceeded the 1.0 deciview threshold for inventory sources only and inventory plus BLM sources."	
Draft RMP/EIS	Utah DEQ – Division of Air Quality	G-31	AQ68	The DRMP-EIS incorrectly lists the UDAQ emission inventory data as the source information for the NAAQS table. Emission inventory data are not monitoring data.	Table 3.2.1 in the PRMP/FEIS has been replaced so that it now depicts Applicable Ambient Air Quality Standards instead of Ambient Air Quality Data.
Draft RMP/EIS	Utah DEQ – Division of Air Quality	G-31	AQ72	The following statement is incorrect: "The NAAQS represent maximum acceptable concentrations that generally may not be exceeded except annual standards, which may never be exceeded." Please refer to the applicable standard to determine the form of the standard, and to show if a violation has occurred. For example some standards are based upon three-year averages, and some standards are based on the 4th highest maximum concentration.	Section 3.2.3 in the PRMP/FEIS has been revised to read as follows: "Air quality in a given location is defined by pollutant concentrations in the atmosphere and is generally expressed in units of parts per million (ppm) or micrograms per cubic meter (µg/m3). One measure of a pollutant is its concentration in comparison to a national and/or state ambient air quality standard. The National Ambient Air Quality Standards (NAAQS) and Utah Air Quality Standards are health-based criteria for the maximum acceptable concentrations of air pollutants (with a margin of safety) at all locations to which the public has access. The NAAQS are established by the EPA and are outlined in the Code of Federal Regulations (40 CRF 50). An area that does not meet the NAAQS is designated as a nonattainment area on a pollutant-bypollutant basis. The State of Utah has adopted the

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					NAAQS as state air quality standards. In 2004, the EPA passed a suite of actions called the Clean Air Rules of 2004 aimed at improving America's air quality. Two of the rules, the Nonroad Diesel Rule and the Ozone Rules, will potentially improve the future air quality of the VPA."
Draft RMP/EIS	Utah DEQ – Division of Air Quality	G-31	AQ73	Table 3.2.2 is incorrect. The table implies that only a handful of emission sources are located in Daggett, Duchesne, and Grand and Uintah counties. Is this table referring to a certain size of emission sources? Please specify the criteria that were used to develop the table.	Table 3.2.2 (Emission Sources in the VPA) of the Draft RMP has been deleted from the PRMP/FEIS. The text that cited Table 3.2.2 (Section 3.2.4) has been revised to read as follows: "The VPA covers Daggett, Duchesne, and Uintah Counties and part of Grand County. Currently, emission sources within the VPA consist of mostly oil and gas development facilities and mining sites. There are also fugitive dust sources associated with these sites, construction activities and roadways. A detailed listing of emission sources in and around the VPA, along with information on how specific sources were addressed in the air quality modeling, is available the TSD (Trinity and Nicholls, 2006, tabular source information is found in Appendix C)."
Draft RMP/EIS	US EPA Region VIII	G-32	AQ86	Visibility. Section 4.2.2.6.7.4 explains that the screening analysis for visibility showed reduction in visibility at Class I areas due to BLM sources alone. The Technical Support Document is consistent with this statement. Table 4.2.7	Table 4.2.7 and the accompanying text in the PRMP/FEIS EIS have been revised to clarify the presentation of the results of the screening and refined visibility analysis.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

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				shows cumulative visibility impacts and combines results of the screening analysis with results of a refined analysis. BLM conducted a refined analysis in cases where the screening analysis showed impacts. An error in the text accompanying Table 4.2.7 refers to "the screening visibility analysis" and could lead the reader to believe that a screening analysis resulted in no perceptible visibility impacts. Table 5-65 of the Technical Support Document reveals the results of the screening analysis of cumulative visibility impacts. The analysis showed potential days of visibility reductions greater than 1.0 deciview (dv) at the Arches National Park Class I area (one day) and at the Class II Dinosaur National Monument (three days). (Additional days of reduced visibility were modeled for sources in the Glenwood Springs planning area. One of the three days of cumulative impact greater than 1.0 dv at Dinosaur National Monument resulted only when emissions from BLM sources were added to those of the inventory sources. In other words, the potential impact of the BLM sources tipped the balance and caused potential cumulative impacts to exceed 1.0 dv. Please revise the text accompanying table 4.2.7 to show that the screening analysis showed potential visibility impacts that disappeared in the refined analysis.	
Draft RMP/EIS	US EPA Region VIII	G-32	AQ89	Section 3.2.2, Baseline Air Quality page 3-4: According to the first sentence of section 3.2.2	Section 3.2.2 in the PRMP/FEIS has been revised to make the change(s) as suggested.

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				of the DEIS, the Vernal Planning Area is "designated as being in attainment" for the National Ambient Air Quality Standards. (Section 4.2 begins with a similar sentence. The area technically is "unclassifiable" in the case of PM10 and "unclassifiable/attainment" for other pollutants (see 40 CFR Part 81). Please revise this portion of the DEIS. Also, please revise "air-born" to "airborne."	This section now reads as follows: "The VPA is located in a region designated as unclassifiable for PM10 and unclassifiable/attainment for all other airborne pollutants [See 40 CFR Part 81] (L. Svoboda, EPA Region VIII, 2005)."
Draft RMP/EIS	US EPA Region VIII	G-32	AQ91	Section 3.2.4, Regional Air Emissions, page 3-5: This section of the DEIS generally describes the emissions inventory for the planning area. It covers point sources but does not mention such emissions as dust from construction activities and roadways, which were included in the modeling effort according to the Air Quality Assessment Report. Please revise this section to address fugitive dust emissions.	Section 3.2.4 in the PRMP/FEIS has been revised. See comment response AQ73 to view the revised text.
Draft RMP/EIS	US EPA Region VIII	G-32	AQ92	Section 3.2.4.2, National Ambient Air Quality Standards, page 3-4: Please revise the reference to NAAQS as "absolute" upper limits. Alternative wording could be: "The National Ambient Air Quality Standards (NAAQS) and Utah Air Quality Standards are health-based criteria for the maximum acceptable concentrations of air pollutants at all locations to which the public has access."	Section 3.2.4.2 in the PRMP/FEIS has been revised to make the change as suggested.
Draft RMP/EIS	US EPA Region VIII	G-32	AQ93	Section 4.2.2.4.1.1, Direct Effects of Prescribed Fire and Criteria Pollutants, page 4-10: Please correct the typographical error in	Section 4.2.2.5.1.1 in the PRMP/FEIS has been revised to make the change(s) as suggested.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

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				identifying carbon dioxide (CO2) as a criteria pollutant and include carbon monoxide (CO) as a criteria pollutant that wildland fires and prescribed fires emit.	
Draft RMP/EIS	US EPA Region VIII	G-32	AQ94	Air Quality – Technical Support Document (Air Quality Assessment Report). 1) National Park Service Reference. Please correct the date in the footnote to Table 3-24.	The footnote to Table 3-24 in the TSD has been revised to make the change(s) as suggested.
Draft RMP/EIS	US EPA Region VIII	G-32	AQ95	Air Quality – Technical Support Document (Air Quality Assessment Report). 2) Increment Comparison Results. The value for three-hour SO2 under "GMA BLM Sources Only" (Glenwood Springs Management Area) in Table 5-12 differs by an order of magnitude from the corresponding values in tables 5-13 through 5-16 and might be a typographical error. Please check this value and revise if necessary.	The TSD has been revised to make the change(s) as suggested.
Draft RMP/EIS	Vicki Stamper	I-99	AQ17	The Near-Field Analysis Used Different Compressor Stack Parameters than Used in the Far-Field Analysis, Which Likely Meant the NO2 Concentrations Were Underestimated in the Near-Field Analysis Table 3-19 (page 34 of the 2004 Air Report) shows the stack parameters used for compressors in the near-field analysis, and the parameters vary greatly from the compressor stack parameters used in the far-field analysis (see Table 3-10, page 23 of 2004 Air Report) or the parameters identified as typical for compressor engines in Table 3-4 of the 2004 Air Report (page 18 of 2004 Air	Table 3-19 of the 2004 Air Report has been revised to correct the errors. However, the modeling was done with the correct source parameters and does not need to be redone.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

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				Report). Specifically, the near-field analysis assumed a compressor stack height of 1.83 meters (m), an exit velocity of1.83 meters per second (m/s), ambient temperature of the plume (294.3 K), and a stack diameter of 0.13 m. The far-field analysis used stack parameters for compressors of 6.1 m stack height, 0.9 m stack diameter, 30 m/s exit velocity, and 755 K exit temperature, which appear to be much more appropriate for compressor engines. These differences could have resulted in lower modeled concentrations, and thus the modeling must be redone with the correct compressor engine stack parameters.	
Draft RMP/EIS	Vicki Stamper	I-99	AQ23	While the BLM placed receptors within close proximity to the road when only modeling impacts from the road, there were no receptors within the modeled well field area for the modeling assessment of all particulate matter impacts (i.e., due to roads, well construction, and operation). Because most of the particulate emissions are fugitive emissions, the highest impacts will occur within close proximity to the sources. Thus, to provide a complete picture of the ambient air particulate matter impacts that could occur as a result of all particulate sources, receptors should have been included within the grouping of wells, as well as outside of the grouping of wells.	A separate analysis of the impacts from the road only was done at the request of EPA Region 8. To address the comment regarding the placement of receptors, and to update the near-field analysis to reflect site-specificity, the near-field analysis was updated. The changes made in the analysis are outlined at the end of this document. Please note that the essentials of the analysis (5 x 5 well matrix, etc.) have not changed.
Draft	Vicki	I-99	AQ27	The estimate of the Number of Compressors	The commenter has misinterpreted Table A-4.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	Stamper			Engines Used in the CALPUFF Modeling Seems to be in Error. The CALPUFF analysis, done primarily for the far-field modeling assessment, assumed that at most only 69 compressor engines would be necessary for the full development allowed under the Vernal DRMP along with other reasonably foreseeable gas development in the area. (Table 3-8, page 22 of the 2004 Air Report, as well as Table D- 10 of Appendix D of the Air Report). There are several flaws in this analysis. This total number of needed compressors conflicts with Table A-4 of the Vernal DRMP/EIS (page 4-5), which includes projected numbers of compressors from oil and gas development on all lands within the Vernal Field Office Area. Specifically, Table A-4 indicates a total of 167 compressor stations will be needed due to future mineral production activity in the Vernal Field Office area. It is not clear what size of compressor stations was assumed for the date in Table A-4 -clearly if it was smaller than 1,000 horsepower (as assumed in the Air Report), then more compressor engines would be needed. However, if smaller compressor engines were projected, then this calls into question the assumed 1,000 hp size of all compressors for the Air Report and analyses. Assuming larger compressor engines would mean the compressor engines would be more	The units for the line "Compressor Stations" are acres, not number of stations (See Column headings of table). The 2004 Air Report has been revised to change the table number so that it is consistent with the other tables in Chapter 4.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				dispersed, thus likely resulting in lower near-field impacts. But, if more numerous, smaller compressor engines are expected, this should be modeled to reflect maximum potential near field impacts. In any case, the number of compressor engines modeled for the Vernal air analysis needs to be reconciled with the projection of more than double the amount of compressor stations in Table A-4 of the DRMP/EIS.	
Draft RMP/EIS	Vicki Stamper	I-99	AQ36	The DRMP/EIS Failed to Include a Proper Cumulative PSD Increment Analysis. The DRMP/EIS did not include a proper cumulative evaluation of prevention of significant deterioration (PSD) increment consumption. While the DRMP/EIS did include certain sources that have either begun operation or had been modified since the "monitoring baseline date," the analysis did not include ml sources which consume the available PSD increment. In general, those sources which commenced construction or which have increased emissions after the applicable PSD "minor source baseline date" consume the available increment. Major sources which commenced construction after the major source baseline date also consume the available increment. [See definition of "baseline concentration" in 40 C.F.R. 52.21(b)(13).] To determine the inventory necessary to assess whether Vernal sources will cause or contribute to PSD increment	Section 4.2.2.6.4 in the PRMP/FEIS has been revised to replace the phrase "monitoring baseline date" with "monitoring base year" in order to avoid confusion with the term "baseline" as used in conjunction with PSD. The 2nd sentence of this section now reads as follows: "The first group referred to as "inventory sources", included new and modified emission sources that have commenced operation since the monitoring base year date." The analysis of increment consumption is the sole responsibility of State air agencies that have been delegated authority by EPA under the Clean Air Act.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				violations, the PSD minor source baseline dates for the area should have first been determined. The PSD baseline dates define the sources that need to be modeled, and thus using background monitoring concentrations does not provide a realistic analysis of increment consumption.	
Draft RMP/EIS	Vicki Stamper	I-99	AQ43	On pages 19-20 of the 2004 Air Report, adjustments made to the inventory sources are discussed. Apparently, the BLM removed several sources from the inventory based on the distance of those sources to the receptor of maximum modeled concentration for five Class I areas (Arches and Canyonlands National Parks and the Maroon Bells, Mt. Zirkel, and West Elk Wilderness Areas). It is not clear what pollutant concentration was used for this "analysis," although the 2004 Air Report does indicate that particulate emissions were examined. As a result of this "screening" analysis by the BLM, large and/or nearby sources of air pollution were removed from the source inventory. These include, among others, the Hunter and Huntington coal-fired power plants, Sunnyside Cogen, the Ouray compressor stations (located within the Vernal Field Office), and the Moab compressor stations. In addition, no sources in western Colorado that could be impacting the Vernal Field Office area should have been removed from the inventory for the analysis of impacts in the Vernal Field Office area which runs to the border of Colorado. The removal of	The 2004 Air Report has been revised to clarify how the analysis was performed. The commenter misunderstands how the adjustments to inventory sources were done. The analysis of source-receptor relationships was done only to select a limited number of inventory sources for further review. This was based on particulate matter results of previous modeling of inventory sources and the five Class I areas that had the highest particulate matter impacts. Those sources selected through this screening process were given further scrutiny to check the information provided to Trinity Consultants. No sources were eliminated based solely on the results of the source-receptor relationship analysis.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				western Colorado sources without any consideration of impacts on the Vernal Field Office area is nonsensical and very likely resulted in an underestimate of ambient impacts in the Vernal Field Office area. This approach to determine whether a source can be excluded from a cumulative analysis based on its distance from a particular Class I area is not consistent with other commonly used methods for determining whether a cumulative air quality analysis is necessary, nor does it seem scientifically defensible - especially to examine the impacts due to only one pollutant or only at certain Class I areas. Further, considering the large area and number of sources being modeled, it does not seem appropriate to discount the impact of anyone source based on apparent insignificance when, cumulatively, such sources can have a significant impact on an area. In addition, the 2004 Air Report admits that the inventory of sources likely left out some significant sources, in stating "Based on the results of the focused BLM analysis...it is almost certain that some sources included in the modeling should have been screened out, and that some sources not included in the modeling likely should have been." [Emphasis added.] (page 19 of Air Report). As stated in the definition of "Significantly" in the NEP A regulations at 40 C.F .R. § 1508.27, "significance exists if it is reasonable to	

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by. ..breaking [an action] down into small component parts." The EIS is required to include an analysis of significant environmental consequences, pursuant to 40 C.F.R. §§ 1502.1 and 1502.16, and thus the RMP/EIS must include an adequate analysis of the cumulative impacts on air quality.	
WSA Supplement	US EPA	G-6	14	Visibility. Section 4.2.2.6.7.4 explains that the screening analysis for visibility showed no reduction in visibility at Class I areas due to BLM sources alone. The Technical Support Document is consistent with this statement. Table 4.2.7 shows cumulative visibility impacts and combines results of the screening analysis with results of a refined analysis. BLM conducted a refined analysis in cases where the screening analysis showed impacts. An error in the text accompanying table 4.2.7 refers to "the screening visibility analysis" and could lead the reader to believe that a screening analysis resulted in no perceptible visibility impacts. Table 5-65 of the Technical Support Document reveals the results of the screening analysis of cumulative visibility impacts. The analysis showed potential days of visibility reductions greater than 1.0 deceive (dv) at the Arches National Park Class I area (one day) and at the Class II area of Dinosaur National Monument	Table 4.2.7 and the text accompanying will be changed to reflect the appropriate analysis. Visibility modeling for Class II areas is done as a courtesy to the responsible FLM. Class II areas have no visibility protect under State or Federal Law.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				(three days). (Additional days of reduced visibility were modeled for sources in the Glenwood Springs planning area.) One of the three days of cumulative visibility impact greater than 1.0 dv at Dinosaur National Monument resulted only when emissions from BLM sources were added to those of the inventory sources. In other words, the potential impact of the BLM sources tipped the balance and caused potential cumulative impacts to exceed 1.0 dv. Please revise the text accompanying table 4.2.7 to show that the screening analysis showed potential visibility impacts that disappeared in the refined analysis.	
WSA Supplement	US EPA	G-6	37	Section 3.2.2, Baseline Air Quality page 3-4: According to the first sentence of section 3.2.2 of the DEIS, the Vernal Planning Area is "designated as being in attainment" for the National Ambient Air Quality Standards. (Section 4.2 begins with a similar sentence.) The area technically is "unclassifiable" in the case of PM10 and "unclassifiable/attainment" for other pollutants (see 40 CFR Part 81). Please revise this portion of the DEIS. Also, please revise "air-born" to "airborne.)	This change has been made in the proposed RMP and final EIS.
WSA Supplement	US EPA	G-6	38	Section 3.2.4.2, Criteria for Background Concentrations, pages 3-4 through 3-8 The DEIS presents different data on existing air quality (Table 3.2.1) and background concentrations for modeling purposes (Table 3.2.6). The two tables present data on the same	The tables have changed to present a single set of background data in the proposed RMP and final EIS (see table 3.2.6.

Table 5.13d. Comments Requiring a Change in the Document: Air Quality

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				pollutants from different air monitoring stations. In the case of PM10, Table 3.2.1 gives an annual concentration of 3.3 ug/m3, while Table 3.2.6 gives an annual concentration of 10 ug/m3. Table 3.2.1 gives an annual NO2 concentration of 41 ug/m3 (0.022 ppm) and Table 3.2.6 gives an annual NO2 concentration of 10 ug/m3 (0.005 ppm). Please revise the Final EIS to clarify the reasons for using different sources of data.	
WSA Supplement	US EPA	G-6	39	Section 3.2.4. Regional Air Emissions. Page 3.5 This section of the DEIS generally, describes the emissions inventory for the planning area. It covers point sources but does not mention such emissions as dust from construction activities and roadways, which were included in the modeling effort according to the Air Quality Assessment Report. Please revise this section to address fugitive dust emissions	Fugitive dust emissions have been added to section 3.2.4.

Table 5.13e. Comments Requiring a Change in the Document: Cultural Resources

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	CR21	Proposed cultural resources protections listed on page 2-43 indicate that oil and gas leasing would be "subject to timing and controlled surface use stipulations or no surface occupancy to protect cultural sites" for various areas within the VFO. No stipulations related to this are discussed in Appendix K. Please, clarify this proposal. How do timing restrictions protect cultural sites? How do these "stipulations" fit in with the Section 106 protection process, which involves the SHPO and discussions at the time of a proposal about mitigation methodologies? We are concerned that the BLM is prejudging cultural resource mitigation strategies through the use of unnecessarily restrictive stipulations.	Appendix K in the PRMP/FEIS has been revised regarding stipulations for cultural resources. Timing restrictions can aid in the protection of cultural resources from indirect effects caused by such things as increased on-site erosion from altered run-off patterns resulted from rutted roads created during wet weather conditions and increased site sedimentation from fugitive dust accumulation in dry conditions; however, these protections are expected to be limited. The primary focus for protection of cultural resources is not on seasonal restrictions but on surface disturbance restrictions under the controlled surface use and no surface occupancy stipulations. Under all alternatives, the stipulations for CSO and NSO would be applied to leases in which there are specific cultural resources that have been found through the Section 106 process to be eligible for the National Register of Historic Places, and for which the mitigation, as necessary, has been identified as avoidance through the Section 106 consensus process. Protective measures for cultural resources are part of standard lease terms applicable to all surface-disturbing activities.
Draft	IPAMS	O-14	CR30	The DEIS states that no alternative benefits	Section 4.3.2.13 in the PRMP/FEIS has added

Table 5.13e. Comments Requiring a Change in the Document: Cultural Resources

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS				cultural resources. While the underlying assumption of this statement is that cultural resources are better off left alone, the section should also acknowledge that proper identification of cultural resource sites, data collection at those sites, and recording of sites that cannot be avoided, are all activities that would contribute to the body of scientific knowledge and understanding of the cultures that once occupied the vernal planning area.	the following additional language: "It should be noted, however, that both the identification of sites and the mitigation of impacts through data recovery conducted in association with the Section 106 process for land uses have the positive impact of increasing the body of knowledge about past human behaviors and occupations in the Vernal Planning Area."
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	CR30	The DEIS states that no alternative benefits cultural resources. While the underlying assumption of this statement is that cultural resources are better off left alone, the section should also acknowledge that proper identification of cultural resource sites, data collection at those sites, and recording of sites that cannot be avoided, are all activities that would contribute to the body of scientific knowledge and understanding of the cultures that once occupied the vernal planning area.	Section 4.3.2.13 in the PRMP/FEIS has added the following additional language: "It should be noted, however, that both the identification of sites and the mitigation of impacts through data recovery conducted in association with the Section 106 process for land uses have the positive impact of increasing the body of knowledge about past human behaviors and occupations in the Vernal Planning Area."
Draft RMP/EIS	Utah Petroleum Association	O-42	CR30	The DEIS states that no alternative benefits cultural resources. While the underlying assumption of this statement is that cultural resources are better off left alone, the section should also acknowledge that proper identification of cultural resource sites, data collection at those sites, and recording of sites that cannot be avoided, are all activities that would contribute to the body of scientific knowledge and understanding of the cultures	Section 4.3.2.13 in the PRMP/FEIS has added the following additional language: "It should be noted, however, that both the identification of sites and the mitigation of impacts through data recovery conducted in association with the Section 106 process for land uses have the positive impact of increasing the body of knowledge about past human behaviors and occupations in the Vernal

Table 5.13e. Comments Requiring a Change in the Document: Cultural Resources

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				that once occupied the vernal planning area.	Planning Area."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	CR52 (R-CR11)	4.3.2.11 Impacts of Wildlife and Fisheries Decisions of Cultural Resources The RMP incorrectly assumes that land use per se harms cultural resources. As written, the RMP treats wildlife and wild horse grazing as having no impact but livestock grazing as having an adverse impact. This is inaccurate and biased.	Section 4.3.2.5 in the PRMP/FEIS describes the impacts of trampling impacts from livestock. Section 4.3.2.11 describes the trampling impacts from wildlife and wild horses. The text in Section 4.3.2.11 has been revised as follows: "It should be noted, however, that direct, long-term adverse impacts to cultural resources might occur from wildlife use of the Planning Area. These impacts are primarily related to the trampling of archaeological sites by herd animals such as wild horses, burros, and elk. These potential impacts would typically be comparable to those described for livestock grazing. Because of their particular herd behavior, wild horses may have a slightly greater impact on cultural resources by trampling, as evidenced by the higher level of vegetation damage and soil erosion noted in areas where wild horses congregate."

Table 5.13f. Comments Requiring a Change in the Document: Fire Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft	Duchesne	G-9	FM2	This summary fails to address the relative merits of the four alternatives based on	Section 4.4.2.8 in the PRMP/FEIS has been revised to summarize the effects of woodland

Table 5.13f. Comments Requiring a Change in the Document: Fire Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	County			woodland and forest decisions.	and forest management decisions on fire management to each alternative summary.
Draft RMP/EIS	UBAOG	G-22	FM2	This summary fails to address the relative merits of the four alternatives based on woodland and forest decisions.	Section 4.4.2.8 in the PRMP/FEIS has been revised to summarize the effects of woodland and forest management decisions on fire management to each alternative summary.
Draft RMP/EIS	Center for Native Ecosystems	O-38	FM12 (JFM-3)	Because of the extent of cheatgrass infestation in the Vernal FO, prescribed fire must be used with caution. Page 3-22 indicates "unplanned fire is not desired at all… in the desert shrub type where the risk of cheatgrass…is high after an area has been burned or treated". …However this is one of the few places in the document that acknowledges that fire must be used with caution in light of the cheatgrass. On page 2-99, fire is considered to be a benefit to special status species. Page 4-232 makes a reference to cheatgrass but does not fully analyze how fire in areas with cheatgrass could affect special status species. This should be addressed in the final draft.	Section 4.15.1.1 in the PRMP/FEIS has been revised to clarify the impact of fire in areas with cheatgrass and how fire could affect special status species. The following language has been inserted: "If prescribed fires were to spread beyond their intended dense woodland target these fires would have adverse impacts on special status species by directly destroying individual plants of special status plant species or by indirectly contributing to the risk of cheatgrass invasion, which is higher following a fire."
WSA Supplement	US EPA	G-6	48	Section 4.2.2.5.1.1, Direct Effects of Prescribed Fire and Criteria Pollutants, Page 4-10: Please correct the typographical error in identifying carbon dioxide (CO2) as a criteria pollutant and include carbon monoxide (CO) as a criteria pollutant that wildland fires and prescribed fires emit.	The language in the cited section will be amended to list the correct criteria pollutant as carbon monoxide.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	LG68	Statements about the impacts of various levels of grazing in the "Nine Mile Acquired Area" (page 2-105) in relation to scenic values appear to have no basis in fact, and are too general. The impacts are tied to grazing levels described as "elimination," "limited," and "unlimited," and postulate effects of "preserve," "partially preserve," and "diminish" scenic quality. What are these statements based on? Are the effects of grazing being tied to VRM classifications, and if so, where is the supporting analysis? Are the effects of grazing being tied to the BLM's riparian policy, and if so, where is the consideration of the mitigation measures? The State of Utah requests that the BLM improve on this analysis, and discuss real on-the-ground issues in light of the BLM's riparian policy, no on unsupported assumptions.	Table 2.1.8 (Livestock and Grazing Management) in the PRMP/FEIS for the Proposed RMP column has been revised to read as follows: "Livestock grazing could be allowed in the Nine-Mile Acquired Area if such use is controlled, of short duration, and would not detract from recreation and/or riparian values along the river and is in accordance with the Green River Allotment Management Plan administered by the Price Field Office"
Draft RMP/EIS	Duchesne County	G-9	LG107 (LG-S) (LG-22)	Section 4.6.2.4 does not seem to exist in the document and the effects of livestock grazing decisions on fire management definitely needs to be addressed	Section 4.7.2.1.1 in the PRMP/FEIS has been revised to remove the reference Section 4.6.2.4 and to impacts analysis of livestock grazing management actions on fire management. As stated in Section 4.4.2, the management actions associated with livestock grazing would have negligible impacts on fire management.
Draft RMP/EIS	UBAOG	G-22	LG16	"Maintain or improve the total forage resource using techniques that are compatible with the use and development of other resources and which would meet or	Table 2.1.6 (Forage – All Localities) in the PRMP/FEIS (under the subsection entitled Goals and Objectives, has been changed to read as follows:

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				exceed Utah BLM Rangeland Health Standards." Add after "would": "make substantial progress and" The grazing rules recognize that making progress towards meeting rangeland health standards is compliance. 43 I.E. §4180.1. The RMP generally omits this key qualifier, which is problematic because in many cases it will take many years to "achieve" range health standards.	"Maintain or improve the total forage resource using techniques that are compatible with the use and development of other resources and which would meet, make substantial progress toward, or exceed Utah BLM Rangeland Health Standards."
Draft RMP/EIS	UBAOG	G-22	LG28	The Counties object to these limits on changes in livestock for several reasons. First, the grazing rules govern such changes and require monitoring data and other relevant information. 43 C.F.R. § 4130.3-2. Second, the limits on crucial deer range or wild horse areas are not within the scope of the rules. Similarly the limits on conversions and range improvements in WSAs are not required in the IMP. Strike or rewrite these provisions.	The allocation of resources and the uses made of BLM lands is a function of the Land-use Planning process. Proposed livestock conversions will be analyzed on a site specific basis considering the criteria as outlined in the plan. This is an appropriate use of the LUP as it allocates uses of the land and guides the management of the BLM lands. Monitoring data and other relevant information will be used to analyze the impacts of livestock conversions and make the decision as to whether or not to approve the proposed conversion. The subsection entitled Criteria for Changing Class of Livestock, in the PRMP/FEIS for Table 2.1.8 (Livestock and Grazing Management), has been revised to read:

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					"Prior to the authorization of any livestock conversions in WSAs, the impacts from any necessary rangeland improvements projects would be assessed."
Draft RMP/EIS	UBAOG	G-22	LG30	Strike this bullet. Replace with "conversions in WSAs would be made when in compliance with H-8550-1 IMP Chapter 3 Guidelines for Specific Activities -D. The Interim Management Plan (IMP) is to direct activities within the WSAs until such time as congress acts on the designations." It is very specific in the analysis and provisions for such conversions and should not be replaced with language that is inconsistent with the IMP and that is vague.	The subsection entitled Criteria for Changing Class of Livestock, in the PRMP/FEIS for Table 2.1.8 (Livestock and Grazing Management), has been revised to incorporate the suggested change.
Draft RMP/EIS	UBAOG	G-22	LG31	Strike this paragraph as it is not consistent with the WSA IMP. If not struck it should be provided that such designations should not be more restrictive than requirements of the IMP.	The subsection entitled Criteria for Changing Class of Livestock, in the PRMP/FEIS for Table 2.1.8 (Livestock and Grazing Management), has deleted the bullet item in question to make it consistent with the WSA IMP.
Draft RMP/EIS	Bill Robinson	I-173	LG86	It should be noted that section 3.7 contains serious errors. In the first part of this section it states that "comprehensive grazing allotment information is summarized in Appendix N." Appendix N does not exist. The reader has no way of knowing which allotments make part of what areas.	Appendix L in the PRMP/FEIS has been revised to correct grazing allotment information.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Bill Robinson	I-173	LG119 (LG-EE)	The BLM in its DRMP/DEIS fails to acknowledge the significant benefits that properly managed sheep grazing can have on the condition of the range and environment. There is a sizeable amount scientific research that shows that sheep grazing can improve wildlife habitat (see Comment letter I-173for references). These studies need to be properly addressed before the BLM continues in its unjustified position regarding sheep grazing and then require a change from sheep to cattle grazing.	The following references have been added to the PRMP/FEIS: Jeffery C. Mosely, Prescribed Sheep Grazing to Enhance Wildlife Habitat on North American Rangelands. "Sheep Research Journal", 1994, pp. 79-91; K.M. Havstad, Sheep Grazing as a Rangeland Improvement Tool, " Sheep Research Journal," 1994, pp. 72-78; B.E. Olson and J.R. Lacey, Sheep: A Method for Controlling Rangeland Weeds, "Sheep Research Journal," 1994, pp. 105-112. See comment response LG118.
Draft RMP/EIS	Bill Robinson	I-173	LG123 (LG-II)	The DRMP fails to identify what allotments are located within what area. Thus, a permittee has no way of knowing with any certainty what the DRMP is proposing will be the season of use for their permits. A permittee has no actual notice of exactly how their permit and the season of use will be affected. This eliminates the effectiveness of a comment period for the permittees to make substantive comments. The BLM should remedy this error and seek to address a season of use for each allotment instead of the macro-level treatment that is currently within the	The addition of allotment boundaries and names in Figures 7 – 10 would have made the figures unreadable so a seasons of use code has been added to the Appendix L (Grazing Allotment Table). This will indicate which allotments fall within which seasons of use area.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				DRMP/DEIS. This would best serve the environment and allow for the best and proper management of the range of resources within the VPA.	
Draft RMP/EIS	Duchesne County Water Conservancy District	O-10	LG107 (LG-S) (LG-22)	Section 4.6.2.4 does not seem to exist in the document and the effects of livestock grazing decisions on fire management definitely needs to be addressed	Section 4.7.2.1.1 in the PRMP/FEIS has been revised to remove the reference Section 4.6.2.4 and to impacts analysis of livestock grazing management actions on fire management. As stated in Section 4.4.2, the management actions associated with livestock grazing would have negligible impacts on fire management.
Draft RMP/EIS	Duchesne County Water Conservancy District	O-10	LG108 (LG-T)	DCWCD would question the assumption that management decisions for livestock and grazing, forage and wild horse resources would always result in a loss of vegetative cover and result in wind and water erosion. With proper management, livestock grazing can actually have beneficial effects.	Section 4.13.1.3 in the PRMP/FEIS has been revised to eliminate the use of the word "always" and to reflect the concept that vegetation loss is possible but not a given.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG82 (R-AT8)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "This alternative would provide resource protection for livestock grazing by maintaining forage utilization at proper use, while allowing low impact to rangeland health. However, there would be see a 3-4 percent anticipated loss of AUMs from mineral development and the least number of acres treated for improvements under rangeland improvement management	Section 4.7.2.6.1 in the PRMP/FEIS has been revised as suggested.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				actions." It is not accurate to state that livestock grazing harms rangeland health. The RMP provides little resource protection for grazing and leaves an operator vulnerable to conflicts with big game and wild horses, inability to manage or use riparian areas and water resources, while being subject to arbitrary standards that are applied without regard to the site.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG83 (R-AT9)	Modify the following statement as indicated by the strikethrough deletions: "Alternative D-No Action would provide the least number of acres for fire treatment, and produce the greatest long-term adverse impacts to rangeland health. This alternative would provide for rangeland improvements greater than Alternative A, but less than Alternatives B and C." This paragraph contradicts most other portions of the DEIS. It is not clear why the BLM would conclude Alternative D would not benefit rangeland health when elsewhere it has the largest number of acres subject to vegetation treatment. Moreover, rangeland health standards are enforced by rule and apply to Alternative D. The statement is inaccurate.	Section 4.7.2.6.4 in the PRMP/FEIS has been revised as suggested.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG220 (R-LG18)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Use would be allowed in both quantity and timing that would not result in a downward shift in rangeland health and/or production. BLM would work cooperatively to affect effect a grazing strategy specific to a grazing permittee's individual grazing allotment(s), commit to fund and implement appropriate range improvements; and make changes to the grazing authorizations as appropriate within the limits of the existing permit and in accordance with the grazing regulations. In the case of drought, the last recourse for BLM would be to temporarily close the range, or portions of it, to livestock grazing."	The Fire, Drought, and Natural Disasters subsection of Table 2.1.1 in the PRMP/FEIS (Management Common to All Alternatives) in the PRMP/FEISPRMP/FEIS has been revised to read as follows: "Use would be allowed in both quantity and timing that would not result in a downward shift in rangeland health. BLM would work cooperatively to affect a grazing strategy specific to a grazing permittee's individual grazing allotment(s), commit to fund and implement appropriate range improvements; and make changes to the grazing authorizations as appropriate within the limits of the existing permit and in accordance with the grazing regulations. In the case of drought, the last recourse for BLM would be to temporarily close the range, or portions of it, to livestock grazing."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG239 (R-LG38)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Restore, maintain and/or improve rangeland conditions and productivity to maintain, meet or make substantial progress towards meeting rangeland health standards while meeting forage obligations in grazing permits and grazing preference decisions, as well as wildlife and wild horse habitat. while providing for its use and development. Maintain, improve, and/or restore habitat for	Table 2.1.12 (Rangeland Improvements) in the PRMP/FEISPRMP/FEIS has been revised to read as follows: Restore, maintain and/or improve rangeland conditions and productivity to maintain, meet or make substantial progress towards meeting rangeland health standards while meeting forage obligations in grazing permits and grazing preference decisions, as well as wildlife habitat.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				wildlife; provide optimum forage for livestock; maintain healthy watersheds and vegetation communities; and promote sustained yield and multiple use." The change would reflect both the rules and FLPMA policies that livestock grazing is a principal multiple use to be protected.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG250 A (-LG49)	RE: Alternative A—Delete the following statement: "..phenology-based use system would have minimal impacts on rangeland health. 137,838 AUMs allocated to livestock, a 5.7% AUM reduction compared to alternative D." The RMP fails to document or justify the livestock grazing reduction.	Table 2.2.7 (Livestock and Grazing) in the PRMP/FEIS for Alternative A has been revised as follows: "Phenology-based use system would have positive impacts on rangeland health." The reduction is based off of the relinquishment of AUMs from the TNC, and the RMEF, which is stated in Table 2.1.6 (Forage – All Locations). No other reductions are proposed.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG251 (R-LG50)	RE: Alternative A—Modify the following statement as indicated by bolded additions and strikethrough deletions: "It is projected that about Rangeland improvements would treat 34,640 acres of forage rangeland would be treated, build 69 miles of fence, construct 812 guzzlers/reservoirs, and develop 51 spring/wells for long term beneficial impacts on livestock and wildlife/ wild horse grazing."	The BLM declines to make the suggested wording changes for a variety of reasons including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how the current data and analysis is incorrect. The suggested change expressed personal

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				The acres of rangeland are not equal to forage. The discussion is confusing, since it refers to range improvements in terms of acres and then refers to structures, which are also range improvements. In addition, these projected projects should not be considered a ceiling. Finally the RMP never explains the reasons for reducing both range improvements and vegetation treatment from what is planned for Alternative D or the Current Direction and Alternative A.	opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS. Table 2.2.7 (Livestock and Grazing) in the PRMP/FEIS has been revised to incorporate the suggested change for Alternative A.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG276 (R-LG75)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Rangeland improvements that include vegetation treatments and fencing may would have short-term adverse impacts on vegetation caused by construction, surface disturbances, but would have long-term beneficial impacts on vegetation by improving distribution of grazing animals, restricting livestock, restoring natural vegetation communities, and eliminating weeds. Guzzlers and reservoir development would tend to have long-term adverse impacts on vegetation by concentrating livestock and attracting wildlife and wild horses in those areas, with subsequent disturbance and degradation of vegetation communities. These effects are mitigated in	Section 4.16.2.7.4 in the PRMP/FEIS has been revised to read as follows: "Rangeland improvements that include vegetation treatments and fencing would have short-term adverse impacts on vegetation caused by construction, but would have long-term beneficial impacts on vegetation by improving distribution of grazing animals, restoring natural vegetation communities, and eliminating weeds. Guzzlers and reservoir development would tend to have long-term adverse impacts on vegetation by concentrating livestock and attracting wildlife and wild horses in those areas, with subsequent disturbance and degradation of vegetation communities."

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				AMPs or grazing plans." Range improvements do not "restrict livestock" as written but facilitate proper grazing by encouraging livestock to water and graze outside of riparian areas.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG283	Add the following statement: Grazing is an important economic and cultural resource and the BLM goal is to maintain and enhance the industry by retaining full historic grazing preference through management prescriptions and forage for wildlife and wild horses.	Table 2.1.8 (Livestock and Grazing Management) in the PRMP/FEISPRMP/FEIS has been changed to read as follows: "Achieve appropriate utilization of the range by livestock and wildlife through management prescriptions and administrative adjustments."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	LG290	Modify the following statement as indicated by bolded additions: "Activities associated with the exploration and development of mineral resources would have impacts on livestock grazing that would result in: 1) the temporary loss of vegetation and/or the loss of land available for grazing; 2) the possible disruption of livestock practices; and 3) the possible loss of grazing capacity due to changes in land management. These are minor, unless well densities are higher than projected, and are routinely mitigated. Reclamation can result in more palatable forage Livestock grazing and the development of oil and gas and coal bed methane, deposits are assumed to be	Section 4.7.2.3 in the PRMP/FEIS has been revised to read as follows: "Activities associated with the exploration and development of mineral resources would have impacts on livestock grazing that would result in: 1) the temporary loss of vegetation and/or the loss of land available for grazing; 2) the possible disruption of livestock practices; and 3) the possible loss of grazing capacity due to changes in land management. These are minor, unless well densities are higher than projected, and are routinely mitigated. Reclamation can result in more palatable forage Livestock grazing and the development of oil and gas and coal bed natural gas, deposits are assumed to be generally compatible uses in most cases, as

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				generally compatible uses in most cases, as exploration activity would be short-term and extraction activities and impacts are expected to have relatively small footprints for equipment and machinery. Development of phosphate, Gilsonite, tar sands, and oil shale resources would result in the long-term removal of lands from grazing activity to a greater extent than the above resource extraction processes. Presently, it does not appear that there is a viable market for tar sands or oil shale. In general, livestock grazing on rangeland would be expected to continue at some level during the development of oil and gas, and coal bed resources, which mitigates displacement."	exploration activity would be short-term and extraction activities and impacts are expected to have relatively small footprints for equipment and machinery. Development of phosphate, Gilsonite, tar sands, and oil shale resources would result in the long-term removal of lands from grazing activity to a greater extent than the above resource extraction processes. In general, livestock grazing on rangeland would be expected to continue at some level during the development of oil and gas, and coal bed resources, which mitigates displacement."
Draft RMP/EIS	Center for Native Ecosystems	O-38	LG180 (JLG-7)	Allowing grazing to threaten special status species under all of the alternatives is irresponsible and violates NEPA. The Grazing in River Corridors section on page 2-19 is completely vague and non-committal about how grazing in this most potentially damaging area will be addressed. Page 2-32 presents two yellow-billed cuckoo prescriptions that are completely contradictory: "Fence riparian areas to reduce or eliminate grazing pressure on young trees, especially willow and cottonwood;" and "Apply rotation grazing or consider eliminating hot-season grazing in riparian areas to allow young trees to become established." Which is it, will grazing be allowed or not in riparian areas?	Additional management actions related to riparian corridors can be found in Table 2.1.16 (Riparian Resources) in the PRMP/FEIS . This table provides information regarding management prescriptions and stipulations for grazing within riparian corridors. The prescriptions regarding yellow-billed cuckoo are not contradictory. The prescriptions would be implemented on a case-by-case basis, applying the prescription most appropriate to the situation; fencing, which creates its own level of environmental disturbance, may be less desirable in some situations that rotation grazing or seasonal restrictions, which are actions involving less

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				BLM must seriously consider impacts of grazing on each special status species and provide real mitigation.	disturbance. The analysis of anticipated impacts of grazing management decisions on special status is provided in Sections 4.15.1.2 and 4.15.2.2. Anticipated mitigation for impacts on special status species from all activities is outlined in Section 4.15.3. Section 4.15.3 in the PRMP/FEIS has been revised to add additional mitigations for grazing and other activities for special status species in Section 4.15.3.
Draft RMP/EIS	Ranges West	O-43	LG149 (ALG-16)	What is the definition of the terms phenology, billed use, adjudicated and permitted as used in this table? These terms are used again on page 2-86, Table 2.5, and 4-166 to specify available livestock AUMs. There apparently is no explanation in this draft RMP (that I could find) to discuss these so-called "systems" for allocating livestock forage.	The terms are used in Table 2.3 of the Draft RMP as simple headings referring to the basis, by alternative, for the specific management actions related to livestock and grazing seasons of use that are outlined in the table. "Phenology" refers to the management of livestock grazing based upon the physiological requirements of forage/vegetation. "Billed Use" refers to management based upon how the permittees are actually billed, regardless of phenology. "Adjudicated" refers to management of livestock grazing based upon the 1960s adjudication of seasons of use. "Permitted" refers to the management of livestock grazing seasons of use as outlined under the current permits. Clarification of these terms has been added as a footnote to Table 21.8 (Livestock and Grazing Management) in the PRMP/FEIS.

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Ranges West	O-43	LG156 A (ALG-23)	The differences in wording regarding key species vs. woody species are significant and could lead to very troublesome interpretations by staff.	Table 2.1.6 (Riparian Resources) in the PRMP/FEIS and Section 4.15.2.2.1 in the PRMP have been revised to correct a discrepancy between woody and herbaceous species.
Draft RMP/EIS	Ranges West	O-43	LG161 (ALG-28)	The analysis of impacts to soil and water and vegetation resources indicates that the AUM allocation (Alt A) and the grazing use limits of 30% "riparian vegetation" would adversely impact soils and vegetation. Yet on page 2-108 the AUM allocations and the "30% riparian vegetation" use limit would be beneficial to habitat and wildlife resources. These are contradictory conclusions and illogical. Grazing under Alternative A is subject to Rangeland Health Standards which assures healthy riparian and upland habitat or soils and vegetation.	Table 2.2.14 (Soils and Water Resources) in the PRMP/FEIS has been revised to accurately describe the impacts (30% limitations would be more beneficial than the No Action alternative). The Preferred Alternative has been revised to read as follows: "30% forage utilization of riparian areas would benefit soils through reduction in loss of cover and trampling and subsequent sedimentation."
Draft RMP/EIS	Ranges West	O-43	LG164 (ALG-31)	The last sentence of this paragraph does not compute: "Minor indirect impacts as a result of implementation of Alternative A would occur to the ranching community but not individual ranchers due to the reduction in AUMs". In the 5th paragraph, last sentence, it states just the opposite.	Section 4.7.2.2.1 in the PRMP/FEIS has been revised to clarify the analysis. The point of the statement in question is that the reduction in AUMs would be spread across permit holders and would not be targeted at any one holder.
Draft RMP/EIS	Ranges West	O-43	LG166 (ALG-33)	This is an inappropriate assumption regarding Alternative C. Rangeland health standards apply equally to all alternatives as per the CFRs and BLM policy.	Section 4.7.2.2.3 in the PRMP/FEIS has been revised to delete the statement beginning with "…rangeland health would be the driving force".
Draft RMP/EIS	Ranges West	O-43	LG167 (ALG-	Contradictory statements in 2nd paragraph, next to last sentence and 3rd paragraph,	Section 4.7.2.6.3 in the PRMP/FEIS has been revised to correct the contradictory statement

Table 5.13g. Comments Requiring a Change in the Document: Grazing and Livestock

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
			34)	last sentence. Either Alternative D will maintain rangeland health or it won't.	as suggested
Draft RMP/EIS	Ranges West	O-43	LG171 (ALG-39)	1st paragraph, last sentence- Biased statement that assumes any foraging subjects soils to erosion. No science base to this statement. Rangeland ecosystems evolved with large animal grazing and animal foraging on vegetation is a natural and fundamental biological process. Grazing is functionally positive or negative to vegetation depending on many things such as intensity and timing.	Section 4.13.1.3 in the PRMP/FEIS has been revised to clarify that foraging has the potential to impact soils but that it is not a given.
Draft RMP/EIS	Ranges West	O-43	LG172 (ALG-40)	This paragraph is eco-bio gobbledygook with only a selective-science basis. Grazing is a fundamental biologic process at the base of the natural food chain. It is not something man invented to assault nature. Herbivory is functional to plants in many ways that the author of this paragraph apparently never noticed, such as enhanced seed germination and transport, planting, fertilizing, tillering and subsequent increase in reproductive stalks. The effects of grazing can range from positive to negative depending on amount, timing, species of plant and the grazing animal, etc. The statement in this paragraph is, at best, unprofessional and more likely dangerous.	Section 4.15.1.2 in the PRMP/FEIS has been modified for clarity.

Table 5.13h. Comments Requiring a Change in the Document: Hazardous Materials

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	HZ2	The RMP should address hazardous materials issues that may arise due to proposed oil, gas, and mineral development. Management of waste water withdrawn to recover methane resources should also be addressed. No waste waters should be discharged until a UPDES permit is obtained. Such discharges must not exceed 1200 mg/l TDS under current rules. However, salinity in the Colorado river would be much improved if no waters exceeding 300 mg/l TDS were discharged. Such waters should also be managed to prevent thermal loading to surface waters. No waters which exceed 270C, nor which raise the temperature of the receiving water body 40C or more, shall be discharged to a warm water fishery. No waters which exceed 200C nor which raise the temperature of the water body 20C or more shall be discharged to a cold water fishery.	The discussion of the potential impacts from hazardous materials associated with minerals and energy development can be found in Section 4.5 of the PRMP/FEIS. Language acknowledging the potentially hazardous nature of wastewater resulting from methane recovery operations has been added to the section. As described in Section 3.5, the BLM adheres to EPA policy regarding hazardous materials, which includes wastewater discharge. Any permit requestor would have to meet the requirement of either the State or EPA, as appropriate, in order to be issued a permit. The proposed language specific to permitting requirements is not necessary as permit requirements may change in the future. Also, the permit requirements are associated with State of Utah requirements, and EPA has primacy over a large area of the Field Office in this program, not the State.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	HZ4 (RHZ-1)	We suggest the following revisions to this paragraph "Where appropriate, the RMP would address will identify hazardous materials issues that are regulated by the state but which may arise due to proposed oil, gas, and mineral development."	Section 1.7.4 of the PRMP/FEIS has been revised as follows: "Where appropriate, the proposed RMP will identify hazardous materials issues that may arise due to proposed oil, gas, and mineral development."

Table 5.13h. Comments Requiring a Change in the Document: Hazardous Materials

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment

Table 5.13i. Comments Requiring a Change in the Document: Lands and Realty

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	LR1	"No lands acquired through land tenure adjustments would be classified or opened for agricultural entry or leasing in the RMP planning area." At a minimum, Duchesne County would request the addition of the bolded phrase into this sentence. However, Duchesne County questions whether such restrictions should be imposed across the board.	The suggested wording change has been made in Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS under the subsection entitled Land Tenure Adjustments (LTAs).
Draft RMP/EIS	UBAOG	G-22	LR6	In the last sentence, the stated acreage of 35,462 does not match the acreage shown on Figure 6, which states 54,031 acres. There should be a table developed which lists these tracts by their location as it is not possible to determine from the map which tracts these are.	Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS under the subsection entitled Disposals has been be revised to match the acreage stated on Figure 6. Specific tracts of land suitable for disposal will be identified at the time a specific disposal or exchange is proposed, and the potential impacts of that disposal or exchange will be assessed through site-specific NEPA processes and documents.
Draft	UBAOG	G-22	LR7	Non-federal lands to be acquired through both	Table 2.1.7 (Lands and Realty Management) of

Table 5.13i. Comments Requiring a Change in the Document: Lands and Realty

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS				Bureau-and public-initiated exchanges must have at least one of the following characteristics: Add after "exchanges must": "be in the public interest and have at least one of the following characteristics" FLPMA does not recognize efficiency as a criterion for land acquisition; instead it must be in the public interest.	the PRMP/FEIS under the subsection entitled Exchanges/Acquisitions has been revised as suggested.
Draft RMP/EIS	Ute Tribe of the Uintah and Ouray Reservation	G-26	LR14	The Ute Indian Tribe of the Uintah and Ouray Reservation (Ute Tribe) has previously informed the Vernal Office of the BLM of the need to have the RMP and EIS for the Vernal Field Office discuss the law relating to access to the surface estate of the Ute Tribe. Despite these previous requests, the RMP is completely silent concerning surface access to tribal lands. The Ute Tribe requires acknowledgements of its rights as a surface owner within the area of the RMP. Failure to set forth these rights within the text of the RMP will render the document incomplete and inadequate.	Acreages under jurisdiction of the Ute Tribe are included in Table 1.1; however, language has been added to Section 1.4.1 of the PRMP/FEIS clarifying the role of the Ute Tribe as holder of surface estate within the area to be managed through the RMP. See comment response LR37.
Draft RMP/EIS	Ute Tribe of the Uintah and Ouray Reservation	G-30	LR37	The Ute Tribe is a Cooperating Agency in the revision of the RMP. Despite this status, the Ute Tribe does not believe that its concerns about land use affecting tribal lands have been addressed in the RMP process. As the owner or administrator of much of the surface area within	The following language has been added to Section 1.4.1 of the PRMP/FEIS: "Decisions and actions of the RMP only fully apply to BLM lands. In cases of split estate lands, such as lands within the planning area

Table 5.13i. Comments Requiring a Change in the Document: Lands and Realty

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				the planning area, the Ute Tribe is entitled to consent to any rights-of-way or other surface uses of these lands. The Tribe is also interested in assuring the proper and efficient development of tribal minerals, while protecting the interests of the Tribe and its members. While BLM officials have been supportive of the Tribe's concerns in private conversations, the RMP does not include any discussion of those concerns, or analysis of how best to address those concerns. The Ute Tribe is frankly worried that the RMP process will be used to justify land development processes that are inconsistent with the special status of tribal lands. The Ute Tribe again requests that the RMP include a clear acknowledgement of the rights of the Ute Tribe to manage access to tribal lands, and a discussion of the process by which the Ute Tribe and the BLM will cooperate in the management of their respective land bases.	that are split between the BLM and the Uintah & Ouray Indian Tribe, actions affecting the surface must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner."
Draft RMP/EIS	IPAMS	O-14	LR13 (LLR-1) (JLR-5)	Lands managed by the State of Utah Division of Wildlife Resources have also not been accurately portrayed within Figure 1 (Land Ownership) of the RMP. The School and Institutional Trust Lands Administration (SITLA) website contains an accurate map of these lands within the planning area. Alternatively, a map can be obtained directly from the Division. These lands need to be accurately portrayed because of development restrictions inherent to them.	Figure 1 has been updated to reflect the State of Utah's land ownership as indicated on maps obtained from the SITLA website.
Draft	Lexco	O-24	LR13	Lands managed by the State of Utah Division of	Figure 1 has been updated to reflect the State

Table 5.13i. Comments Requiring a Change in the Document: Lands and Realty

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS			(LLR-1) (JLR-5)	Wildlife Resources have also not been accurately portrayed within Figure 1 (Land Ownership) of the RMP. The School and Institutional Trust Lands Administration (SITLA) website contains an accurate map of these lands within the planning area. Alternatively, a map can be obtained directly from the Division. These lands need to be accurately portrayed because of development restrictions inherent to them.	of Utah's land ownership as indicated on maps obtained from the SITLA website.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	LR13 (LLR-1) (JLR-5)	Lands managed by the State of Utah Division of Wildlife Resources have also not been accurately portrayed within Figure 1 (Land Ownership) of the RMP. The School and Institutional Trust Lands Administration (SITLA) website contains an accurate map of these lands within the planning area. Alternatively, a map can be obtained directly from the Division. These lands need to be accurately portrayed because of development restrictions inherent to them.	Figure 1 has been updated to reflect the State of Utah's land ownership as indicated on maps obtained from the SITLA website.
Draft RMP/EIS	Enduring Resources	O-40	LR18 (JLR-1)	DEIS says" This RMP recognizes existing right of way corridors…and would designate additional corridors subject to physical barriers and sensitive resource values." What are "sensitive resource values"?	Sensitive resource values such things as T&E species, cultural and paleontological resources, sensitive soils, riparian areas, areas of high VRM classification, etc. Language has been added to Table 2.1.7 (Lands and Realty Management) of the PRMP/FEIS under the subsection entitled Transportation/Utility Corridors to read as follows:

Table 5.13i. Comments Requiring a Change in the Document: Lands and Realty

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					"Sensitive resource values would include, but are not limited to, threatened and endangered species habitat, cultural and paleontological resources, sensitive soils, riparian areas, areas possessing high scenic quality, and areas of critical environmental concern."

Table 5.13j. Comments Requiring a Change in the Document: Minerals and Energy

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	UBAOG	G-22	ME24	It is impossible to find a corresponding classification (combined hydrocarbon areas) on the maps. What are combined hydrocarbon areas; are they the combined areas set forth in figures 11-14? Are they oil shale and tar sands? Do they include oil and gas and coal bed methane? The acreage figures on page 2-7 for open standard lease, open controlled surface and open NSO, don't reconcile with the combination of the other numbers on page 2-7 for the other minerals. In short, the whole Minerals section is confusing when it comes to clear classification of mineral classes' types and when it comes to acreage figures.	Figures 15-18 in the PRMP/FEIS have been revised to correct the acreage figures and to show Special Tar Sand Area leases. Combined Hydrocarbon areas are the areas designated as Special Tar Sand Areas, which are not shown in Figures 15-18 (can somewhat be implied from leasing decisions). Coal Bed natural gas is considered to be part of the oil and gas estate. All decisions related to oil shale and tar sands leasing in this PRMP/FEIS are being deferred to the ongoing PEIS for Oil Shale and Tar Sands Leasing. For more information please see Section 1.10.9.

Table 5.13j. Comments Requiring a Change in the Document: Minerals and Energy

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	UBAOG	G-22	ME26	This paragraph fails to mention that these resources are located in an EPCA focus area.	Section 3.8.1.1.1 in the PRMP/FEIS has been revised mineral and energy resources are located in the EPCA focus area.
Draft RMP/EIS	UBAOG	G-22	ME37	Here it states "operators have demonstrated a willingness to comply with spatial and temporal restrictions." Strike this sentence as it is not true. The restrictions have been a point of contention since they were imposed and throughout the RMP process. Such acceptance does not equal an analysis of impacts such as affect on RFD and socio-economics.	Section 4.8.2.7 in the PRMP/FEIS has been revised to read as follows: "Operators have complied with…"
Draft RMP/EIS	UBAOG	G-22	ME39	When reviewing protection of raptors in the guidelines, BMP, Matrix, Appendix K, and here, the ability to modify Raptor Guidelines and Practices is confusing. In Appendix K, modifications are not permitted. Perhaps some wordsmithing would help, as it appears the word modification used in Appendix K stipulation descriptions are the same as discussed here.	All sections in the PRMP/FEIS relating to raptors have been revised or clarified.
Draft RMP/EIS	Ute Tribe of the Uintah and Ouray Reservation	G-26	ME63	Page 3-39 identifies six RFD areas within the VPA that were evaluated for potential energy resources. It should be noted in the RMP/EIS that the Uintah & Ouray Indian Reservation is located in portions of the East and West Tavaputs Plateau, Monument Butte-Red Wash, Altamont-Bluebell, and Tabiona-Ashley Valley RFD areas. Oil and gas, CBNG, tar sands, and	Section 1.4.1 in the PRMP/FEIS has been revised to read as follows: "Decisions and actions of the RMP only fully apply to BLM lands. In cases of split estate lands, such as lands within the planning area that are split between the BLM and the Uintah & Ouray Indian Tribe, actions affecting the surface

Table 5.13j. Comments Requiring a Change in the Document: Minerals and Energy

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				mineral materials, such as sand gravel and building stone are potentially present within Reservation boundaries. The RMP/EIS should specify that all Tribal laws, regulations, conditions, and stipulations, would apply to energy and mineral resources, if operations are conducted on tribal land within the VPA.	must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner."
Draft RMP/EIS	Ute Tribe of the Uintah and Ouray Reservation	G-26	ME65	Page 4-98 states that the impacts of leasing of minerals would be beneficial to the Ute Tribe, including rentals or fees from the use of surface permits or other rights-of-way. However, it does not state that there would also be adverse impacts, including those to cultural resources, e.g. sacred sites, medicinal plants, and ancestral hunting grounds.	Section 4.8 in the PRMP/FEIS has been revised to add a footnote explaining that impacts from minerals leasing are discussed in other resource chapters as part of the area analysis.
WSA Supplement	Ute Tribe-Energy & Minerals Department	G-172	3	As discussed in Section 4.21.2.3 - Impacts of Lands and Realty Management Decisions on Non-WSA Lands with Wilderness Characteristics (see pg. 4-153), under Alternative E, non-WSA lands with wilderness characteristics would be managed as ROW exclusion areas. Exclusion from future ROW development would protect the natural character of the landscape of all the non-WSA lands with wilderness characteristics. The Tribe recognizes that the BLM is encouraged to preserve land in its natural condition. The Tribe also recognizes that a	The BLM does provide for reasonable access to all non-BLM managed lands under all alternatives. Information will be added to Chapter 2, Lands and Realty, Management Common to all action alternatives, that states that reasonable access to non-BLM managed land would be provided including across BLM lands within avoidance and exclusion areas for rights-of-way.

Table 5.13j. Comments Requiring a Change in the Document: Minerals and Energy

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				parcel of land cannot be preserved in its natural character and mined at the same time. However, case law supports the Tribe's claimed right of access. In fact, without access the Tribe could not develop its minerals in any fashion and they would become economically ineffectual. Based upon this information, the Tribe requests that the BLM consider adding the following information to the Vernal Supplemental RMP. Where necessary, the BLM would grant reasonable access across Federal lands with wilderness characteristics to provide for development of adjacent Tribal lands and minerals. Where necessary, the BLM would grant reasonable access to Federal lands with wilderness characteristics to provide for development of Tribal/Indian Allotted minerals, which are held in split estate (i.e., Tribal minerals and Federal surface with wilderness characteristics areas).	

Table 5.13k. Comments Requiring a Change in the Document: Minerals – Leasable

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	Utah State Office of Education, School Land Trust	G-169	7	We are concerned about the cutting off of access and how it devalues in-held school land. For the BLM not to develop oil & gas in its sections also makes it impractical for development to occur on ours, which amounts to an unconstitutional taking. This is true where there are known resourcse, and may become true for areas in which no drilling has occurred. Alternative E would directly harm us inthis area because "about 187,000 acres of State of Utah lands could be rendered uneconomic to lease because they would be surrounded by unleaseable federal lands." (4-31) This includes about 19,200 acres with coal resources that are currently unleased, which would be eliminated from further consideration for coal leasing. If the BLM decides that large areas of its land are off limits for drilling, that can effectively prevent feasible drilling on our in-held sections, amounting to a taking of the mineral value of our subsurface resources. The BLM should consider whether it will allow directional drilling from leases on school sections to access oil and gas lands on BLM proproty, with no surface occupancy of the BLM property. The BLM has stated "Oil and gas development in	The BLM does provide for reasonable access to all SITLA lands under all alternatives. Information will be added to Chapter 2, Lands and Realty, Management Common to all action alternatives, that states that reasonable access to State land would be provided including across BLM lands within avoidance and exclusion areas for rights-of-way as specified by the Cotter decision (Utah v. Andrus, 10/1/79). The BLM will consider whether it will allow directional drilling from leases on school sections to access oil and gas lands on BLM property. It is up to the lease holder to determine the feasibility of directional drilling projects. The proportion of the resource that could be reached are dependent upon a number of factors (i.e. geology of the subsurface, capability of the drilling equipment, skill level of the drilling crew, economics of directional vs. straight drilling, etc.)

Table 5.13k. Comments Requiring a Change in the Document: Minerals – Leasable

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				these areas would require directional drilling to extract hyrdrocarbon resources." (4-48). Analysis should be made onhow feasible this would be, and what proportion of the resources could be reached in this way.	

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	ME31	The analysis concludes that Alternative C would reduce long-term adverse impacts on the Oil, Gas and CBNG resources "by ensuring that the resource was available to support a viable, long-term mineral industry." This conclusion is based on the assumption that minerals that cannot be used today could be used in the future. However, there is no guarantee that lands deemed unsuitable for such use under Alternative C today will ever be made available for future resource extraction, that other sources of energy may be developed and the National immediate energy need.	Section 4.8.2.1.3.1 in the PRMP/FEIS has been revised to delete the statement in question.
Draft	Duchesne	G-9	ME42	The statement that none of the alternatives would result in more than a 0.4% net decrease	Sections 4.8.3 and 4.8.4 in the PRMP/FEIS

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	County			in the number of predicted oil and gas wells is deceiving. Based on the information in Tables 4.8.2, 4.8.3, 4.8.4 and 4.8.5, Alternatives A, B and C all provide more opportunity for oil and gas well drilling than Alternative D. However, the difference between Alternatives B and C is about 2.5%.	have been revised to read: "Under all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to the No Action alternative."
Draft RMP/EIS	USFS—Ashley National Forest	G-19	GC88 (LGC-3)	Clarify what NEPA analysis would occur for those areas considered available for oil and gas leasing. Will it be site-specific?	Section 4.8.1.2 in the PRMP/FEIS states that additional NEPA analysis requirements for locatable minerals. Similar language has been added to Section 4.8.1.1 to describe the level of NEPA analysis required for oil and gas development.
Draft RMP/EIS	UBAOG	G-22	ME17	1st sentence Insert between "applied to leases" and "in the form" "issued after the date of this RMP" 2nd sentence strike "generally reflect the minimum requirements" and replace with "are necessary to protect the resource and would contain provisions/criteria to allow for waiver and modification if warranted."	Section 2.4.8.2.1 in the PRMP/FEIS has been revised to read as follows: "Mitigation of oil and gas impacts developed under the plan and applied to leases issued after the record of decision in the form of stipulations would adhere to BLM's standard format. Stipulations generally reflect the minimum requirements necessary to protect or minimize the impacts to the resource and would contain provisions/criteria to allow for waiver and modification if warranted."
Draft RMP/EIS	UBAOG	G-22	ME31	The analysis concludes that Alternative C would reduce long-term adverse impacts on the Oil, Gas and CBNG resources "by ensuring that the resource was available to support a viable, long-term mineral industry." This conclusion is based on the assumption that minerals that cannot be used today could be used in the	Section 4.8.2.1.3.1 in the PRMP/FEIS has been revised to delete the statement in question.

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				future. However, there is no guarantee that lands deemed unsuitable for such use under Alternative C today will ever be made available for future resource extraction, that other sources of energy may be developed and the National immediate energy need.	
Draft RMP/EIS	UBAOG	G-22	ME42	The statement that none of the alternatives would result in more than a 0.4% net decrease in the number of predicted oil and gas wells is deceiving. Based on the information in Tables 4.8.2, 4.8.3, 4.8.4 and 4.8.5, Alternatives A, B and C all provide more opportunity for oil and gas well drilling than Alternative D. However, the difference between Alternatives B and C is about 2.5%.	Sections 4.8.3 and 4.8.4 in the PRMP/FEIS have been revised to read: "Under all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to the No Action alternative."
Draft RMP/EIS	UBAOG	G-22	ME44	This section implies that water used for drilling may impact the species. Given the number of wells proposed in the RFD to be drilled each year, the amount needed would be approximately 181 acre feet each year. As this water is taken from various locations throughout the VPA as well as the fee and Indian lands, the impact would be small and that fact should be listed here.	Section 4.15.1.3 in the PRMP/FEIS has been revised to show the acre-feet of water per well. The commenter does not indicate how they calculated 181 acre- feet per year. BLM estimates that approximately .0.75 acre- feet of water per well is needed based on current trends. With an estimated 6,530 wells anticipated during the life of the plan this would total 4,897 acre -feet of water.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	GC23	It should be made clear in the Record Of Decision (ROD) and the final RMP that the total number of wells cited in reasonable foreseeable development do not represent a ceiling or cap on the number of wells that can be drilled in the VRA during the life of the plan. The ROD and RMP should state that the RFD well total were	Additional text has been added Section 4.1.2 in the PRMP/FEIS to describe the role of the RFD as a general metric used to assess relative impact and does not represent a ceiling on the number of wells that can be drilled within the VPA during the life of the RMP. The additional

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				developed for the purpose of assessing impacts for decision making and that the total number of wells will be determined by NEPA analysis of field development projects of possible RMP revisions. This clarification is supported by case law.	text is as follows: "It should be noted that the total number of wells cited in the RFD report do not represent upper limits on the number of wells that could be drilled in the VPA during the life of the plan. The RFD well totals were developed for the purposes of assessing impacts for decision-making. The total number of wells permitted will be determined through site-specific NEPA analysis of field development projects."
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	ME55	The DEIS/RMP fails to properly disclose the impacts of the proposed management prescriptions on mineral development. It appears that Table 5.1 on 5-3 and Table 4.8.1 on page 4-100 was an attempt to disclose these impacts as at 4.8.2.1.1.1 the text presents these changes form Alternative D, the no action alternative. These figures are simply a tabulation of acres assigned to each leasing category and not a disclosure of impacts required in IM 2004-089 on FRD. In the Chapter 4 analysis it is the only data presented to show impacts on oil and gas development with respect to the loss of wells and acreage for future development. IM 2004-089 requires the creation of a baseline of well numbers and acres that would be developed if such development were governed by BLMs standard lease form. As management prescriptions are proposed the baseline is to be	Section 4.8 (Minerals and Energy Resources) discusses the effects of cultural, reaction, Soils, Special Status Species, Wildlife, and Visual decisions on mineral development. Section 4.8 has been revised to discuss impacts of Special Designations on mineral development. Chapter 4.12 Socioeconomics discusses the loss or gain of revenue from oil and gas development by alternative. The reduction of wells imposed by management prescriptions can be seen in Table 4.8.2 (Alternative A), 4.8.3 (Alternative B), 4.8.4 (Alternative C), 4.8.5 (Alternative D), and 4.8.6 (Alternative E).

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				reduced by the number of well and acres affected. The result of this analysis is a clear disclosure of the impact of proposed management restrictions on oil and gas development.	
Draft RMP/EIS	Questar	O-12	ME42	The statement that none of the alternatives would result in more than a 0.4% net decrease in the number of predicted oil and gas wells is deceiving. Based on the information in Tables 4.8.2, 4.8.3, 4.8.4 and 4.8.5, Alternatives A, B and C all provide more opportunity for oil and gas well drilling than Alternative D. However, the difference between Alternatives B and C is about 2.5%.	Sections 4.8.3 and 4.8.4 in the PRMP/FEIS have been revised to read: "Under all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to the No Action alternative."
Draft RMP/EIS	IPAMS	O-14	ME42	The statement that none of the alternatives would result in more than a 0.4% net decrease in the number of predicted oil and gas wells is deceiving. Based on the information in Tables 4.8.2, 4.8.3, 4.8.4 and 4.8.5, Alternatives A, B and C all provide more opportunity for oil and gas well drilling than Alternative D. However, the difference between Alternatives B and C is about 2.5%.	Sections 4.8.3 and 4.8.4 in the PRMP/FEIS have been revised to read: "Under all action alternatives there would be a net increase in the number of predicted oil, gas, and CBNG wells as compared to the No Action alternative."
Draft RMP/EIS	IPAMS	O-14	ME54	Appendices A and H must be rewritten; and, rather than instituting blanket stipulations, we recommend that BLM commit to developing stipulations (as well as the associated exception, waiver, and modification) for surface-disturbing activities resulting from oil and gas operations in cooperation with the oil and gas industry, other agencies, and other key stakeholders.	Appendices A and H in the PRMP/FEIS have been updated to reflect BMPs for Raptors and Their Associated Habitats in Utah, IM UT 2006-096.

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	EOG Resources, Inc.	B-144	13	EOG's non-federal lease holdings in the Kings Canyon area include Section 32, T10S-R19E and Section 32, T11S-R19E, both of which are partially bordered by areas determined by the BLM to exhibit wilderness characteristics. Access to each of these sections through areas not determined to have wilderness character may not be possible because of topographic features that preclude road construction or the nearby boundary of the Uintah and Ouray Reservation boundary. Implementation of the restrictions associated with Alternative E could unreasonably restrict EOG from accessing the non-federal leases described above, and/or possibly other non-federal leases that lie within the administrative boundary of the Vernal FO. The proposed restrictions include precluding the issuance of rights-of ways (ROWs) in areas determined to have wilderness characteristics. BLM cannot preclude EOG's right of access to its leases. The BLM must not indirectly disallow to its leases by the imposition of a designation that would exclude the issuance of ROWs. By possibly disallowing access to valid leases, the BLM selection of Alternative E would constitute an indirect taking and breach of EOG's lease terms.	The BLM does provide for reasonable access to all SITLA lands under all alternatives. Information will be added to Chapter 2, Lands and Realty, Management Common to all action alternatives, that states that reasonable access to State land would be provided including across BLM lands within avoidance and exclusion areas for rights-of-way as specified by the Cotter decision (Utah v. Andrus, 10/1/79). (From Universal Comment response LAR-5R) The BLM's authority for managing lands to protect or enhance wilderness characteristics is derived directly from FLPMA Section 202 (43 U.S.C. §1712). This section of BLM's organic statute gives the Secretary of the Interior authority to manage public lands for multiple use and sustained yield. Nothing in this section constrains the Secretary's authority to manage lands as necessary to "achieve integrated consideration of physical, biological, economic, and other sciences." (FLPMA, Section 202(c)(2) (43 U.S.C. §1712(c)(2))) Further, FLPMA makes it clear that the term "multiple use" means that not every use is appropriate for every acre of public land, and that the Secretary can "make the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use. . . ." (FLPMA, Section 103(c) (43 U.S.C.

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					§1702(c))) The FLPMA intended for the Secretary of the Interior to use land-use planning as a mechanism for allocating resource use, including wilderness character management, amongst the various resources in a way that provides uses for current and future generations. The BLM has long acknowledged that FLPMA Section 603 (43 U.S.C. §1782) requiring a one-time wilderness review has expired. All current inventory of public lands is authorized by FLPMA Section 201 (43 U.S.C. §1711). In September 2006, the Utah District Court affirmed that the BLM retained authority to protect lands it determined to have wilderness characteristics in a manner substantially similar to the manner in which such lands are protected as WSAs. The BLM is aware that there are specific State laws relevant to aspects of public land management that are discrete from, and independent of, Federal law. However, BLM is bound by Federal law. As a consequence, there may be inconsistencies that cannot be reconciled. The FLPMA requires that BLM's land-use plans be consistent with State and local plans "to the extent practical" where State and local plans conflict with Federal law there will be an inconsistency that cannot be resolved. The BLM will identify these conflicts in the FEIS/PRMP so that the State and local governments have a complete understanding of the impacts of the PRMP on State and local management options.

Table 5.13l. Comments Requiring a Change in the Document: Minerals – Oil and Gas

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	Duchesne County Commission	G-10	14	Page 4-43, Section 4.8.2.8.2, management under Alternative E predicts a total of 6,117 oil, gas and CBNG wells, which appears in Table 4.12.1. However, this section (and Section 4.10.2.4.5) indicates that this is a 4% increase compared to 5,856 wells under Alternative D. Actually, Table 4.12.1 shows a predicted 6,331 wells under Alternative D, making Alternative E management result in a decrease of 214 wells or a 3.4% decrease (see Table 4.12.1). It is Duchesne County's position that such a decrease would violate the county land-use plan and EPCA.	Table 4.12.1 in the DRMP was inaccurate in the number of well potential by alternative. The FEIS will be corrected to reflect the correct numbers. Alternatives A, B, C, and E all reflect a greater well potential than Alternative D due to the proposed availability of lands within the Hill Creek Extension for leasing, which is not the case in Alternative D.
WSA Supplement	Duchesne County Commission	G-10	20	Pages 4-66, 4-67, Section 4.12.3.2.5: The analysis in this Section 4.13.2.4.5 (Page 4-73) seems to be flawed in that it presumes Alternative E would increase the number of oil, gas and CBNG wells when compared to Alternative D, when actually Alternative E would result in 214 fewer wells according to Table 4.12.1 (6,331 wells in Alternative D versus 6,117 under Alternative E).	See comment response 10-O-14.
WSA Supplement	Duchesne County Commission	G-10	45	Pages 4-166 to Page 4-178, Table 4.21.1: Change heading "Oil & as Development Potential" to "Oil & Gas Development Potential".	The FEIS will reflect this correction.

Table 5.13m. Comments Requiring a Change in the Document: Other

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	USFS—Ashley National Forest	G-19	GC89 (LCG-4)	Why are Wilderness and SSS subheadings of Soil and Water? These would be better relocated in separate sections so they can be readily found.	Table 2.1.20 (Special Designation – Wilderness Study Areas) has been given its own table in the PRMP/FEIS. Table 2.1.21 (Special Status Species) has been given its own table in the PRMP/FEIS.
Draft RMP/EIS	UBAOG	G-22	GC13	Add "Duchesne County Public Land Implementation Plan."	Section 1.10 in the PRMP/FIS has been revised to include the addition as suggested.
Draft RMP/EIS	UBAOG	G-22	GC15	We have previously asked that a description of surface-disturbing activities be included in the glossary.	The glossary in the PRMP/FEIS has been revised to include a definition of "surface disturbance activities."
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	GC25	The meaning of the statement "to the extent that BLM has the authority to do so" needs to be clarified.	Section 3.14.3.2 in the PRMP/FEIS has been revised to add language to clarify it relative to the authority bestowed upon the BLM by FLPMA, the Wild and Scenic Rivers Act, and BLM policy. This statement is also intended to acknowledge that the BLM does not manage all lands through which the proposed wild and scenic rivers pass and cannot impose restrictions on other land owners and land managers. The additional text is as follows: 'It is BLM policy (8351 Manual, Section .32C) to manage eligible segments to protect their free-flowing nature, outstandingly remarkable values, and tentative classifications to the extent that BLM has the authority to do so through FLPMA, the Wild and Scenic Rivers Act, and BLM policy."
Draft RMP/EIS	PacifiCorp	O-7	GC132 (NAT3)	The VFO should conduct a review of the Western Regional Corridor Planning Partnership Priority Corridors (dated July	The following language has been added to Section 1.4.1 of the PRMP/FEIS:

Table 5.13m. Comments Requiring a Change in the Document: Other

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				2003) and include in the final RMP a discussion of any proposed corridors under Alternatives A, B, C, and D. The final RMP should also note that designated corridors apply only to BLM lands and do not include those portions that cross state and private lands.	"Decisions and actions of the RMP only fully apply to BLM lands. In cases of split estate lands, such as lands within the planning area that are split between the BLM and the Uintah & Ouray Indian Tribe, actions affecting the surface must be coordinated with the surface owner. Undertakings conducted on lands not wholly or partly administered by the BLM are subject to the laws, regulations, conditions, and policies of the relevant land management agency or other landowner." Presently, BLM is doing a national corridor EIS, which when complete, would amend this plan if there are inconsistencies or differences.
Draft RMP/EIS	EOG Resources	O-17	GC57 (GC-N)	The statements in Appendix K prior to the tabular presentation conflict with the actual approach to defining exceptions, modifications and waivers for a number of resource concerns listed in the table. The possibility for exception, modification, and waiver is defined as "none" for a number of resources. This arbitrary designation of "none" indicates a lack of flexibility which will likely result in less production of essential oil and gas supplies.	Appendix K has been revised to reflect identified surface stipulations for the PRMP/FEIS.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	GC128 (R-GC6)	The draft RMP and DEIS fail to define or properly use a number of key terms including "surface-disturbing activities" or "surface disturbance," "habitat fragmentation," and "habitat loss." These	See comment response GC15 regarding surface-disturbing activities. See comment response GC59C regarding

Table 5.13m. Comments Requiring a Change in the Document: Other

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				terms are used throughout the RMP and appear to contradict federal law, rules, BLM policy or case law. The Glossary should include the following definitions: Surface disturbance or surface-disturbing activities-"Disturbance from development activities that involve the removal of vegetation and topsoil, or overburden where there is a physical change to the surface, in connection with activities for mineral and energy development, rights-of-way, and road construction or reconstruction. It does not include incidental disturbances associated with the construction, reconstruction, or maintenance of fences or corrals or stock tanks, livestock or wildlife grazing, or recreation uses." Habitat Fragmentation – "An event that creates a greater number of habitat patches that are smaller in size than the original contiguous tract(s) of habitat." Habitat Loss – "The permanent or effectively permanent removal of habitat cover needed by a particular wildlife species." (This definition of habitat loss corresponds to how this concept is used in mainstream habitat management and avoids the need to attempt to define or regulate human disturbance or disruptive activities. The latter terms should not be regulated.)	habitat fragmentation. The glossary in the PRMP/FEIS has been revised to include a definition of "habitat loss" and "sustained yield."

Table 5.13m. Comments Requiring a Change in the Document: Other

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Sustained yield or sustainability "means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple uses." (This definition is appropriately taken from FLPMA, 43 U.S.C. §1702(h).)	
WSA Supplement	US EPA	G-6	25	Section2 .3.2.6. Surface Stipulation Applicable to All Surface-Disturbing Activities: We believe there is a typographical error, and this should be Appendix K, not Appendix L. Appendix L contains information related to the Vernal Resource Area grazing allotments.	The error has been corrected in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	2	Page 2-7, Table 2.3, Lands and Realty, bottom sentence: ":An easement for the old Uintah Railroad bed from the Utah/Colorado line to Watson in Evacuation Creek would no be pursued.	The typographical error has been corrected in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	3	Page 2-10, Table 2.3, Recreation: Seep Ridge, Book Cliff Divide, and Atchee Ridge Roads would not be designed as Back Country Byways.	The typographical error has been corrected in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	5	Page 4-10, Section 4.3.2.3.6, 2nd sentence: "Alternatives A, C, and E are likely to have the greatest beneficial impacts, because all three involve….".	The language has been changed in the Proposed RMP/Final EIS.

Table 5.13m. Comments Requiring a Change in the Document: Other

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	Duchesne County Commission	G-10	24	Page 4-74, Section 4.13.2.6.5 (Alternative E should be singular). In the last sentence of this section, "These alternatives should be changed to "this alternative".	The language has been changed in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	37	Page 4-122, Section 4.18.2.3.3: The acronym "HA" (which means Herd Area), is not listed in the list of acronyms included in the RMP.	The acronym has been included in the list of acronyms in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	56	Page 4-203, Section 4.21.2.10.6, 1st sentence: "Alternative" should be plural.	The typographical error has been corrected in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	57	Page 4-208, Section 4.21.2.11.6: "150,001 acre" should be plural.	The typographical error has been corrected in the Proposed RMP/Final EIS.
WSA Supplement	Duchesne County Commission	G-10	58	Page 4-213, Section 4.21.2.14.2: 1st line: …would be managed by the following prescriptions: 12th bullet: Construction of wildlife watering facilities.	The language has been changed in the Proposed RMP/Final EIS.

Table 5.13n. Comments Requiring a Change in the Document: Paleontology

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	PA2	This section recognizes the benefits of paleontological studies associated with mineral development mitigation; however, such benefits are not mentioned in the analysis of Alternatives A and D that follow.	Language acknowledging the scientific benefit (e.g., increasing the body of knowledge) of paleontological investigations conducted in association with minerals development has been added to the discussions of Alternatives A, D, and E.
Draft RMP/EIS	UBAOG	G-22	PA2	This section recognizes the benefits of paleontological studies associated with mineral development mitigation; however, such benefits are not mentioned in the analysis of Alternatives A and D that follow.	Language acknowledging the scientific benefit (e.g., increasing the body of knowledge) of paleontological investigations conducted in association with minerals development has been added to the discussions of Alternatives A, D, and E.

Table 5.13o. Comments Requiring a Change in the Document: Process and Procedure

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	PR19	The State of Utah requests that the policies and plans indicated by Utah Code Section 63-38d-401, et. esq., be shown in the listing of other plans to which the RMP has a relationship.	The addition has been made as suggested.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	PR31 (JPR-7)	The document should include the FWS Ouray National Wildlife Refuge as one of the entities with which the BLM will coordinate management in the VPA.	The document will be amended to include the USF&WS.
Draft	Uintah,	G-25	PR9	The Wild and Scenic Rivers Act and BLM	The information from Appendix C Table 3

Table 5.13o. Comments Requiring a Change in the Document: Process and Procedure

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	Daggett, and Duchesne Counties			Manual Section 8351 require consideration of characteristics which "do" or "do not" make a river segment a worthy addition to the NWSRS. Unfortunately, Table 5 only contains a discussion of the "do" characteristics (the ORVs) under the "Consideration" heading. Table 5 fails to acknowledge related information found in Table 3 of Appendix C, which represents some of the "do not" characteristics. For example, information from Table 3 regarding Argyle Creek states "[t]he high percentage of private land adjacent to the stream has resulted in the construction of numerous ranch houses and summer homes in the corridor. A power line parallels the stream for approximately 7 miles." This information not only caused Argyle Creek to receive a proposed "recreational" classification, but should also be considered relevant to a suitability determination.	relative to the characteristics that do not contribute to or detract a river segment's suitability for WSR designation has been added to Appendix C Table 5. Please note that the information from Table 3 is added in other appropriate sections such as Land Ownership within Table 5.

Table 5.13p. Comments Requiring a Change in the Document: Recreation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	RE41 (RE-U)	Paragraph 2 line 7: The reference to "unmanaged OHV use" under Alt B is not logical given the data in Table 2.3 and elsewhere indicating that the amount of land open to unrestricted OHV use in Alt B is very similar to Alt A and C (yet "unmanaged OHV use" is not mentioned in the analysis under those alternatives).	The PRMP/FEIS has been revised to remove "unmanaged" from the text in Section 4.10.2.6.2.2.
Draft RMP/EIS	UBAOG	G-22	RE11	We need to further expand this to include special use permits for commercial operations on BLM ground.	Table 2.1.3 (Recreation Resources) in the PRMP/FEIS has been updated to include SRP information.
Draft RMP/EIS	Ranges West	O-43	RE45 (ARE-3)	Why is recreation given special socioeconomic condition here and other cultural activity such as grazing and mineral or energy discussions on pages 3-35 thru 3-46 do not even recognize socioeconomic characteristics or importance. This discussion of recreation socioeconomics does not belong in chapter 3.10 but should be part of Chapter 3.12. Treat all resource uses similarly.	The PRMP/FEIS text has been amended to combine the socioeconomic considerations in Section 3.10.4 with the tourism and recreation socioeconomic description in Section 3.12.2.2.4.

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	USFS—Ashley National Forest	G-19	RW32 (LRW-3)	Paragraph 1 change to read "would be a result of surface-disturbing activities both within and outside of the riparian zones."	Section 4.11 of the PRMP/FEIS has been revised to include surface-disturbing activities within and outside of riparian zones.
Draft RMP/EIS	USFS—Ashley National Forest	G-19	RW37 (LRW-8)	Address the effects of authorized and unauthorized OHV use and dispersed camping to riparian areas.	Section 4.11.2.7.1 in the PRMP/F has been revised to include an analysis of OHV use on riparian resources. Additional analysis of OHV use has also been included in Section 4.11.2.7.1.
Draft RMP/EIS	UBAOG	G-22	RW10	The DEIS needs to disclose the fact that it has no current assessment of the Book Cliffs riparian zones. Twenty-year-old data are not meaningful or reliable. Riparian areas will recover (and change) relatively quickly. There have been major changes in the area and the DEIS cannot assume that area remains in "poor ecological condition." In the Book Cliffs area, the Rocky Mountain Elk Foundation purchased ranches and grazing permits in the early 1990's and the area has only been lightly grazed by livestock on those permits. If the riparian zones have not improved, then BLM needs to disclose the fact that this has not occurred due to domestic livestock grazing.	As stated in Section 3.11.2, a preliminary wetland inventory has been conducted of riparian and wetland resources within the VPA (as of 2003). A comprehensive assessment of riparian conditions has yet to be conducted by a full interdisciplinary team. Once the inventory is completed, the condition of wetlands and riparian resources could change. Section 3.1.2 of the PRMP/FEIS has been revised to include a statement that states that: "…current riparian conditions within the Book Cliffs are being assessed, and that conditions could have changed since the 1984 riparian/wetland assessment."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	RW52 (R-RW1)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Management actions to meet riparian objectives would include alternative sources of water, fencing, herding, change of livestock class, temporary closures, and/or changes of	The management actions listed in Table 2.1.16 (Riparian Resources) of the PRMP/FIES to meet riparian objectives are a range that includes herding of livestock as a management action that would be applied where appropriate. Nowhere in this section is it implied or stated that the livestock grazing industry is specifically

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				season. Additional management actions would include reductions in big game and/or wild horse numbers." Herding is very expensive and not reasonable alternative without proper infrastructure (fencing and water). Herding is not a substitute for structural range improvements. An essential component of riparian management is to provide alternative sources of water to facilitate distribution of livestock and big game / wild horses. The prescription omits significant factors of big game and wild horses and unfairly targets the livestock industry. It also implies that BLM will not support nor fund the range improvements necessary to properly manage the rangeland resources.	targeted for application of riparian and wetland resources management actions. The commenter does not provide additional information on what "significant factors" have been omitted from livestock grazing prescriptions. Table 2.1.16 under the subsection entitled Management Common to All Action Alternatives has been revised to read as follows: "Appropriate management actions to meet riparian objectives could include fencing, herding, change of livestock class, temporary closures, and/or change of season."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	RW53 (R-RW2)	RE: Alternative A (Pages 2-53 and 2-54)—Modify the following statement as indicated by bolded additions and strikethrough deletions: "Key streamside herbaceous riparian vegetation, where stream bank stability is dependant dependent upon it, would have a minimum stubble height at the end of the growing season capable of trapping and assuring retention of sediment during high flows. Management actions could be based on residual stubble height of key herbaceous species measured from the green line or utilization of current year's growth at the end of the growing season. An initial management	Table 2.1.6 (Riparian Resources) of the PRMP/FEIS has been revised to correct the spelling error in Table 2.3 (Riparian Alternative A). The BLM declines to make the other suggested wording changes for a variety of reasons including but not limited to, the following: The BLM does not find the suggested changes necessary or appropriate. The suggested wording change does not substantively contribute to or clarify the discussion. The commenter did not provide any rationale why the suggested change is necessary or how

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				action would be to set a stubble height of 4 inches or 30% utilization on key herbaceous species measured from the green line if riparian conditions in that reach are to be maintained and 6 inches stubble height on key herbaceous species measured from the green line or <20% utilization if riparian conditions need to be improved. This initial stubble height or utilization level would need to be jointly monitored by the permittee and BLM to verify if it provides for maintenance or improvement objectives, with adjustments in allowable utilization or stubble height being made as needed." Make the same changes for Alternative A, same pages. Make the same changes on Page 2-86 under Alternative A. Make the following changes on Page 2-86 for Alternative D: "Upland utilization and riparian vegetation utilization measurements are specified in allotment management and grazing plans, rather than in the RMP unspecified, and proper use would potentially be maintained." The alternatives incorrectly use the stubble height and utilization standards	the current data and analysis is incorrect. The suggested change expressed personal opinions or preferences. The suggested change had little relevance to the adequacy or accuracy of the RMP/FEIS.

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				interchangeably. They are not interchangeable and as written, they are not defined properly. The RMP should adopt the stubble height standard as revised. This comment applies throughout the document, which refers to riparian grazing use standards in terms of (4" stubble on key herbaceous species or 6" stubble height or 30% to 20% utilization presumably on woody species. See e.g. 2-53, page 2-86 and 2-93. The riparian standards stated on page 4-238, 4.15.2.2.1 Alternative A (also see line 2 page 4-239) are equally problematicequally problematic. The differences in wording regarding key species vs. woody species are significant and could lead to very troublesome interpretations by staff. Monitoring needs to be jointly done by BLM and the permittee. The RMP discussion is inaccurate.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	RW59 (R-RW8)	Modify the following statement as indicated by bolded: "Approximately 16,000 acres of riparian zones are found along the Green and White Rivers and Bitter, Evacuation, Sweetwater, and Willow Creeks in the Book Cliffs portion of the VPA. As of 1982, 470 acres of riparian zones in the Book Cliffs portion of the VPA were identified as being in poor ecological condition (BLM 1984). These data are not current and are probably not an accurate indicator of current conditions. BLM will continue to complete the range health assessments for each allotment. The Diamond	Section 3.11.1 of the PRMP/FEIS has been revised to include clarification of out-dated riparian data for the Book Cliffs and an acknowledgment that preliminary inventories have been conducted, to be followed by comprehensive VPA wetland and riparian inventories (Section 3.11.2). The reads as follows: "Approximately 16,000 acres of riparian zones are found along the Green and White Rivers and Bitter, Evacuation, Sweetwater, and Willow Creeks in the Book Cliffs portion of the VPA. As of 1982, 470 acres of riparian zones in the Book

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Mountain portion of the VPA contains 60,300 acres of riparian lands (2 percent of the inventoried lands), with 15,650 acres of the 60,300 acres in public lands. There are 540 miles of perennial and intermittent streams in the VPA (BLM 1993b). The BLM manages its riparian zones for multiple uses, including recreation, grazing, wildlife habitat, and other uses." The DEIS needs to disclose the fact that it has no current assessment of the Book Cliffs riparian zones. Twenty-three year old data are not meaningful nor reliable. Riparian areas will recover (and change) relatively quickly. The DEIS cannot assume that area remains in "poor ecological condition." Nor is it accurate for the RMP to imply that the poor ecological conditions are due to domestic livestock grazing or that they still exist. For instance, in the Book Cliffs area, the Rocky Mountain Elk Foundation purchased ranches and grazing permits in the early 1990's and the area has not been grazed by livestock since that purchase. If the riparian zones have not improved, then BLM needs to disclose the fact that these resource conditions are not due to continued domestic livestock grazing and BLM must pursue wildlife (elk) reductions and vegetation projects. BLM and permittees have been actively monitoring rangeland health conditions over the last several years. A significant percent are in functioning condition. In the areas that are at	Cliffs portion of the VPA were identified as being in poor ecological condition (BLM 1984). However, current riparian conditions within the Book Cliffs are being assessed, and riparian conditions could have changed since the 1984 riparian/wetland assessment (see 3.11.2 below). The Diamond Mountain portion of the VPA contains 60,300 acres of riparian lands (2 percent of the inventoried lands), with 15,650 acres of the 60,300 acres in public lands. There are 540 miles of perennial and intermittent streams in the VPA (BLM 1993b). The BLM manages its riparian zones for multiple uses, including recreation, grazing, wildlife habitat, and other uses."

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				risk or not functioning, we find that there is major wildlife use, especially on willows. In other cases, road crossings may funnel runoff to create an arroyo effect that prevents the establishment of vegetation.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	RW61 (R-RW10)	Not all upland surface disturbance will accelerate erosion. Utah non-point source best management practices and BLM BMPs also limit surface erosion. Any sedimentation will depend on the site, soils, slope and proximity to a water body. The general statement as written is inaccurate.	Section 4.11 of the PRMP/FEIS has been revised for clarification to state that "Upland surface disturbance could cause a loss of vegetation that could accelerate soil erosion…"
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	RW72 (R-RW21)	Modify the following statements as indicated by bolded additions and strikethrough deletions: "Proper functioning condition (PFC) is the minimum acceptable goal for riparian areas. Riparian-wetland areas would be maintained, restored, and managed protected, and/or expanded to achieve PFC with respect to soils, vegetation, and hydrology/water quality. Thus, riparian management would have short-and long-term, direct, beneficial impacts to soils and water through proper and well-timed grazing. where use of streamside vegetation is reduced." The RMP should focus on well-timed grazing rather than reducing livestock grazing.	Section 4.13.1.7 of the PRMP/FEIS has been revised to read as follows: "Proper functioning condition (PFC) is the minimum acceptable goal for riparian areas. Riparian-wetland areas would be maintained, restored, and managed to achieve PFC with respect to soils, vegetation, and hydrology/water quality. Thus, riparian management would have short- and long-term, direct, beneficial impacts to soils and water where use of streamside vegetation is reduced."

Table 5.13q. Comments Requiring a Change in the Document: Riparian

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	Comcast	O-148	5	The riparian goal of PFC is totally inadequate because PFC is only a minimal hydraulic evaluation, is highly subject and biased. PFC does not address habitat or water quality. Regarding stubble height standards, they are ineffective because they are typically not enforced, do not represent use in riparian areas and little strips of sedges do not filter sediment. For filtering sediment, intact riparian areas with vegetated stream banks and fully vegetated riparian areas are needed to reduce erosion and filter sediment. These deficiencies should be addressed by closing all riparian areas to livestock.	See Table 2.1 pages 2-19 and 2-31. The text on 2-19 has been revised in Grazing in River Corridors, 4th sentence – the word "temporarily" has been removed to reflect that after all options have been exhausted those riparian areas would be closed to grazing. Comment noted

Table 5.13r. Comments Requiring a Change in the Document: Scope

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	US EPA	G-6	36	Table 2.5, Summary of Impacts for Environmental Justice, Page 2-83: This section should also address impacts to individual tribal members. The adverse impacts to human health referenced in Alternative D need to be discussed in Alternatives A, B, and C.	This table in the Proposed RMP/Final EIS, Table 2.2, has been modified to incorporate the potential environmental risks to this community. Wellfield development would not be in the immediate area of a Tribal community. A nearby community, however, is located approximately 10 miles to the north at the settlement of Ouray.

Table 5.13r. Comments Requiring a Change in the Document: Scope

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					Potential downsides to the residents of Ouray are the risks associated with nearby minerals development. These risks include increased truck traffic through the town, and wellfield effects such as flaring, dust, spills, well blowouts and impacts to water resources.

Table 5.13s. Comments Requiring a Change in the Document: Special Designation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SD157	The information under Section 3.14.3.2, page 3-84, should more fully and accurately represent the specific management requirements found in Manual Section 8351.32C, particularly regarding valid existing rights.	Chapter 3 in the PRMP/FEIS has been revised to expand the discussion of management requirements for rivers determined eligible for the NWSRS to include the more detailed information outlined in Manual 8351, Section .32C.
Draft RMP/EIS	State of Utah	G-1	SD167	The White River SRMA (western part) would be managed as no surface occupancy. How is this different from the ACEC proposed for the area? The State of Utah has concerns that the establishment of an SRMA outside of the 1/2-mile wide river corridor is inappropriate due to the demonstrated lack of recreational activity beyond the corridor. Why is it necessary outside the river corridor? Is it even necessary to have an SRMA in the area in light of the proposed WSR designation on the west segment of the	A review of Table 2.3, Recreation-shows those NSO stipulations are not proposed in direct correlation to the SRMA. Rather, Table 2.1 and Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction. (Special Designations – Areas of Critical Environmental Concern (ACECs)) of the PRMP/FEIS clearly indicates that management of the ACEC would include NSO for the western portion of the area.

Table 5.13s. Comments Requiring a Change in the Document: Special Designation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				White River SRMA? How are the proposed WSR and SRMA designations related to each other?	The SRMA and WSR designations are two separate types of management tools. SRMAs are not special designations but tools for integrated management of recreational opportunities in areas of high recreation use. WSR designations are special designations intended to recognize particular river related values, which may include recreation, that require special management consideration and action. WSR management would only apply to one-quarter mile from center-line on each side of the river. Recreation use occurs outside of this narrow corridor and has therefore the BLM has proposed an SRMA in two alternatives. Also, see comment response SD8-G-9.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-24	SD383 (SO32a)	There is no analysis of the impacts on RFD or socioeconomic impacts from the proposed Nine Mile Canyon SRMA.	There is no requirement in NEPA to do the detailed analysis that the commenter demands. This is outside the scope of the RMP and EIS. Section 4.12 of the PRMP/FEIS states: "If impacts to some aspect of the socioeconomic situation are not mentioned in this analysis, then a negligible effect should be assumed."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	SD366A (R-SD30)	This statement suffers from an all inclusive and thus inaccurate generalization. It also confuses the difference between vegetation treatments and water projects. It is assumed that the	The commenter is correct that the acres referred to are specific to vegetation treatments geared at range improvement under Alternative A. The same assumption was made in the

Table 5.13s. Comments Requiring a Change in the Document: Special Designation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				acreage figure refers to acres to be treated and not acres affected potentially by water projects. The RMP also omits water projects and fences, which are essential to distribution and management of grazing.	description of the other alternatives in this same line of Table 2.5. The statements within the table for all alternatives have been reworded to include numbers for potential water projects. Also, clarification has been made to the Vegetation section of Table 2.5 in the Draft EIS that the acres referred to are related strictly to vegetation treatments geared toward range/forage improvement. Note: Table 2.5 of the Draft RMP has been renumbered as Table 2.2 of the PRMP/FEIS.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SO25	The State of Utah is concerned about the inadequacy of baseline data used in the socioeconomic analysis. The BLM Planning Handbook (Appendix D) provides specific areas to be considered when incorporating social science into the planning process. Social science information should include economic, political, cultural and social structure of not only the counties within the VFO, but also the region and the Nation as a whole. The DEIS fails to do this.	This information has been included in the Section 3.12 in the PRMP/FEIS.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SO26	The RMP makes broad statements about the socioeconomic profile of the planning area, broken down into discussions about each of the three counties, however, the draft seems to lack a detailed analysis of the situation on the ground. For instance, in the Socioeconomic section of Chapter 3, the draft includes only two conclusions regarding the region's history, geography, and economics; first, the majority of the planning area sustain a rural/small town lifestyle, second, the counties are economically dependent on the development of the physical resources within the VFO. According to the BLM Planning Handbook, social values, beliefs, and attitudes; how people interact with the landscape; and sense-of-place issues should also be included. The VFO should elaborate on the socioeconomic baseline for the planning area and review it for inaccuracies.	Section 3.12 in the PRMP/FEIS has been revised to include the information made in the comment.
Draft RMP/EIS	State of Utah	G-1	SO27	The DRMP fails to thoroughly analyze the social and economic impacts of the alternatives. The draft only analyzes the socioeconomic impacts of Lands and Realty, Forage, Minerals, and Recreation and OHV decisions. Additional resource management decisions, however, have the potential to have an impact on state and county economies, specifically special designations. Notably missing is an economic analysis of the lost shared mineral revenue from federal lands that have an economic impact on the community as well as other mineral sharing	The PRMP/FEIS has been revised to include further analysis of effects on socioeconomics from proposed management actions of other resources, including special designations. Please see response to SO3 regarding state trust lands.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				programs within the state. The development of mineral resources on federal lands and state trust lands would be negatively impacted by overly restrictive management prescriptions imposed by special designations. In its economic impact analysis, the RMP has excluded the significant state and local revenues generated through a variety of taxes paid that would be impacted by special designations.	
Draft RMP/EIS	State of Utah	G-1	SO28	During the scoping process, Uintah County provided the BLM with two studies related to the economic significance of mineral development, specifically oil and gas, in the Uintah Basin. These studies were Economic Impact Analysis of the Drilling and Completion of a Natural Gas Well in the Uintah Basin by the Utah Energy Group and The Uintah Basin Industry Impact Study by Pam Perlich of the University of Utah. The RMP fails to reflect the information contained in these documents. The State of Utah requests that the BLM review these studies and incorporate their findings into the RMP.	The PRMP/FEIS has been revised to include the recent State-commissioned study on the impact of the oil and gas industry on the Uintah Basin.
Draft RMP/EIS	State of Utah	G-1	SO29	Daggett, Duchesne, and Uintah Counties have estimated that up to 80% of the local economy is dependent directly or indirectly on access to, and utilization and extraction of natural resources on the public lands. The BLM is required by its own Planning Handbook, Section H-1601-H, and IM 2002-167 to assess the degree of local dependence on public land	BLM feels that the intent of IM 2002-167 and the Planning Handbook have been implemented. See comment response SO2 regarding these same data sources. The PRMP/FEIS has been revised to reference to the USU social survey on attitudes of residents on public land management.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				resources, and use this information as part of the decision-making process. The state is concerned that these requirements have not been met within the draft RMP and EIS. This issue should be examined in more detail.	
Draft RMP/EIS	State of Utah	G-1	SO30	Sections of the socioeconomic impacts analysis are overly generalized to the point that social and economic impacts specific to the planning area are not apparent. For example, in the "Lands and Realty" portion of the "Impacts Common to All" section, long term beneficial effects on the social goals of communities are described by accommodating community growth and development when it is determined that accommodating social goals is in compliance with other goals and objectives of the Proposed RMP. The portion of the plan does not reference specific areas of the DRMP/DEIS where this occurs or direct the reader to any specific management decisions that provide for community growth. The section is vague and unspecific and should reflect specific management prescriptions in the plan rather than general statements.	Section 4.12.2.2 has been rewritten in the FEIS, and the BLM believes that this revision addresses the commenter's concerns.
Draft RMP/EIS	Duchesne County Chamber of Commerce, Economic Development Office	G-5	SO1	The unemployment rate for Duchesne County should be closer to 7.1% rather than the 1.7% stated in the RMP.	Section 3.12.2.1 in the PRMP/FEIS has been revised to correct this number.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Utah State Office of Education	G-6	SO3	The RMP has no analysis of the economic impacts of the decisions on Utah trust lands or on the economic impact on schools, the University of Utah, and Utah State University.	Section 4.12 in the PRMP/FEIS has been revised to include an analysis of the effects on SITLA lands. An analysis of the effects of Alternative E on SITLA lands has been added to Section 4.12.3.1.5.
Draft RMP/EIS	Uintah County	G-15	SO63 (JSO-15)	We provided you with specific data source; there is no reference or indication that it was ever used. (Uinta Basin Industry Impact Study)	This document has been reviewed, and the relevant information has been incorporated into the Final RMP/EIS.
Draft RMP/EIS	Uintah County	G-15	SO64 (JSO-16)	We provided you with specific data source; there is no reference or indication that it was ever used. (UEO Report addressing cost and related impacts of Drilling a well in Uintah and Duchesne counties.) The Draft RMP drilling costs differ by more than 300% from this report, making it impossible to accurately analyze and disclose impacts.	This document has been reviewed, and the relevant information has been incorporated into the Final RMP/EIS. The BLM accepts the identified document as a valid source of information, and the socioeconomic analysis was redone based upon the information provided.
Draft RMP/EIS	Uintah County	G-15	SO68 (JSO-21)	Summary of Impacts, Discipline, Social and Economic Consideration: Mineral Development is erroneous. There is no reference as to where and how these numbers were calculated. Based on upon UEO report, these numbers need to be recalculated. It does not make sense to have $3.8 billion in cost to recoup $437 million in sales.	This document has been reviewed, and the relevant information has been revised into the Final PRMP/FEIS. The BLM accepts the identified document as a valid source of information, and the socioeconomic analysis was redone based upon the information provided. See comment responses to SO31 and SO54.
Draft RMP/EIS	Uintah County	G-15	SO69 (JSO-22)	Recreation section. We question these numbers, are they for BLM managed land only? All 3 counties? Are oil field workers staying in local motels being counted as tourists? Again, there is not reference to check	It is unclear which statistic in the Recreation Section of Table 2.5 is being questioned. Section 4.12.3.2 in the PRMP/FEIS has been revised to reflect the impact of oil workers in

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				where these stats came from.	local motels.
Draft RMP/EIS	Uintah County	G-15	SO71 (JSO-24)	Note that a large portion of "tourism tax dollars" come from the oil and gas industry (local motels for housing for oil field workers etc). This should be made clear in all sections of the RMP discussing tourism impacts.	Section 4.12.3.2 in the PRMP/FEIS has been revised to clarify the relationship between oil and gas workers and "tourism tax dollars."
Draft RMP/EIS	Uintah County	G-15	SO72 (JSO-25)	This data from 2000; table needs to be updated. Should use info from Utah Division of Travel not Utah Travel Council. Also this table reflects a percentage change, but does not say what it is changing from.	Table 3.10.1 in the PRMP/FEIS has been revised to incorporate information from the Utah Division of Travel Development.
Draft RMP/EIS	Uintah County	G-15	SO73 (JSO-26)	Update the population data. Although census from 2000, recognized agencies have more updated population data and this data should be used.	There may be more up to date population numbers, but the commenter did not provide that information to use. Population projections for 2020 are given and updated data has been used where applicable. Also, an RMP will never have current, up-to-date information due to the length of time it takes to publish the document. The data is provided for comparison purposes. See comment response SO53.
Draft RMP/EIS	Uintah County	G-15	SO75 (JSO-28)	Table needs to be updated with FY2004 data. Old data does not accurately show present impacts.	Due to changes in recordation at the Minerals Management Service, this information is not available for more recent years. However, Table 3.12.4 in the PRMP/FEIS has been revised to incorporate new minerals revenue figures.
Draft RMP/EIS	Uintah County	G-15	SO76 (JSO-	Charts from Utah Division of Oil, Gas and Mining are 2002; need to be updated with	The charts following Table 3.12.4 in the PRMP/FEIS have been revised to reflect 2004

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
			29)	2004.	figures from the Utah Division of Oil, Gas and Mining.
Draft RMP/EIS	Uintah County	G-15	SO77 (JSO-30)	Gas and oil prices per barrel in RMP need to be adjusted to reflect current conditions.	Section 3.12.2.2.3 in the PRMP/FEIS has been revised to reflect 2004 figures from the Utah Division of Oil, Gas and Mining
Draft RMP/EIS	Uintah County	G-15	SO78 (JSO-31)	Conflict between Tax Revenue text and Table 3.10.1 data. ($951,000 vs. $334,514). Use most current data.	Section 3.12.2.2.4 in the PRMP/FEIS has been revised to reflect the correct tax revenue figures. See response to SO6.
Draft RMP/EIS	Uintah County	G-15	SO79 (JSO-32)	Data doesn't truly reflect actual tourism dollars (high % of industry in them).	This has been noted in Sections 3.12.2.2.4 and 4.12.3.2
Draft RMP/EIS	Uintah County	G-15	SO80 (JSO-33)	ALL county revenue should be included in data. Show what portion of revenue goes to state and not county.	Sections 3.12.2.2.3 and 4.12.3.2.1 in the PRMP/FEIS have been revised to indicate shat portion of county revenue goes the state.
Draft RMP/EIS	Uintah County	G-15	SO85 (SO-38)	Last paragraph 2nd sentence should read "to the federal government and the State of Utah" rather than "or"	Section 4.8.1.1 in the PRMP/FEIS has been revised to incorporate the change suggested in the comment.
Draft RMP/EIS	Uintah County	G-15	SO86 (JSO-39)	Inconsistency in number of wells between various sections of RMP and Mineral Potential Report. Figure of 6,530 more accurately reflects a minimum for wells, not a maximum.	Errors in the numbers of wells between various sections will be corrected in the FEIS. The maximum number of wells predicted in the RFD was based on the best information available at the time of the report. See comment response AT29.
Draft RMP/EIS	Uintah County	G-15	SO90 (JSO-43)	Cost of drilling as stated in RMP is incorrect and results in need for reassessment of all alternatives.	Section 4.12.3.2 in the PRMP/FEIS has been revised to consider the cost of drilling based upon data received by the BLM.
Draft	Uintah	G-15	SO92	Discrepancy in well numbers (6,312 v. 6,340) in document text vs table. Also well number	Section 4.12.3.2.1 in the PRMP/FEIS has been revised so that the number of wells are

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	County		(JSO-45)	from MPR of 6,530 not reflected in any alternative.	consistent throughout the RMP. The well number of 6,530 is the maximum RFD. The maximum number of wells was adjusted by the percent of area open for development under each alternative.
Draft RMP/EIS	Uintah County	G-15	SO94 (JSO-47)	Royalties and PILT not connected in any way and the statement that they are suggests that the preparer has no knowledge of BLM and local, or state revenue sources.	Sections 4.12.3.2.2 thru 4.12.3.2.4 in the PRMP/FEIS have been revised to clarify the impacts of royalties and Payments in Lieu of Taxes (PILT).
Draft RMP/EIS	Uintah County	G-15	SO98 (JSO-51)	Section is inadequate and insufficiently detailed to specific locations and counties and does not tie wages to jobs. Also, references are not cited.	The document has been revised such that references used have been cited the text.
Draft RMP/EIS	UBAOG	G-22	SO16	This same level of analysis should be applied to oil and gas development as it has a positive effect on the same sectors of the economy. The loss of jobs and tax revenue will be made up several times over by development.	Sections 4.12.2.3 and 4.12.2.4 in the PRMP/FEIS have been revised to address tourism tax revenues.
Draft RMP/EIS	UBAOG	G-22	SO17	The impact to Daggett County discussion should be struck as the increase in wells is only 4.5. This impact is a great exaggeration as are others where mineral development is discussed.	Section 4.12.2.2 in the PRMP/FEIS has been revised to incorporate the suggested comment. These sentences have been deleted in the FEIS.
Draft RMP/EIS	UBAOG	G-22	SO18	This sentence should be changed to read "Under Alternative A 1,798,378 acres would be open in leasing categories 1 and 2 to oil and gas and coal bed methane. CBNG should be added here as acres are not correct if you don't. It should be noted that categories 1 and 2 are used here with no indication of where	1,776,782 acres would be open to Category 1 and 2 oil and gas (which includes coal bed natural gas) leasing categories under Alternative A. Section 4.12.3.2.1 in the PRMP/FEIS has been revised to show the correct acreages for mineral development.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				they are in the text or on the maps. This comment applies to Alternative "C" and "D" in this section. Nowhere does this section discuss volumes of production.	CBNG production would account for approximately 2% of the natural gas in the VPA, therefore a detailed analysis (in comparison to oil and natural gas development) of CBNG development will not be provided in the PRMP/FEIS. See Section 4.12.3.1
Draft RMP/EIS	UBAOG	G-22	SO19	The Counties question the findings in the last two sentences of Section 4.12.3.1 on page 4-175. If Alternative C were to be selected, Table 2.3 indicates that livestock forage would decrease from 146,161 AUMs under Alternative D to 77,294 AUMs. Such a reduction would have an impact on the livestock industry and its ability to expand in the future to serve a growing population. Such reductions ignore provisions of the Taylor Grazing Act and withdrawals.	Sections 4.12.2.1 and 4.12.3.1 in the PRMP/FEIS have been revised to provide details on AUM demand.
Draft RMP/EIS	Thomas M. Power	I-33	SO108	The DEIS projects that oil and gas development under the preferred alternative would result in 215,000 new jobs being created. Given that the total employment in the planning area is about 23,000, this would represent almost a ten-fold increase in employment over the next 20 years. That would be an oil and gas boom of monumental proportions.	Based on the data available to the BLM, the socioeconomic section has been rewritten in the FEIS. See Section 4.12.3.1 for explanation of employment numbers. See also comment responses SO31and SO54.
Draft RMP/EIS	Thomas M. Power	I-33	SO109	Analysis of how mineral extraction employment has actually changed with oil and gas drilling in the Uinta Basin indicates that about one annual job is associated with a new well being drilled and about one operation and	Based on the data available to the BLM, the socioeconomic section has been rewritten in the FEIS. See responses to comments SO31 and SO54.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				maintenance job is associated with every 6 wells brought into production. The DEIS, in contrast, estimates that there are 30 jobs associated with each well drilled and 24 jobs associated with every 6 wells brought into production. The job impact estimates based on the actual experience in the Uinta Basin used in the report (Power 2005: The Economic Impact of Expanded Oil and Gas Development in Utah's Uinta Basin) used to prepare my comments are confirmed by studies elsewhere in Utah and the Mountain West. There is no evidence to support the DEIS oil and gas job multipliers.	
Draft RMP/EIS	Thomas M. Power	I-33	SO112	Although school districts in the Uinta Basin collect considerable property tax revenues from oil and gas developments, the Utah state school equalization program largely offsets those oil and gas tax revenues by reducing the payments the state government makes to those school districts. The intent of the Utah school equalization program is to assure that approximately the same resources are available to support the education of a student regardless of how rich or poor the school district's tax base is. Statistical analysis of that program confirms that it is largely successful in offsetting the "windfall" that certain school districts otherwise would receive from the oil and gas developments within their taxing jurisdictions. For that reason, expanded oil and gas development in the Uinta Basin will not dramatically improve the financial	Contributions to local and state governments have been revised in the FEIS. As a result of the equalization program, BLM did not specifically analyze resource management impacts to local school districts.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				condition of local schools.	
Draft RMP/EIS	Thomas M. Power	I-33	SO31	I submit the report entitled The Economic Impact of Expanded Oil and Gas Development in Utah's Uinta Basin as my comment on the draft RMP/EIS.	The most recent State-sponsored study on the impact of oil and gas development in the Uintah Basin has been incorporated.
Draft RMP/EIS	Bill Robinson	I-173	SO41 (SO-L)	The DRMP/DEIS fails to conduct a proper economic analysis. The DRMP/DEIS in this case failed to properly include and assess the environmental impacts on the local economies that would be affected in particular with regard to the effect that reduced livestock grazing will have on the local economy. The alternatives of the DRMP/DEIS, besides the no action alternative, all consider reducing the number of AUMs for livestock, or calls for the reduction of only livestock use of the range. The BLM must consider the economic and historic contribution of ranching and livestock grazing to the local economy and balance that against the harm that will be caused to the economy if that grazing is reduced.	Section 4.12.3.1 in the PRMP/FEIS has been revised to assess the environmental impacts of the local economies. The Proposed RMP has no reduction in AUM's and is identical to the current situation (the No Action alternative).
Draft RMP/EIS	Bill Robinson	I-173	SO42 (SO-M)	The DRMP/DEIS acknowledges the historic and economic contributions grazing and ranching has on local communities. The DRMP/ DEIS however, is devoid of discussion or analysis of the impacts that reduced or eliminated or retired grazing preferences would have on local economies or on small businesses.	Section 4.12.3.1 in the PRMP/FEIS has been revised to assess the historic and economic impacts of grazing and ranching on local communities.
Draft RMP/EIS	Utah Farm Bureau	O-9	SO19	The Counties question the findings in the last two sentences of Section 4.12.3.1 on page 4-175. If Alternative C were to be selected,	Sections 4.12.2.1 and 4.12.3.1 in the PRMP/FEIS have been revised to provide

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	Federation			Table 2.3 indicates that livestock forage would decrease from 146,161 AUMs under Alternative D to 77,294 AUMs. Such a reduction would have an impact on the livestock industry and its ability to expand in the future to serve a growing population. Such reductions ignore provisions of the Taylor Grazing Act and withdrawals.	details on AUM demand.
Draft RMP/EIS	Questar	O-12	SO99 (LSO-1)	Local and state revenue through oil and gas taxes is not discussed.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government of the alternative decisions affecting the oil and gas industry in the Vernal planning area.
Draft RMP/EIS	IPAMS	O-14	SO16	This same level of analysis should be applied to oil and gas development as it has a positive effect on the same sectors of the economy. The loss of jobs and tax revenue will be made up several times over by development.	Sections 4.12.2.3 and 4.12.2.4 in the PRMP/FEIS have been revised to address tourism tax revenues.
Draft RMP/EIS	IPAMS	O-14	SO99 (LSO-1)	Local and state revenue through oil and gas taxes is not discussed.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government of the alternative decisions affecting the oil and gas industry in the Vernal planning area.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO45 (SO-P) (JSO-3)	Tables 3.12.3 and 3.12.7 in Chapter 3 should indicate that the "Mining" category includes oil and gas employment.	Tables 3.12.3 and 3.12.7 in the PRMP/FEIS have been revised to indicate that the "mining" category includes oil and gas employment.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO47 (SO-R) (JSO-4)	The draft RMP/EIS fails to effectively address the full realm of positive economic benefits associated with current and future oil and gas activities. While Section 4.12 provides a brief	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten. The BLM believes this revision represents the importance of this industry to the Vernal planning area.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				comparison of wells to be drilled, industry jobs that would be created, industry sales, and federal royalties under each alternative, what appears to have been excluded is the highly significant state and local revenue generated due to a variety of taxes paid.	
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO48 (SO-S) (JSO-5)	The socioeconomic analysis contained in Section 4.12 of the draft Vernal RMP/EIS does not adequately describe the long-term incremental and cumulative differences in public sector revenues of the four alternatives. Specifically, the section fails to discuss the property tax revenues that each alternative would generate and the various community facilities and services that this significant source of revenue funds for residents in the Vernal planning area. As an example, according to the Uintah County Treasurer's office, fully 57.6% of that county's 2004 property tax revenue was derived from the oil and gas and mining industries. Accordingly, management decisions that influence the level of oil and gas activity have direct and significant impacts on local government fiscal conditions in the VPA and indirect impacts on the quality of life of Vernal planning area residents. These impacts must be disclosed in the draft RMP/EIS.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government of the alternative decisions affecting the oil and gas industry in the Vernal planning area.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO49 (SO-T) (J-SO7)	The Draft RMP/EIS does not address Utah severance taxes. Severance taxes on natural gas are assessed on a sliding scale, 3% on the first $1.50/Mcf, and 5% percent thereafter.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government (including severance taxes) of the alternative decisions

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				The draft RMP/EIS does not estimate the differences in severance taxes for each alternative. Given that oil and gas production from the Vernal planning area was a substantial portion of the state's total, it is important to understand the implications of each alternative for State of Utah severance tax revenues.	affecting the oil and gas industry in the Vernal planning area.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO50 (SO-U) (J-SO8)	The absence of a more complete fiscal assessment will impede the ability of the public, local governments, and BLM decision-makers to assess the effects of each alternative on local government revenues and on their ability to provide public services, which directly affect the quality of life of Vernal planning area residents. Moreover, the limited scope fiscal analysis in the Draft RMP/EIS does not fulfill the BLM's charge to assess the degree of local dependence on resources from public lands, or fulfill the agency's obligations outlined in Land-use Planning Handbook (H-1601-H) or Instruction Memorandum No. 2002-167.	Section 4.12 in the PRMP/FEIS has been revised to expand the discussion of the fiscal impacts to state and local governments. The BLM will review the Utah State University survey of rural counties conducted by the State of Utah. The BLM has received preliminary data from this study received after completion of the DEIS. The BLM has incorporated findings in the PRMP/FEIS as appropriate.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO51 (SO-V) (J-SO9)	The Draft RMP/EIS assumes development costs of $600,000 per well. This figure is dated and does not account for other types of development taking place in the Vernal planning area. The deeper formations being developed cost more than the figure used above and the analysis should reflect this fact. This number should be revised to ensure that any economic analysis accounts for the	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten. The PRMP/FEIS incorporates recent data provided by the US Bureau of Labor Statistics and the State of Utah Division of Oil, Gas and Mining. This data has been used in the recent (November, 2007) study commissioned by the State of Utah: The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				activities in the planning area. Regardless of this oversight, the impact analysis does not address the extent these expenditures would occur in the local economy, nor do they address how the economy would be impacted both locally and nationally. Indirect employment as a result of industry expenditures and the additional tax revenue this spending activity would generate are important impacts the Draft RMP/EIS should disclose. A study was prepared that estimated that eighty-one percent (81%) of the expenditures for development benefited the local economy. On that assumption, the numbers should be reworked to reflect this significant detail.	Phase I - The Uinta Basin.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO52 (SO-W)	The statement in Section 4.12.2.2, paragraphs 3 and 4 that areas open to (minerals) exploration "would have an adverse impact on the recreation and tourism industries" and that "the quality of the recreational experience would be degraded along with possible decreases to visual quality..." is incorrect. In much of the Vernal planning area, mineral exploration and development activity would occur in remote areas that are not popular for recreation or visually sensitive. At present, mineral development and recreational activities generally take place in separate geographic areas and co-exist quite successfully in the Vernal planning area. As examples, no mineral development would occur within the recreationally significant	Section 4.12.2.2 in the PRMP/FEIS has been revised to delete the statements as suggested in the comment. See also comment responses SO15 and SO37.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Flaming Gorge National Recreation Area, Dinosaur National Monument, nor along much of the Green River (due to NSO and CSU stipulations intended to protect recreational, scenic, and other natural resources values of the river corridor). In addition, despite the substantial increase in oil and gas exploration and development that has occurred in the Vernal planning area over the last 15 years, tourism has increased rather than decreased. This fact directly contradicts the baseless statement that mineral development hurts the tourist economy and employment in the Vernal planning area.	
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SO54 (SO-Y) (J-SO12)	The draft RMP/EIS states that the rationale for decreasing mineral development is to increase recreation and OHV opportunities in the Vernal Planning Area. According to the information presented in Table 4.12.1, the economic value of oil and gas sales in the Vernal planning area is currently $189.53 million and $248.68 million, respectively. Royalties are currently more than $8.6 million annually. According to the draft RMP/EIS recreation currently provides a total tax benefit at approximately $1.6 million. The revenues from royalties, alone, are more than five times the tax benefits from recreation. Under Alternative D (existing conditions) the total number of jobs, based on the average number of employees per well, is estimated to	The jobs created per well has been revised in the FEIS. Based on date form the US Bureau of Labor Statistics, and the State of Utah Division of Oil, Gas and Mining, it is more reasonable to project an increase approximating 3.74 new jobs per well drilled than the approximately 14 suggested in the UEO study, which was for only one well. The impact analysis in Chapter 4 will be rewritten to reflect this lower estimate. The FEIS will continue to reflect the high economic value provided by minerals activities in the Uintah Basin. See also comment responses SO15 and SO37.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				be 215,260 over the next 20 years, while there are 1,578 jobs attributable to recreation. We question the rationale for increasing recreational opportunities at the expense of oil and gas development, which would decrease the revenues to the state, counties, and Tribes, as well as decrease the supply of oil and gas to the public. In addition, a decrease in future oil and gas development is contrary to the President's Energy Policy.	
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO45 (SO-P) (JSO-3)	Tables 3.12.3 and 3.12.7 in Chapter 3 should indicate that the "Mining" category includes oil and gas employment.	Tables 3.12.3 and 3.12.7 in the PRMP/FEIS have been revised to indicate that the "mining" category includes oil and gas employment.
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO47 (SO-R) (JSO-4)	The draft RMP/EIS fails to effectively address the full realm of positive economic benefits associated with current and future oil and gas activities. While Section 4.12 provides a brief comparison of wells to be drilled, industry jobs that would be created, industry sales, and federal royalties under each alternative, what appears to have been excluded is the highly significant state and local revenue generated due to a variety of taxes paid.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten. The BLM believes this revision represents the importance of this industry to the Vernal planning area.
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO48 (SO-S) (JSO-5)	The socioeconomic analysis contained in Section 4.12 of the draft Vernal RMP/EIS does not adequately describe the long-term incremental and cumulative differences in public sector revenues of the four alternatives. Specifically, the section fails to discuss the property tax revenues that each alternative would generate and the various community	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government of the alternative decisions affecting the oil and gas industry in the Vernal planning area.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				facilities and services that this significant source of revenue funds for residents in the Vernal planning area. As an example, according to the Uintah County Treasurer's office, fully 57.6% of that county's 2004 property tax revenue was derived from the oil and gas and mining industries. Accordingly, management decisions that influence the level of oil and gas activity have direct and significant impacts on local government fiscal conditions in the VPA and indirect impacts on the quality of life of Vernal planning area residents. These impacts must be disclosed in the draft RMP/EIS.	
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO49 (SO-T) (J-SO7)	The Draft RMP/EIS does not address Utah severance taxes. Severance taxes on natural gas are assessed on a sliding scale, 3% on the first $1.50/Mcf, and 5% percent thereafter. The draft RMP/EIS does not estimate the differences in severance taxes for each alternative. Given that oil and gas production from the Vernal planning area was a substantial portion of the state's total, it is important to understand the implications of each alternative for State of Utah severance tax revenues.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government (including severance taxes) of the alternative decisions affecting the oil and gas industry in the Vernal planning area.
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO50 (SO-U) (J-SO8)	The absence of a more complete fiscal assessment will impede the ability of the public, local governments, and BLM decision-makers to assess the effects of each alternative on local government revenues and on their ability to provide public services,	Section 4.12 in the PRMP/FEIS has been revised to expand the discussion of the fiscal impacts to state and local governments. The BLM will review the Utah State University survey of rural counties conducted by the State

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				which directly affect the quality of life of Vernal planning area residents. Moreover, the limited scope fiscal analysis in the Draft RMP/EIS does not fulfill the BLM's charge to assess the degree of local dependence on resources from public lands, or fulfill the agency's obligations outlined in Land-use Planning Handbook (H-1601-H) or Instruction Memorandum No. 2002-167.	of Utah. The BLM has received preliminary data from this study received after completion of the DEIS. The BLM has incorporated findings in the PRMP/FEIS as appropriate.
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO51 (SO-V) (J-SO9)	The Draft RMP/EIS assumes development costs of $600,000 per well. This figure is dated and does not account for other types of development taking place in the Vernal planning area. The deeper formations being developed cost more than the figure used above and the analysis should reflect this fact. This number should be revised to ensure that any economic analysis accounts for the activities in the planning area. Regardless of this oversight, the impact analysis does not address the extent these expenditures would occur in the local economy, nor do they address how the economy would be impacted both locally and nationally. Indirect employment as a result of industry expenditures and the additional tax revenue this spending activity would generate are important impacts the Draft RMP/EIS should disclose. A study was prepared that estimated that eighty-one percent (81%) of the expenditures for development benefited the local economy. On that assumption, the numbers should be reworked to reflect this	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten. The PRMP/FEIS incorporates recent data provided by the US Bureau of Labor Statistics and the State of Utah Division of Oil, Gas and Mining. This data has been used in the recent (November, 2007) study commissioned by the State of Utah: The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase I - The Uinta Basin.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				significant detail.	
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO52 (SO-W)	The statement in Section 4.12.2.2, paragraphs 3 and 4 that areas open to (minerals) exploration "would have an adverse impact on the recreation and tourism industries" and that "the quality of the recreational experience would be degraded along with possible decreases to visual quality..." is incorrect. In much of the Vernal planning area, mineral exploration and development activity would occur in remote areas that are not popular for recreation or visually sensitive. At present, mineral development and recreational activities generally take place in separate geographic areas and co-exist quite successfully in the Vernal planning area. As examples, no mineral development would occur within the recreationally significant Flaming Gorge National Recreation Area, Dinosaur National Monument, nor along much of the Green River (due to NSO and CSU stipulations intended to protect recreational, scenic, and other natural resources values of the river corridor). In addition, despite the substantial increase in oil and gas exploration and development that has occurred in the Vernal planning area over the last 15 years, tourism has increased rather than decreased. This fact directly contradicts the baseless statement that mineral development hurts the tourist economy and employment in the Vernal planning area.	Section 4.12.2.2 in the PRMP/FEIS has been revised to delete the statements as suggested in the comment. See also comment responses SO15 and SO37.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SO54 (SO-Y) (J-SO12)	The draft RMP/EIS states that the rationale for decreasing mineral development is to increase recreation and OHV opportunities in the Vernal Planning Area. According to the information presented in Table 4.12.1, the economic value of oil and gas sales in the Vernal planning area is currently $189.53 million and $248.68 million, respectively. Royalties are currently more than $8.6 million annually. According to the draft RMP/EIS recreation currently provides a total tax benefit at approximately $1.6 million. The revenues from royalties, alone, are more than five times the tax benefits from recreation. Under Alternative D (existing conditions) the total number of jobs, based on the average number of employees per well, is estimated to be 215,260 over the next 20 years, while there are 1,578 jobs attributable to recreation. We question the rationale for increasing recreational opportunities at the expense of oil and gas development, which would decrease the revenues to the state, counties, and Tribes, as well as decrease the supply of oil and gas to the public. In addition, a decrease in future oil and gas development is contrary to the President's Energy Policy.	The jobs created per well has been revised in the FEIS. Based on date form the US Bureau of Labor Statistics, and the State of Utah Division of Oil, Gas and Mining, it is more reasonable to project an increase approximating 3.74 new jobs per well drilled than the approximately 14 suggested in the UEO study, which was for only one well. The impact analysis in Chapter 4 will be rewritten to reflect this lower estimate. The FEIS will continue to reflect the high economic value provided by minerals activities in the Uintah Basin. See also comment responses SO15 and SO37.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	SO107 (R-SO7)	Modify the following statement as indicated by strikethrough deletions: "The Forest Management Plan for the Ashley	Section 4.22.4 in the PRMP/FEIS has been revised to read as follows: "Additionally, if drilling for oil and gas is allowed

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				National Forest could have a cumulative impact with respect to social and economic conditions by either increasing or decreasing tourism visitation based on allowable activities. Additionally, if drilling for oil and gas is allowed on the forest, it could affect the regional economy by reducing tourism and potentially increasing the oil and gas sector of the economy."	on the forest, it could affect the regional economy potentially increasing the oil and gas sector of the economy. In addition, tourism is likely to lose some of its appeal if the visible oil and gas-related activities or installations, detract from the natural environment."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	SO107 A (R-SO7)	The discussion of cumulative social and economic impacts entirely omits the role of agriculture. BLM appears to forget that ranching forms part of the economic backbone of these counties.	Section 4.22.4 in the PRMP/FEIS has been revised to add information on the role of agriculture in the counties...
Draft RMP/EIS	Utah Petroleum Association	O-42	SO45 (SO-P) (JSO-3)	Tables 3.12.3 and 3.12.7 in Chapter 3 should indicate that the "Mining" category includes oil and gas employment.	Tables 3.12.3 and 3.12.7 in the PRMP/FEIS have been revised to indicate that the "mining" category includes oil and gas employment.
Draft RMP/EIS	Utah Petroleum Association	O-42	SO47 (SO-R) (JSO-4)	The draft RMP/EIS fails to effectively address the full realm of positive economic benefits associated with current and future oil and gas activities. While Section 4.12 provides a brief comparison of wells to be drilled, industry jobs that would be created, industry sales, and federal royalties under each alternative, what appears to have been excluded is the highly significant state and local revenue generated due to a variety of taxes paid.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten. The BLM believes this revision represents the importance of this industry to the Vernal planning area.
Draft RMP/EIS	Utah Petroleum Association	O-42	SO48 (SO-S) (JSO-	The socioeconomic analysis contained in Section 4.12 of the draft Vernal RMP/EIS does not adequately describe the long-term	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government of the alternative

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
			5)	incremental and cumulative differences in public sector revenues of the four alternatives. Specifically, the section fails to discuss the property tax revenues that each alternative would generate and the various community facilities and services that this significant source of revenue funds for residents in the Vernal planning area. As an example, according to the Uintah County Treasurer's office, fully 57.6% of that county's 2004 property tax revenue was derived from the oil and gas and mining industries. Accordingly, management decisions that influence the level of oil and gas activity have direct and significant impacts on local government fiscal conditions in the VPA and indirect impacts on the quality of life of Vernal planning area residents. These impacts must be disclosed in the draft RMP/EIS.	decisions affecting the oil and gas industry in the Vernal planning area.
Draft RMP/EIS	Utah Petroleum Association	O-42	SO49 (SO-T) (J-SO7)	The Draft RMP/EIS does not address Utah severance taxes. Severance taxes on natural gas are assessed on a sliding scale, 3% on the first $1.50/Mcf, and 5% percent thereafter. The draft RMP/EIS does not estimate the differences in severance taxes for each alternative. Given that oil and gas production from the Vernal planning area was a substantial portion of the state's total, it is important to understand the implications of each alternative for State of Utah severance tax revenues.	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten and discusses the fiscal impacts to local government (including severance taxes) of the alternative decisions affecting the oil and gas industry in the Vernal planning area.
Draft	Utah	O-42	SO50	The absence of a more complete fiscal	Section 4.12 in the PRMP/FEIS has been

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RMP/EIS	Petroleum Association		(SO-U) (J-SO8)	assessment will impede the ability of the public, local governments, and BLM decision-makers to assess the effects of each alternative on local government revenues and on their ability to provide public services, which directly affect the quality of life of Vernal planning area residents. Moreover, the limited scope fiscal analysis in the Draft RMP/EIS does not fulfill the BLM's charge to assess the degree of local dependence on resources from public lands, or fulfill the agency's obligations outlined in Land-use Planning Handbook (H-1601-H) or Instruction Memorandum No. 2002-167.	revised to expand the discussion of the fiscal impacts to state and local governments. The BLM will review the Utah State University survey of rural counties conducted by the State of Utah. The BLM has received preliminary data from this study received after completion of the DEIS. The BLM has incorporated findings in the PRMP/FEIS as appropriate.
Draft RMP/EIS	Utah Petroleum Association	O-42	SO51 (SO-V) (J-SO9)	The Draft RMP/EIS assumes development costs of $600,000 per well. This figure is dated and does not account for other types of development taking place in the Vernal planning area. The deeper formations being developed cost more than the figure used above and the analysis should reflect this fact. This number should be revised to ensure that any economic analysis accounts for the activities in the planning area. Regardless of this oversight, the impact analysis does not address the extent these expenditures would occur in the local economy, nor do they address how the economy would be impacted both locally and nationally. Indirect employment as a result of industry expenditures and the additional tax revenue this spending activity would generate are important impacts the Draft RMP/EIS should	Section 4.12.3.2 in the PRMP/FEIS has been extensively rewritten. The PRMP/FEIS incorporates recent data provided by the US Bureau of Labor Statistics and the State of Utah Division of Oil, Gas and Mining. This data has been used in the recent (November, 2007) study commissioned by the State of Utah: The Structure and Economic Impact of Utah's Oil and Gas Exploration and Production Industry Phase I - The Uinta Basin.

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Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				disclose. A study was prepared that estimated that eighty-one percent (81%) of the expenditures for development benefited the local economy. On that assumption, the numbers should be reworked to reflect this significant detail.	
Draft RMP/EIS	Utah Petroleum Association	O-42	SO54 (SO-Y) (J-SO12)	The draft RMP/EIS states that the rationale for decreasing mineral development is to increase recreation and OHV opportunities in the Vernal Planning Area. According to the information presented in Table 4.12.1, the economic value of oil and gas sales in the Vernal planning area is currently $189.53 million and $248.68 million, respectively. Royalties are currently more than $8.6 million annually. According to the draft RMP/EIS recreation currently provides a total tax benefit at approximately $1.6 million. The revenues from royalties, alone, are more than five times the tax benefits from recreation. Under Alternative D (existing conditions) the total number of jobs, based on the average number of employees per well, is estimated to be 215,260 over the next 20 years, while there are 1,578 jobs attributable to recreation. We question the rationale for increasing recreational opportunities at the expense of oil and gas development, which would decrease the revenues to the state, counties, and Tribes, as well as decrease the supply of oil and gas to the public. In addition, a decrease	The jobs created per well has been revised in the FEIS. Based on date form the US Bureau of Labor Statistics, and the State of Utah Division of Oil, Gas and Mining, it is more reasonable to project an increase approximating 3.74 new jobs per well drilled than the approximately 14 suggested in the UEO study, which was for only one well. The impact analysis in Chapter 4 will be rewritten to reflect this lower estimate. The FEIS will continue to reflect the high economic value provided by minerals activities in the Uintah Basin. See also comment responses SO15 and SO37.

Table 5.13t. Comments Requiring a Change in the Document: Socioeconomics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				in future oil and gas development is contrary to the President's Energy Policy.	
Draft RMP/EIS	Utah Petroleum Association	O-42	SO59 (JSO-6)	Oil and gas-related sales and use taxes are significant. The oil and gas industry makes significant contributions to sales and use tax revenues in their purchases of substantial quantities of goods and services. Also oil and gas industry workers spend their earnings in local communities, thereby also adding to the sales tax revenue. The draft RMP does not estimate this contribution or project the impacts of each alternative on sales and use tax revenues.	The sales tax information will be included in the PRMP/FEIS based on information the Counties have provided. In Section 4.12.3.2, contributions from industry workers are discussed.

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS101 (JSS-59)	Species-specific analyses should be provided under each resource use to allow easy referencing. As currently written, it is difficult to determine if all effects for all species have been properly analyzed; for example, there is no discussion of sage grouse in the Fire and Woodland Management or Forage Allocation sections. In addition, the effects discussions are too generalized. Recommend using headings under each resource use, e.g., Mexican Spotted	Section 4.15.1 in the PRMP/FEIS has been revised to clarify the impacts analysis.

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Owl, Bald Eagle, Canada Lynx, Listed Fish Species, etc. This will also provide a more comprehensive analysis and discussion of species-specific effects from resource use activities.	
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS102 (JSS-60)	This entire discussion appears focused on listed species. Analysis of effects to all special status species should be included in this section.	Section 4.15.1 includes a general discussion of the impacts to all special status species based on impacts to habitat types used by these species. The links between these habitat types and the special status species are disclosed in Table 3.15.2 of the PRMP/FEIS. Section 4.15.1 I the PRMP/FEIS has been revised to clarify this link and provide additional detail regarding potential impacts to non-listed special status species.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS109 (JSS-67)	Black-footed ferret: Include habitat loss and fragmentation as potential impacts.	Table 4.15.1 in the PRMP/FEIS has been revised to include habitat loss and fragmentation as potential impacts to black-footed ferrets.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS110 (JSS-68)	Bald Eagle: Habitat loss and fragmentation on deer winter ranges can also negatively impact bald eagles by reducing their forage resource of carrion.	Table 4.15.1 in the PRMP/FEIS has been revised to include habitat loss and fragmentation as potential impacts on deer winter range Bald Eagles.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS114 (JSS-72)	3rd paragraph: Provide a reference for the following statement "According to data supplied by the BLM, the USFWS believes that the ferruginous hawk population could be lost in the Uintah Basin…"	Section 4.15.2.6.1.1 in the PRMP/FEIS has been revised to include a reference for the statement cited in the comment.
Draft RMP/EIS	U.S. Fish and Wildlife	G-12	SS117 (JSS-	3rd paragraph: Note that the Bald Eagle is also managed under authority of the Endangered	Section 4.15.3 of the PRMP/FEIS has been revised to provide a reference for the

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	Service		75)	Species Act and Eagle Protection Act. It is also likely that nest sites will occur on BLM land during the implementation of this RMP revision. We recommend including management of Bald Eagle nest sites.	Endangered Species Act and Eagle Protection Act. Protections for eagle nests are outlined in Appendices H and K.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS81 (JSS-38)	Edit the 3rd paragraph, "In collaboration with the USFWS, DWR, and other partners, develop and implement habitat management plans or conservation strategies for sensitive species."	Table 2.1.21 (Special Status Species) of the PRMP/FEIS has been revised to make the suggested wording change.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS82 (JSS-39)	Add Mexican Spotted Owl to this list. Include the following commitments: 1) Establish Protected Activity Centers (PACs) at all known Mexican Spotted Owl nest sites, 2) Maintain habitat to support small mammal populations as a prey base for Mexican spotted owls in occupied and suitable owl habitats, and 3) Retain large down logs, large trees, and snags as prey habitats in occupied and suitable Mexican spotted owl habitats.	Table 2.1.21 (Special Status Species) of the PRMP/FEIS has been revised to include the Mexican Spotted Owl.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS83 (JSS-40)	Edit the Bald Eagle discussion to read: "Protect and restore cottonwood bottoms for Bald Eagle winter habitat… as well any new roost and nest sites.... "	Table 2.1.21 (Special Status Species) of the PRMP/FEIS has been revised to make the suggested wording change.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS85 (JSS-42)	The UDWR is currently the lead in developing a multi-state Conservation Agreement for the roundtail chub, flannelmouth sucker, and bluehead sucker. As this should be final during the lifetime of this RMP, we recommend you	Section 2.4.1.4.4.3 in the Final EIS has been revised to add the Conservation Agreement for the roundtail chub, flannelmouth sucker, and bluehead sucker.

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				manage them as Conservation Agreement Species.	
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS91 (JSS-48)	There are 12 listed and 4 candidate species within the VPA, not 15 and 1. See also page 4-231.	These changes have been made in Table 3.15.1 of the PRMP/FEIS.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS94 (JSS-51)	Identify the occurrence of 7 Bald Eagle nest sites in Utah. Closest known nests to the project area are northwest of Manila, and on the Duchesne River between Duchesne and Bridgeland. There is the potential for bald eagle nest sites to occur on BLM lands in the Vernal Field Office area.	Table 3.15.1 in the PRMP/FEIS has been revised to include information regarding the presence of these nests and the potential occurrence of nests in the Vernal Field Office planning area.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	SS99 (JSS-56)	Provide a list of the 17 listed and 28 sensitive species.	Section 4.15 in the PRMP/EIS has been revised to reflect the Utah Sensitive Species List under authority of IM UT 2007-078.
Draft RMP/EIS	Questar	O-12	SS120 (LSS-2)	Alternative A in Appendix K states that no exemptions or waivers will be allowed but the section on raptor nests claims there may be. Same contradiction in sage grouse section	Appendix K and Sections 4.8.2.5.1.1 and 4.8.2.5.1.2 in the PRMP/FEIS have been revised to correct inconsistencies described in the comment.
Draft RMP/EIS	Newfield Exploration Co.	O-13	SS27 (SS-A)	The BLM should limit the scope of the sage grouse stipulations to ACTIVE leks and define active vs. inactive leks. Newfields leases contain a lek that is surrounded by development and has been inactive for several years. Do you intend these stipulations to apply to maintenance and operations of existing facilities near an inactive lek? Within 0.5 mile of active leks, do you intend to require operations to retrofit existing equipment with best available	These stipulations do not apply to maintenance and work-over operations. Information clarifying the scope of the sage grouse stipulations in terms of lek activity has been included in the FEIS.

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				technology to reduce noise.	
Draft RMP/EIS	IPAMS	O-14	SS120 (LSS-2)	Alternative A in Appendix K states that no exemptions or waivers will be allowed but the section on raptor nests claims there may be. Same contradiction in sage grouse section	Appendix K and Sections 4.8.2.5.1.1 and 4.8.2.5.1.2 in the PRMP/FEIS have been revised to correct inconsistencies described in the comment.
Draft RMP/EIS	IPAMS	O-14	SS128 (LSS-10)	Text is inconsistent in amount of acreage available to oil and gas than stated in Table S.1 and Table 4.8.1	Tables S.1 and Table 4.8.1 in the PRMP/FEIS have been revised to correct inconsistencies described in the comment.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SS36 (SS-J)	This section states that "although most of the riparian zone is listed as NSO, this stipulation could be waived if necessary for transmission lines, roads and surface occupancy." The conditions for granting of a "waiver" in Chapter 4 of the draft RMP/EIS are inconsistent with the stipulation for riparian floodplains described in Appendix K, which does not grant a waiver to NSO. It allows an "exception," which is defined in Appendix K as a one-time exemption from a stipulation.	Section 4.15.1.3 in the PRM/FEIS has revised the statement to read as an exception rather than a waiver.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	SS39 (SS-M)	This section states that the number of acres open to oil and gas leasing on Vernal BLM lands is 1,776,782 acres. However, Table S.1 and Table 4.8.1 state that the acres open to oil and gas leasing are 1,843,265 acres. These numbers are not consistent. Please correct and give the precise area of the acres in question for further identification, evaluation and consistency review.	Section 4.15.2.3.1.1 in the PRMP/FEIS has been revised to correct the inconsistencies described in the comment.
Draft RMP/EIS	Westport Oil and Gas	O-28	SS42	The RMP states that the Ferruginous Hawk population could be irretrievably lost due to	Section 4.15.6 in the PRMP/FEIS has been revised to add the following information:

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	Company		(SS-P)	impacts from surface disturbance for mineral development, habitat fragmentation, and habitat loss. The draft RMP/EIS provides no evidence that mineral development has or would cause declines in Ferruginous Hawk populations. Provide the data in the EIS to support this statement or delete the statement	"As a species Ferruginous Hawks have two characteristics that seem to make them more susceptible to disturbance-their preference for solitude when nesting and their high dependence on primary prey species (rabbits and/or ground squirrels). Bechard et al. (1990) showed Ferruginous Hawks' tendency for solitude by proving that their nest site selection is significantly further from roads and human habitation than other sympatric hawks. White and Thurow (1985) documented Ferruginous Hawk sensitivity to human disturbances when they found that 33% of briefly disturbed nests were deserted and the other nest had lower fledging success. In years of low prey abundance, sensitivity to disturbance increased and larger buffer zones were recommended to protect nesting pairs. Holmes et al. (1993) documented Ferruginous Hawk sensitivity to walking and vehicular disturbances and recommended a buffer zone to protect nesting attempts. (Reproductive Success and Nesting Chronology of Ferruginous Hawks in Northwestern Utah From 1997-1999. United States Department of Interior, BLM, Salt Lake Field Office. Page 5 Paragraph 1. Mining disturbance is linked to nest desertion (Olendorff 1993). Pairs nesting near active petroleum wells experience lower productivity than those that nest further away. Railroads apparently are not a disturbance, but pairs have

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					been found to nest farther from primary and secondary roads than Swainson's Hawks do. (Bechard et al. 1990)" "Olendorff (1993) attributed population declines to the effects of cultivation, grazing, poisoning, and controlling small mammals, mining, and fire in nesting habitats, with cultivation being the most serious."
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SS36 (SS-J)	This section states that "although most of the riparian zone is listed as NSO, this stipulation could be waived if necessary for transmission lines, roads and surface occupancy." The conditions for granting of a "waiver" in Chapter 4 of the draft RMP/EIS are inconsistent with the stipulation for riparian floodplains described in Appendix K, which does not grant a waiver to NSO. It allows an "exception," which is defined in Appendix K as a one-time exemption from a stipulation.	Section 4.15.1.3 in the PRM/FEIS has revised the statement to read as an exception rather than a waiver.
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	SS39 (SS-M)	This section states that the number of acres open to oil and gas leasing on Vernal BLM lands is 1,776,782 acres. However, Table S.1 and Table 4.8.1 state that the acres open to oil and gas leasing are 1,843,265 acres. These numbers are not consistent. Please correct and give the precise area of the acres in question for further identification, evaluation and consistency review.	Section 4.15.2.3.1.1 in the PRMP/FEIS has been revised to correct the inconsistencies described in the comment.
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore	O-29	SS42 (SS-P)	The RMP states that the ferruginous hawk population could be irretrievably lost due to impacts from surface disturbance for mineral	Section 4.15.6 in the PRMP/FEIS has been revised to add the following information:

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	LLC			development, habitat fragmentation, and habitat loss. The draft RMP/EIS provides no evidence that mineral development has or would cause declines in Ferruginous Hawk populations. Provide the data in the EIS to support this statement or delete the statement	"As a species Ferruginous Hawks have two characteristics that seem to make them more susceptible to disturbance-their preference for solitude when nesting and their high dependence on primary prey species (rabbits and/or ground squirrels). Bechard et al. (1990) showed Ferruginous Hawks' tendency for solitude by proving that their nest site selection is significantly further from roads and human habitation than other sympatric hawks. White and Thurow (1985) documented ferruginous hawk sensitivity to human disturbances when they found that 33% of briefly disturbed nests were deserted and the other nest had lower fledging success. In years of low prey abundance, sensitivity to disturbance increased and larger buffer zones were recommended to protect nesting pairs. Holmes et al. (1993) documented ferruginous hawk sensitivity to walking and vehicular disturbances and recommended a buffer zone to protect nesting attempts. (Reproductive Success and Nesting Chronology of Ferruginous Hawks in Northwestern Utah From 1997-1999. United States Department of Interior, BLM, Salt Lake Field Office. Page 5 Paragraph 1. Mining disturbance is linked to nest desertion (Olendorff 1993). Pairs nesting near active petroleum wells experience lower productivity than those that nest further away. Railroads apparently are not a disturbance, but pairs have

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					been found to nest farther from primary and secondary roads than Swainson's Hawks do. (Bechard et al. 1990)" "Olendorff (1993) attributed population declines to the effects of cultivation, grazing, poisoning, and controlling small mammals, mining, and fire in nesting habitats, with cultivation being the most serious."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	SS152B (R-SS2)	Research does not support the assumption of adverse impacts from mineral development. Comments submitted to the USFWS opposing the listing of the sage grouse strongly suggest that neither livestock grazing nor oil and gas development are directly connected to reported declines in sage grouse. Certainly recent drought is a factor, which is largely ignored. This discussion needs to be modified to reflect other scientific viewpoints.	The potential impacts of mineral development to sage grouse habitat that are described in the Draft EIS are due to the potential removal of that habitat. Citations regarding research on drought, mineral, and grazing impacts on sage grouse habitat will be provided in the Final EIS. The section the commenter is referring to addresses impacts of minerals decisions on special status species. Impacts from other resource decisions are discussed elsewhere in the document. Information and references have been added to the Final EIS to support the assertion of impacts to sage-grouse habitat from mineral development.
Draft RMP/EIS	Center for Native Ecosystems	O-38	SS53 (JSS-10)	Graham's and White River penstemon not listed in the oil-shale endemics page 4-233 says that Graham's penstemon is in severe decline, but only lists the reed-mustards as species restricted to oil shale formations.	Clay reed mustard is not an oil shale endemic. Section 4.15.1.3 in the PRMP/FEIS has been revised to read: "This threat is particularly high for shrubby reed

Table 5.13u. Comments Requiring a Change in the Document: Special Status Species

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					mustard, White River beardtongue and Graham's beardtongue, as they are restricted to geologic formations containing oil shale."
Draft RMP/EIS	Center for Native Ecosystems	O-38	SS55 (JSS-12)	The draft RMP concludes that "The potential impacts to Uintah Basin hookless cactus, clay reed mustard, shrubby reed mustard, Graham's beardtongue, and White River beardtongue are expected to be high with oil, gas and coal bed methane development". Clearly the BLM is violating ESA, NEPA, FLPMA, and APA by allowing high levels of impacts in habitat for extremely narrowly distributed listed and candidate plant species under the preferred alternative.	Although the potential effects of oil and gas development are expected to be high, standard stipulations for oil and gas development allow for movement of drilling operations to avoid and/or minimize impacts to these species. The determination regarding specific avoidance or mitigation measures are necessary to comply with ESA, NEPA, FLPMA, and APA will be determined at the site-specific level. The Final EIS has been amended to include information regarding the range of avoidance and mitigation options for these species, as well as the projected impacts subsequent to implementation of these measures.

Table 5.13v. Comments Requiring a Change in the Document: Travel

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	TR32 (TR-P)	Construction of new roads across riparian areas does not create an irreversible loss of habitat. If such roads are deemed to no longer serve a public purpose after the activity they serve is completed, such roads can be removed and the habitat restored.	Section 4.11.1 in the PRMP/FEIS has been revised to read as follows: "Depending upon the types of construction methods and materials used, roads built across riparian areas would result in a direct loss of

Table 5.13v. Comments Requiring a Change in the Document: Travel

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					riparian habitat at the site of the crossing. The loss of habitat would continue until the reclamation of the road occurs and traffic diminishes to a point that riparian habitat can reestablish itself."
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	TR67 (R-TR10)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Access to public lands is provided throughout the VPA. BLM must provide access to inholdings or access pursuant to a permit or lease. In situations when BLM is not required to grant a right-of-way pursuant to law or regulation, BLM can close or limit access, Access should be closed or restricted, where necessary, to protect public health and safety and to protect significant resource values."	Section 3.6.6 in the PRMP/FEIS has been revised to read as follows: "Access to public lands is provided throughout the VPA. Access should be closed or restricted, where necessary, to protect public health and safety and to protect significant resource values. Easements can be acquired to provide access to public lands for recreational, wildlife, range, cultural/historical, mineral, ACEC, special management areas, and other resource needs. Note that all valid existing leases and rights are acknowledged by the BLM, and management actions implemented through approval of the Final RMP and Record of Decision do not apply retroactively to these leases and rights."
WSA Supplement	Duchesne County Commission	G-10	52	Pages 4-186 and 4-187, Section 4.21.2.7.3: The 3rd and last paragraphs in this section appear to be repetitive.	The document will be revised to reflect the comment.
WSA Supplement	Steven Manning	O-180	4	In this same section, as referenced above, motorized use is discussed separately from OHV use. However, in nearly all the discussions throughout the Supplement, there is very little if any discussion of the impacts, or even the existence of something called	The glossary will be updated to reflect the definition of OHV and the definition of motorized travel within the Proposed EIS Additionally, clarification will be provided as part of a comprehensive travel management plan that

Table 5.13v. Comments Requiring a Change in the Document: Travel

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				"motorized travel", which we assume is different from OHV travel. This designation leads to many questions: How is motorized travel defined? Is it different from OHV travel? In what category are licensed passenger vehicles (automobiles and light trucks) placed? Is travel limited to existing roads or designated roads? What is the difference between existing and designated? How will each Alternative in so-called "non-WSA lands with wilderness characteristics" impact licensed passenger vehicles traveling on existing roads?	will be completed within 1-5 years after the Record of Decision as per H-1601-1.

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	VE7	This paragraph should be changed to read: "Wyoming and mountain big sagebrush are declining..." The UDWR recommends adding discussion regarding the recent sagebrush mortality in the RMP.	Section 3.16.1.3 in the PRMP/FEIS has been revised to include the following: "Wyoming and mountain big sage are declining…Beginning in the late 1990s, drought accelerated the decline which resulted in a sage die-off and die-back. Some areas had sagebrush mortality while others had re-growth on the sagebrush in subsequent years.

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	VE1	Duchesne County has adopted a list of noxious weeds, which was provided to the BLM staff at the February 9, 2005 open house in Duchesne. The status column in this table may need to be amended accordingly.	All of the plants listed in the comment are already included in Table 3.16.6 except for Tamarisk, which is discussed at the end of Section 3.16.2. The "Status" column of Table 3.16.6 has been revised to identify which of the plants are listed by Duchesne County as noxious weeds.
Draft RMP/EIS	Duchesne County	G-9	VE3	Alternative C would have lesser beneficial impacts on vegetation resources than Alternative A (not more). This is because Alternative C would not automatically provide for the same level of vegetation removal as Alternative A, which increases the chances for catastrophic wild fires (see Section 4.13.2.14.3).	The woodland and forest species salvaging is proposed for Alternative A and limited in Alternative C (Section 4.13.2.14.3). The level of this activity under Alternative A would have long-term adverse impacts to soil and water resources because of surface disturbance and subsequent soil erosion and sedimentation in streams. These effects would adversely affect the vegetation under Alternative A, and less so under Alternative C. In fact, the two alternatives are probably comparable in their effect on vegetation. The PRMP/FEIS has been revised to reflect this analysis.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	VE23 (JVE-8)	Last paragraph, 3rd sentence: "However, some areas of tamarisk are currently protected as critical habitat for the federally endangered southwestern willow flycatcher, which further complicates its management." Although southwestern willow flycatchers have been possibly identified along the White River near Ouray (genetics testing has not yet been completed), the VPA does not contain any designated critical habitat for the species.	The commenter is correct. The Vernal Planning Area contains no designated critical habitat for the southwestern willow flycatcher. Section 3.16.2 of the PRMP/FEIS has been revised to reflect the issue made in the comment.
Draft	U.S. Fish	G-12	VE-6	"Unique features within the planning area	Section 1.4 of the PRMP/EIS has been revised

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	and Wildlife Service			include...the Pariette Wetlands, which provide habitat for over 100 species of wildlife." What about plants?	to acknowledge the plant communities of the Pariette Wetlands.
Draft RMP/EIS	UBAOG	G-22	VE3	Alternative C would have lesser beneficial impacts on vegetation resources than Alternative A (not more). This is because Alternative C would not automatically provide for the same level of vegetation removal as Alternative A, which increases the chances for catastrophic wild fires (see Section 4.13.2.14.3).	The woodland and forest species salvaging is proposed for Alternative A and limited in Alternative C (Section 4.13.2.14.3). The level of this activity under Alternative A would have long-term adverse impacts to soil and water resources because of surface disturbance and subsequent soil erosion and sedimentation in streams. These effects would adversely affect the vegetation under Alternative A, and less so under Alternative C. In fact, the two alternatives are probably comparable in their effect on vegetation. The PRMP/FEIS has been revised to reflect this analysis.
Draft RMP/EIS	Westport Oil and Gas Company	O-28	VE9 (VE-A)	There appear to be several errors in calculating vegetation disturbance. For example, adding the acres of disturbance for standard stipulations and timing limitations and controlled surface use does not equal 1,776,782. "Estimated surface disturbance by individual well development" does not total 18,971 acres. According to Table 4-1, surface disturbance would be less than 5 acres per well. The percent increase and increase of disturbance between Alternative A and Alternative D also should be recalculated. Table 4.16.6 shows 18,971 acres as total disturbance under Alternative A. This total is obtained by combining the short- and long- term disturbance. However,	Section 4.16.2.5.1 in the PRMP/FEIS has been revised to correct the errors.

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				some short-term disturbance would continue over the life of the project and be included as long-term disturbance. As a result of this overlap, the two totals cannot be added together. These errors need to be corrected.	
Draft RMP/EIS	KerrMcGee Oil and Gas Onshore LLC	O-29	VE9 (VE-A)	There appear to be several errors in calculating vegetation disturbance. For example, adding the acres of disturbance for standard stipulations and timing limitations and controlled surface use does not equal 1,776,782. "Estimated surface disturbance by individual well development" does not total 18,971 acres. According to Table 4-1, surface disturbance would be less than 5 acres per well. The percent increase and increase of disturbance between Alternative A and Alternative D also should be recalculated. Table 4.16.6 shows 18,971 acres as total disturbance under Alternative A. This total is obtained by combining the short- and long- term disturbance. However, some short-term disturbance would continue over the life of the project and be included as long-term disturbance. As a result of this overlap, the two totals cannot be added together. These errors need to be corrected.	Section 4.16.2.5.1 in the PRMP/FEIS has been revised to correct the errors.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	VE38 (R-VE8)	Modify the following statement as indicated by bolded additions: "Impacts to livestock and grazing resources would occur under all of the proposed alternatives. The impacts could include	Section 4.7.1 in the PRMP/FEIS has been revised to include the bolded comment text.

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				those caused by road and trail construction and maintenance, wellpad construction, vehicle traffic, accidental spills of potentially hazardous materials, and noxious weed infestations. These impacts are generally mitigated as part of the conditions of approval." The RMP overstates the impacts on livestock grazing from energy development. The amount of land used for energy is relatively small and disruption occurs for a relatively short period of time. In some cases, dust will benefit the plants as well.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	VE39A (R-VE9)	The RMP omits the role of wildlife and wind in facilitating noxious weed problems. These factors exist in the planning area and have little or nothing to do with energy development.	Wind has been added as a contributing factor to the spread of noxious weeds in Section 3.16.2 of the PRMP/FEIS.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	VE46 (R-VE16)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "Decisions making lands unavailable for upland surface disturbance and riparian corridor disturbance may benefit would be beneficial to riparian resources. Beneficial impacts may would result from stubble height requirements, utilization levels, reduced use, and season of use changes that are proposed in some of the	Section 4.11 in the Final EIS text has been revised to include the suggested wording changes.

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				alternatives." This statement may not be accurate where natural erosion is the major or only factor in sedimentation. Similarly, limiting surface disturbance for vegetation treatments may prevent improvement of upland vegetation, which will also not benefit riparian resources.	
Draft RMP/EIS	Ranges West	O-43	VE15 (AVE-4)	The juniper common to the Vernal Resource Area is Utah juniper (Juniperus utahensis) not western juniper (Juniperus occidentalis). Someone needs to take range plants class.	Section 4.15.1.4 in the PRMP/FEIS has been revised to clarify that the juniper found in the VRA is Utah juniper and not western juniper.
WSA Supplement	US EPA	G-6	45	Section 3.16.2, Invasive Species and Noxious Weeds, pages 3-112 and 3-113: The document notes," Of particular management concern are potential and existing populations of invasive species in the oil and gas fields that are receiving increased activity and interest". However, the document does not analyze the options and effectiveness of various invasive species.	Section XXX provides for vegetation treatment (specific to noxious weed control) under all alternatives using fire, mechanical, biological, or chemical means without specifying any individual management tool that would fall under one of these broad categories. This section also refers to management of vegetation in general terms without specifying individual techniques. This provides the BLM the opportunity to select from the entire range of available tools to undertaken vegetation treatments in the most appropriate way for the location and vegetation in question. The text has been edited to include the following clarification of vegetation treatments: "The VFO is aware of the seriousness of the noxious and invasive weed problem on lands

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					within the planning area and will develop a VFO Weed Management Plan, advocating the use of a full spectrum of tools and methods as part of an integrated weed management program. It will address more specifically the Goals, SOPs to be enforced, Strategies and methods to be employed. The Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides in 17 Western States has approved a few new herbicides for use on BLM lands, including Plateau®, which will provide the BLM opportunity to treat cheatgrass in some locations. The Record of Decision provides Mitigation Measures and Standard Operating Procedures to be employed by all vegetation treatments, which will be addressed in the VFO Weed Management Plan." The Programmatic Environmental Report for Vegetation Treatments on BLM Lands in 17 Western States addresses integrated vegetation management techniques addressing impacts and cumulative effects of a variety of vegetation treatments including mechanical treatments and chaining.
WSA Supplement	US EPA	G-6	52	Section 4.16 Vegetation, page 4-273: The use of chemical treatments should be limited near "Waters of the United States".	Section XXX provides for vegetation treatment (specific to noxious weed control) under all alternatives using fire, mechanical, biological, or chemical means without specifying any individual management tool that would fall under one of

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					these broad categories. This section also refers to management of vegetation in general terms without specifying individual techniques. This provides the BLM the opportunity to select from the entire range of available tools to undertaken vegetation treatments in the most appropriate way for the location and vegetation in question. The text has been edited to include the following clarification of vegetation treatments: "The VFO is aware of the seriousness of the noxious and invasive weed problem on lands within the planning area and will develop a VFO Weed Management Plan, advocating the use of a full spectrum of tools and methods as part of an integrated weed management program. It will address more specifically the Goals, SOPs to be enforced, Strategies and methods to be employed. The Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides in 17 Western States has approved a few new herbicides for use on BLM lands, including Plateau®, which will provide the BLM opportunity to treat cheatgrass in some locations. The Record of Decision provides Mitigation Measures and Standard Operating Procedures to be employed by all vegetation treatments, which will be addressed in the VFO Weed Management Plan."

Table 5.13w. Comments Requiring a Change in the Document: Vegetation

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					The Programmatic Environmental Report for Vegetation Treatments on BLM Lands in 17 Western States addresses integrated vegetation management techniques addressing impacts and cumulative effects of a variety of vegetation treatments including mechanical treatments and chaining.

Table 5.13x. Comments Requiring a Change in the Document: Visual Resource Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Duchesne County	G-9	VI25	Under Alternative C, the reduction in short-term adverse impact is recognized but the reduction in long-term beneficial impacts (associated with restrictions on fuel reduction in ACEC's) is not.	Section 4.17.2.12.3 has been revised in the PRMP/FEIS as follows: "Alternative C would have similar impacts as Alternative A, except that up to 552,663 acres of forest and woodlands would be available for treatments or harvesting. Forest and woodland species salvage would be allowed only when the woodland or forest resource were threatened, which would reduce the short-term, adverse impacts on visual resources. Excluding woodland salvage within 242,760 acres of proposed ACECs would reduce the long-term beneficial impacts on woodlands because this form of fuel load reduction would not be

Table 5.13x. Comments Requiring a Change in the Document: Visual Resource Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					conducted to reduce the risk of catastrophic wildland fire."
Draft RMP/EIS	Bureau of Indian Affairs	G-2	VI25	Under Alternative C, the reduction in short-term adverse impact is recognized but the reduction in long-term beneficial impacts (associated with restrictions on fuel reduction in ACEC's) is not.	Section 4.17.2.12.3 has been revised in the PRMP/FEIS as follows: "Alternative C would have similar impacts as Alternative A, except that up to 552,663 acres of forest and woodlands would be available for treatments or harvesting. Forest and woodland species salvage would be allowed only when the woodland or forest resource were threatened, which would reduce the short-term, adverse impacts on visual resources. Excluding woodland salvage within 242,760 acres of proposed ACECs would reduce the long-term beneficial impacts on woodlands because this form of fuel load reduction would not be conducted to reduce the risk of catastrophic wildland fire."
Draft RMP/EIS	UBAOG	G-22	VI19	The same descriptions should be provided for VRM I, III, IV as for VRM II was.	The Final EIS text has been amended to show descriptions for all VRM Management Classes in Appendix K.
Draft RMP/EIS	UBAOG	G-22	VI21	How can 35,900 acres of mineral withdrawals under Alternative D lead to a higher level of visual protection than 36,267 acres of such withdrawals under the three action alternatives?	Section 4.17.2.3.2 in the PRMP/FEIS has been revised to reflect that Alternatives A, B, C, and E provide more acreage for protection of visual resources that does Alternative D.
Draft RMP/EIS	UBAOG	G-22	VI22	It is not correct to say that Alternative B does not specify management actions on slopes greater than 40%. Table 2.3, Page 2-54, states that an approved, engineered	Section 4.17.2.8 in the PRMP/FEIS has been revised to clarify the statement describing the slope management actions for Alternative B.

Table 5.13x. Comments Requiring a Change in the Document: Visual Resource Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				plan is required under Alternative B for surface disturbance on slopes greater than 20% (which should include slopes over 40%).	
Draft RMP/EIS	UBAOG	G-22	VI23	It is not logical that Alternative B would have greater negative OHV impacts on visual quality than Alternative D. Alternative B has much fewer acres open to unrestricted OHV use and both of these alternatives maintain existing roads if they continue to serve a public purpose.	The text in question has been deleted from Section 4.17.2.7.4 of the PRMP/FEIS.
Draft RMP/EIS	UBAOG	G-22	VI24	In the analysis of Alternative B, the long-term beneficial visual impacts associated with woodland forest management are not recognized.	Section 4.17.2.12.2 has been revised in the PRMP/FEIS as follows: "The long-term beneficial impacts on woodlands would be similar to those discussed under Alternative A."
Draft RMP/EIS	Utah Farm Bureau Federation	O-9	VI21	How can 35,900 acres of mineral withdrawals under Alternative D lead to a higher level of visual protection than 36,267 acres of such withdrawals under the three action alternatives?	Section 4.17.2.3.2 in the PRMP/FEIS has been revised to reflect that Alternatives A, B, C, and E provide more acreage for protection of visual resources that does Alternative D.
Draft RMP/EIS	Utah Farm Bureau Federation	O-9	VI22	It is not correct to say that Alternative B does not specify management actions on slopes greater than 40%. Table 2.3, Page 2-54, states that an approved, engineered plan is required under Alternative B for surface disturbance on slopes greater than 20% (which should include slopes over 40%).	Section 4.17.2.8 in the PRMP/FEIS has been revised to clarify the statement describing the slope management actions for Alternative B.
Draft	Utah Farm	O-9	VI23	It is not logical that Alternative B would have	The text in question has been deleted from

Table 5.13x. Comments Requiring a Change in the Document: Visual Resource Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	Bureau Federation			greater negative OHV impacts on visual quality than Alternative D. Alternative B has much fewer acres open to unrestricted OHV use and both of these alternatives maintain existing roads if they continue to serve a public purpose.	Section 4.17.2.7.4 of the PRMP/FEIS.
WSA Supplement	Duchesne County Commission	G-10	34	Page 4-113, Section 4.17.2.6.5, 4th paragraph: …the long-term adverse impacts of light pollution adjacent to the Dinosaur National Monument would be mitigated, which would benefit night-time visual quality in that portion of the VPA near the monument.	The BLM agrees that the recommended text would more accurately describe VRM impacts. The text has been changed in the document.
WSA Supplement	Utah State Office of Education, School Land Trust	G-169	9	It should be noted that in creating protected view-shed corridors, the BLM has no rights to control what is done on school lands, even if they can see it. We are concerned that the BLM states that "Indirect impacts of visual resource decisions on mineral development would be adverse. A decrease in the number of potential oil and gas wells would lead to a decrease in royalties paid to the federal government and/or the state of Utah."	Non-BLM lands could be indirectly impacted by RMP decisions both positively and negatively. The analysis in Chapter 4 of the PRMP/FEIS has been modified accordingly. For specifics regarding the impacts on mineral revenue see comment 120-101. The BLM does provide for reasonable access to all SITLA lands under all alternatives (Chapter 2). Information has been added will be added to Chapter 2, Lands and Realty, Management Common to all action alternatives, that states that reasonable access to State land would be provided including across BLM lands within avoidance and exclusion areas for rights-of-way as specified by the Cotter decision (Utah v. Andrus, 10/1/79).

Table 5.13x. Comments Requiring a Change in the Document: Visual Resource Management

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					The results of the Utah State University public lands survey and the University of Utah study on the economic impacts of oil and gas development in the Uintah Basin have been incorporated into the Proposed RMP/Final EIS. Chapter 3 summarizes the public lands survey results, and an Appendix has been added showing the raw results for the three counties in the planning area. Data from the University of Utah study has been extensively incorporated into Chapter 4 analysis. The Proposed RMP/Final EIS recognizes the importance of the oil and gas industry to the economic health of the Uintah Basin. The Plan seeks to strike a reasonable compromise between demands on resources and resource protection, within the framework of the BLM's sustained yield, multiple use mandate.

Table 5.13y. Comments Requiring a Change in the Document: Wilderness Characteristics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	EOG Resources, Inc.	B-144	8	Many of the WCAs in the Vernal Resource Area (i.e. Desolation Canyon WCA) overlap with proposed ACECs (i.e. Nine Mile Canyon, Lower Green River and Four Mile Wash ACECs). In reviewing WCAs, it is important	Layering of program decisions is not optional for BLM, but is required by the FLPMA, 1976 and National BLM planning and program specific regulations. The FLPMA directed that management of public lands be on the basis of

Table 5.13y. Comments Requiring a Change in the Document: Wilderness Characteristics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				for BLM to concurrently examine proposed ACECs. Many of the proposed ACECs are overbroad, and appear to cover solely wilderness characteristics. BLM has not identified other nationally significant resources and values within these ACECs. Rather, the resources identified are common throughout Utah and the Intermountain West. In sum, wilderness characteristics standing alone do not provide BLM with basis to designate an ACEC. For example, in the Vernal DRMP/EIS, BLM explained that the relevance criteria for the Four Mile Wash ACEC was high value scenery, riparian ecosystem and special status fish. BLM explains that the importance criteria include "spectacular scenery" and home to endangered fish in the Green River. These resources are not nationally significant and can be found common throughout the Vernal resource area and Utah. The relevance and importance of this ACEC is confined to the Green River and is properly covered by the Lower Green River ACEC and/or the proposed protection of the Green River as a wild and scenic river. The purported protection of the lands on the plateau up from the Green River for "scenery" is an unlawful attempt to protect lands as an ACEC for "wilderness characteristics". This scenery is not nationally or regionally significant.	multiple use (Section 102(a) (7). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing, land uses and to resolve conflicts and prescribe land uses through its land-use plans. For example, 43 CFR Group 2500 provides guidance and requirements for Disposition; Occupancy and Use of public lands; Group 2800 for Rights-of-way; Group 3400 for Coal Management; Group 6000 for Designated Wilderness, and Group 8200 for Natural History, part 8351 for Wild and Scenic Rivers. Multiple-use management requires a balancing of the mandates for these separate programs. BLM prepares overlays for land disposition, rights-of-way, coal, wilderness, and other special designation areas, etc., and overlays the information to identify conflicts and opportunities on the public lands. Each overlay is designed to meet the requirements law, regulation and policy for the particular program. BLM's Land-use Planning Handbook requires that specific decisions be made for each resource and use (Appendix C, H-1601-1). The required decisions must be included in each of the alternatives analyzed during development of the land-use plan. As each alternative is formulated, each program decision is overlain with the other program decisions and inconsistent decisions are identified and modified to be compatible with the objectives of the alternative. The potential conflicts between programs identified in the

Table 5.13y. Comments Requiring a Change in the Document: Wilderness Characteristics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Accordingly, designation of the Four Mile Wash ACEC would be unwarranted and unlawful. Since BLM has provided no further basis that resources to the west of the canyon rim are nationally significant, BLM should reduce the boundary of the ACEC to only the canyon rims.	comment have been analyzed for each of the alternatives in the Final EIS. The Final EIS includes the decisions required for each program and BLM will attempt to ensure that the allowable uses and allocations are compatible and meet the objectives of the selected plan. The balance is within the range of alternatives as some alternatives proposed designation and others do not. Also size and management prescriptions vary between the alternatives. If the protection of the relevant and importance values "outweighs" the other resource uses then the ACEC was proposed under all the alternatives. Through FLPMA, BLM has authority to designate ACECs where special management attention is required to protect and prevent irreparable damage to important cultural, historic, or scenic values; fish and wildlife resources; or other natural systems or processes or to protect life and safety from natural hazards. Where ACEC values and wilderness characteristics coincide, the special management associated with an ACEC, if designated, may also protect "wilderness characteristics: (IM-2003-275). However, BLM policy directs that "an ACEC designation will not be used as a substitute for wilderness suitability recommendations: (BLM-M-16513). Wilderness characteristics were not considered relevant or important values when

Table 5.13y. Comments Requiring a Change in the Document: Wilderness Characteristics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					evaluating or designing management for potential ACECs. On August 27, 1980, BLM promulgated final ACEC guidelines (45 Federal Register 57318) that clarify that the term "protects" means: "To defend or guard against damage or loss to the important environmental resources of a potential or designated ACEC. This includes damage that can be restored over time and that which is irreparable. With regard to a natural hazard, protect means to prevent the loss of life or injury to people, or loss or damage to property." Thus, BLM is to consider the potential for both reparable and irreparable damage when protecting important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems through ACEC designation. This interpretation is consistent with FLPMA's legislative history and implementing policy. Section 2 of the guidelines clarifies that ACECs are special places within public lands. It states: "In addition to establishing in law such basic protective management policies that apply to all the public lands, Congress has said that 'management of national resource lands [public lands] is to include giving special attention to the protection of ACECs, for the purpose of ensuring that the most environmentally important and fragile lands will be given early attention and protection' (Senate Report 94-583, on FLPMA). Thus, the ACEC process is to be used to provide

Table 5.13y. Comments Requiring a Change in the Document: Wilderness Characteristics

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
					whatever special management is required to protect those environmental resources that are most important, i.e., those resources that make certain specific areas special places, endowed by nature or man with characteristics that set them apart. In addition, the ACEC process is to be used to protect human life and property from natural hazards." Relevance and Importance criteria have been expanded in the final EIS. Please see Response to ID No. G-144-Comment 1.
WSA Supplement	Duchesne County Commission	G-10	47	Cold Springs Mountain: 8,764 acres vs. 8,674?	8,764 is the correct acreage. BLM will make the correction in the Final RMP.
WSA Supplement	Duchesne County Commission	G-10	60	Page 4-219, Section 4.22, 2nd paragraph on this page: The list of other land management agencies in this paragraph fails to mention SITLA, which owns many sections of land abutting non-WSA lands managed by the BLM.	Comment Noted. SITLA will be added.

Table 5.13z. Comments Requiring a Change in the Document: Woodlands

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
WSA Supplement	Duchesne County Commission	G-10	35	Pages 4-118 and 4-119, Section 4.17.2.12.5: The 1st paragraph of this section notes that woodland salvage and harvesting would be prohibited under Alternative E. However, in the second paragraph, it gives the impression that woodland salvage and harvesting would be allowed. This apparent inconsistency should be clarified.	Section 4.20.1-Impacts Common to the Proposed RMP and all Alternatives, states: "Woodland resources would be treated or harvested under the Proposed RMP and all of the alternatives; however, under the Proposed RMP and Alternative E, non-WSA lands with wilderness characteristics would be managed with prohibitions on woodland and timber harvesting and salvage. These prohibitions would have adverse impacts on harvesting opportunities in the long term. The section has been revised in the Proposed RMP/Final EIS. The section number has been changed to Section 4.20.2.9-Alternative E.

Table 5.14aa. Comments Requiring a Change in the Document: Wild Horses and Burros

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	WH28	The analysis of wild horse impacts on wildlife and fisheries on page 4-324 is incomplete and does not address long-term impacts by wild horses on sagebrush steppe vegetation communities and existing riparian areas. The Utah DWR indicates that significant overgrazing of browse (needed by mule deer) occurs annually, especially around water collection	The potential impacts of wild horse management decisions on vegetation are analyzed in Section 4.16.2.14. The analysis of potential impacts of wild horse management decisions on wildlife contained in Section 4.19.2.13 has been expanded for the

Table 5.14aa. Comments Requiring a Change in the Document: Wild Horses and Burros

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				ponds, in other areas of wild horse herds. Estimates of the effects of the Ute Tribal wild horses in Agency Draw indicate that a minimum of a 0.5-mile radius on browse damage can be seen around watering sites	PRMP/FEIS.
Draft RMP/EIS	State of Utah	G-1	WH31	State of Utah (DWR) biologists have documented heavy summer and winter use of Winter Ridge by elk. This use has created competition for forage between the elk and the livestock permittee. This impacts of wild horses on available forage in light of this existing competition needs to be analyzed further in the DEIS.	Analysis of impacts from competition for forage between elk, livestock, and wild horses has been added in the PRMP/FEIS.
Draft RMP/EIS	UBAOG	G-22	WH14	Strike this entire alternative. This alternative says the permits would be offered on the former HMA of Hill Creek. Neither the text nor maps indicate where this is. Issuing this permit would only add to the management problems in the HMA.	Only Alternative B would authorize permits for wild horse grazing in the Hill Creek HA, and these permits would only be issued to the Northern Ute Tribe. Figure 33 has been revised to show the Hill Creek Herd Area in question.
Draft RMP/EIS	UBAOG	G-22	WH5	After 1st sentence use would be allowed within allocations made in the land-use plan, and overall herd numbers would be confined to management limits established as an appropriate management level. Add: "BLM would remove wild horses when appropriate management levels are exceeded or when wild horses are found outside the herd management areas." The RMP needs to commit to removal and	Table 2.1.1 (Management Common to All Alternatives) of the PRMP under the subsection entitled Fire, Drought, and natural Disasters has been revised to read as follows: "Wild or feral horses will be gathered and removed. Forage allocation has been allocated until removal."

Table 5.14aa. Comments Requiring a Change in the Document: Wild Horses and Burros

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				active management of wild horses.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	WH68 (R-WH17)	Modify the following statement as indicated by bolded additions and strikethrough deletions: "If forage allocation reductions are necessary to maintain, meet or make significant progress towards or sustain rangeland health in the Bonanza, Diamond Mountain, Book Cliffs (excluding wild horse herd areas), and Blue Mountain localities or the Bonanza Wild Horse Herd Area, AUMs allocated to big game and wild horses would be reduced proportionately to the role they play with those allocated to livestock. If reductions are necessary in the Hill Creek and Winter Ridge Wild Horse Herd Areas big game and wild horses would be reduced proportionally with AUMs allocated to livestock and wild horses. However, AUMs allocated to pronghorn would not be reduced below 502 AUMs in the Bonanza locality and 239 AUMs in the Bonanza Wild Horse Herd Area locality unless antelope numbers have played a role in the area not meeting rangeland health standards. … Reductions in forage allocation for wildlife in the Bonanza, Book Cliffs, and Blue Mountain localities would not be specified under the No Action Alternative. There would be no reductions in forage allocation for wildlife in the Diamond Mountain locality on crucial habitat; on non-crucial habitat, allocations would be reduced equally with livestock under the No Action Alternative.	Section 4.19.2.3.1 of the PRMP/FEIS has been revised as follows: "Under Alternative A, if forage allocation reductions are necessary to maintain, meet or make significant progress towards rangeland health in the Bonanza locality AUMs allocated to live stock and pronghorn would be reduced proportionally though pronghorn use would not be reduced below 502 AUMs. Alternative A would be more beneficial to wildlife than Alternative D since Alternative A specifies necessary actions when the aforementioned criteria are met. If, however, additional forage is available forage increases would be divided proportionately between livestock and big game with the wildlife AUMs going to pronghorn and deer. In this case, the impacts of Alternatives A and D are approximately the same since both alternatives would provide additional forage for wildlife."

Table 5.14aa. Comments Requiring a Change in the Document: Wild Horses and Burros

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	WF87	The fish and wildlife resources section 3.19 begins on page 3-123. Multiple tables within this section confuse the herd unit numbers for Bonanza and Diamond Mountain sub-units. The Bonanza sub-unit number is 9d and Diamond Mountain is 9c. This discrepancy should be changed in tables 3.19.1, 3.19.3, and 3.19.5. In addition, table 3.19.2 appears to be incomplete for mule deer habitat in the VPA.	Table 3.19.2 in the PRMP/FEIS text has been revised to correct and clarify the herd unit numbers and to complete the description of mule deer habitat.
Draft RMP/EIS	State of Utah	G-1	WF88	Table 3.19.3 outlines management goals for mule deer. Some of the population objectives and buck-to-doe ratios are incorrect. The combined mule deer population objective for the South Slope Vernal, Diamond, and Bonanza sub-units is 13,000. The buck-to-doe ratio for South Slope Diamond Mountain (9c) and Book Cliffs Bitter Creek and Little Creek (10a) is 25-30:100.Table 3.19.5 outlines management	Table 3.19.3 used 2002 goals for purposes of analysis of the Draft RMP. Updated goals may be found at the UDWR web site. The PRMP/FEIS text has been revised to correct the errors.

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				goals for elk in the VPA. The listed bull age ratios are incorrect. The North Slope (Summit and West Daggett), North Slope Three Corners, South Slope Yellowstone, South Slope Vernal, and South Slope Bonanza sub-units are managed for 50% of bulls 2½ years or older. The South Slope Diamond sub-unit (9c) is managed for bulls 3-4 years old. The Book Cliffs (Bitter Creek and Little Creek) and Nine Mile Anthro sub-units are managed for 5-6 year old bulls. Utah's statewide herd management plans for mule deer, elk, and other species should be referenced and discussed in section 3.19.	
Draft RMP/EIS	State of Utah	G-1	WF89	Section 3.19.1.3 discusses pronghorn in the VPA. This section displays population estimates for several herd units. The data referenced are not population estimates, but rather annual trend count numbers. These numbers are used for population trend and do not reflect population sizes. The section does not offer trend count data for the Book Cliffs and Nine Mile pronghorn herd units. Trend data for these units can be obtained by contacting the UDWR Vernal office at 435-781-6707.	Section 3.19.1.3 in the PRMP/FEIS text has been revised, and trend count data added to the section.
Draft RMP/EIS	State of Utah	G-1	WF90	Bighorn sheep are discussed on page 3-127. The UDWR is unaware of any large bighorn sheep populations in the Nine-Mile Canyon area. The UDWR manages bighorn sheep populations in Desolation Canyon and on Range Creek, both of which are outside the VFO. The Ute Tribe has bighorn sheep	Section 3.19.1.4 in the PRMP/FEIS text has been revised to remove the reference to a sheep population within Nine-Mile Canyon. Bighorn sheep are in the UDWR Nine Mile Unit (#11), which is outside of the VPA.

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				populations in Desolation Canyon and in Hill Creek.	
Draft RMP/EIS	State of Utah	G-1	WF91	Moose populations are outlined in section 3.19.1.5. This section does not mention that moose populations also occur in the North Slope wildlife management unit and does not offer population estimates for that unit.	Section 3.19.1.5 in the PRMP/FEIS has been revised to include moose population information for the North Slope wildlife management unit.
Draft RMP/EIS	State of Utah	G-1	WF92	Section 3.19.1.10 should include Brown's Park and Mallard Springs WMAs as additional important waterfowl and shorebird areas in the VFO.	Section 3.19.1.10 in the EIS text has been revised to include these areas as important to waterfowl.
Draft RMP/EIS	State of Utah	G-1	WF93	Desert and mountain cottontails should be removed from section 3.19.1.12. Cottontail rabbits are managed by the UDWR as upland game species.	The PRMP/FEIS has been revised to move the cottontail information from Section 3.19.1.12 (Non-Game Species) to Section 3.19.1.9 (Upland Species).
Draft RMP/EIS	State of Utah	G-1	WF94	Page 3-133 outlines habitat fragmentation concerns. The section cites a study on mule deer conducted in the Book Cliffs. This study was a four-year inventory (1998-2002), rather than two years as listed in the RMP. The UDWR initially recommended the study continue for five total years, however sufficient data were collected by the fourth year to meet the study objective. More information on fragmentation of mule deer habitat can be found in the study "Mule Deer Conservation: Issues and Management Strategies" by Vos, Conover, and Headrick (2003).	Section 4.19.2 in the PRMP/FEIS has been revised to show that the inventory length was four years.
Draft RMP/EIS	State of Utah	G-1	WF96	Section 4.19 on page 4-305 should include an additional impact of grazing management decisions on wildlife. Livestock grazing in critical	Section 4.19 in the PRMP/FEIS has been revised to include an analysis of the impacts of livestock and grazing management actions on

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				big game winter ranges, riparian areas, and sage-grouse areas has the potential to impact wildlife by changing vegetation composition and structure. These impacts are real and should be analyzed in the RMP.	wildlife.
Draft RMP/EIS	State of Utah	G-1	WF97	The RMP confuses UDWR GIS data and Utah GAP Analysis data in section 4.19.2.5.2.1 on page 4-314 and in section 4.19.2.5.2.2 on page 4-316. Utah State University developed GAP Analysis projected habitat occurrence data for several wildlife species during the mid-1990s. The UDWR GIS database includes, in part, habitat value designations as well as season of use designations for big game and other managed wildlife species	Sections 4.19.2.5.2.1 and 4.19.2.5.2.2 in the PRMP/FEIS text have been revised to clarify the use of UDWR GIS data and Utah GAP analysis data.
Draft RMP/EIS	State of Utah	G-1	WF98	The UDWR recommends that the RMP further address cumulative impacts in both the special status species section (4.22.9) and the wildlife and fisheries section (4.22.12). The RMP should provide more information regarding past activities and projected future activities in the Uintah Basin and the combined impacts these actions may have on wildlife populations.	Sections 4.22.10 (special status species) and 4.22.12 (wildlife and fisheries) in the PRMP/FEIS have been revised to provide more information on cumulative effects.
Draft RMP/EIS	State of Utah	G-1	WF99	The UDWR notes that the sage-grouse lek buffers subject to timing and controlled use on figure 11, figure 12, and figure 13 may be incorrect. USU completed a resource assessment for BLM and documented leks, winter use areas, and other grouse observations. The data displayed on figure 11 appear to represent all data points USU collected, many of which are not actual lek	Figures 11-13 in the PRMP/FEIS have been revised to correct sage grouse lek buffers.

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				locations. This discrepancy occurred on the sage-grouse lek map BLM had in the administrative draft RMP and appears not to have been corrected. The UDWR maintains the most up-to-date database for sage-grouse leks and those data should be used for the RMP.	
Draft RMP/EIS	Duchesne County	G-9	WF35	This conclusion does not appear to be adequately supported by findings in the chapter and is an overstatement of the potential impacts.	Section 4.15.6 in the PRMP/FEIS has been revised to include supporting statements for the conclusion reached in this section.
Draft RMP/EIS	Duchesne County	G-9	WF36	Efforts have not been made in Alternative B to allocate forage to wild horses.	The commenter is correct. Alternative B represents part of the range of alternatives by CEQ regulations (40 CFR 1502.1).
Draft RMP/EIS	Duchesne County	G-9	WF54	Alt B does not include the 560 acres per township limitation for wildlife, according to Table 2.3 on pg 2-65. Alts A and C contain this limitation, while Alt B has a 10% habitat threshold. Duchesne Co. supports Alt B and the 10% threshold.	Section 4.16.2.15.1 in the PRMP/FEIS has been revised to correct the analysis error for Alternative B.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	WF144 (JWF-34)	We commend the BLM for the commitment to "pursue a partnership between industries, local governments, USFWS, UDWR, BLM, and others to establish a raptor management fund to be utilized for raptor population monitoring and habitat enhancement." We recommend you also include, at a minimum, the Forest Service and NRCS. We offer our assistance in establishing this partnership.	Table 2.1.21 (Special Status Species) of the PRMP/FEIS has been revised to include the USFS and NRCS.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	WF147 (JWF-37)	1st sentence: All the raptor species found in the VPA are federally protected under the Migratory Bird Treaty Act. We recommend you reword the	Section 3.19.1.11 In the PRMP/FEIS text has been revised to include a reference to protection of raptors under the Migratory Bird

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				sentence to reflect that all have federal protection and several have additional state protection.	Treaty Act.
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	WF148 (JWF-38)	2" paragraph: The BLM proposes employment of a raptor database using information from an ongoing study, which intends to determine the nesting requirements and seasonally important rapt or habitats located on public lands within the VPA. Using this database to track nest sites and important raptor habitat location, the document outlines the next step: "oil and gas development maps will be used to develop predictive models for raptor/energy conflicts, and to develop mitigation measures for unleased parcels." We believe this approach, as proposed, will fail to protect raptors because: 1) the utility of the ongoing study has yet to be determined, and it may not provide the level of information necessary, and 2) virtually all the habitat for the most sensitive raptor species in the VPA has already been leased for development, so there will be few acres with mitigation applied.	Section 3.19.1.11 in the PRMP/FEIS has been revised to the delete the following sentence: "Oil and gas development maps will be used to develop predicted models for raptor/energy development conflicts, and to develop mitigation measures for unleased parcels."
Draft RMP/EIS	U.S. Fish and Wildlife Service	G-12	WF152 (JWF-41)	The discussion of Cumulative Impacts on Wildlife and Fisheries does not detail what the overall impact will be from all resource decisions on wildlife and fisheries. The section is copied from two paragraphs in the Special Status Species cumulative impacts section, but there is no further determination of what the impact would be to fish and wildlife resources.	Section 4.22.12 in the PRMP/FEIS has been be revised to include a more comprehensive analysis of cumulative impacts on wildlife and fisheries.
Draft	UBAOG	G-22	WF21	There is no indication of the type of disturbance	Alternative A in Table 2.1.26 (Wildlife and

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS				that is to be reclaimed. One assumption would be surface disturbance if so. There is nothing in the text to support the need for 1.5:1 mitigation ratio. It must not be based on habitat loss as such habitat should be avoided to the extent possible. When area disturbance is located outside sage brush habitat when reclamation is complete often habitat is created or forage plants are established where they did not exist prior. This issue has been one of long-time contention. The 1.5:1 ratio is the result of a negotiation that began with a 3:1 ratio and bargained down. The bottom line is that reclamation should be based on the amount of habitat lost. The goals expressed in CHS, to double and triple mule deer and elk populations would appear to be a driving force behind forced increases in habitat.	Fisheries Resources) of the PRMP/FEIS has been revised to reflect a 1:1.5 ratio.
Draft RMP/EIS	UBAOG	G-22	WF3	There should be a clear distinction between introduction, reintroduction and emigration. Glossary should provide a definition of each. Emigration should not be handled as a reintroduction. The Uintah County Plan provides that animals outside of their permitted area are in trespass. Such animals should be removed. To allow emigration requires planning and forage adjustments after the fact and is not sound management. Emigration requires the same analysis and disclosure as do other decisions.	The Glossary of the Final EIS has been revised to clarify the meaning of "introduction," "reintroduction," and "emigration." The commenter was not clear in defining what "permitted area" means.
Draft RMP/EIS	UBAOG	G-22	WF31	Strike "would" in the first sentence. Replace with - "may".	Table 2.3 in the Final EIS has been revised with the suggested changes.

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Not all reintroduction efforts will uniformly benefit wildlife habitat. For example, increased prairie dog populations to support the black-footed ferret will have significant and adverse impacts on rangeland vegetation. While this is justified under the ESA, the RMP cannot ignore the damage done and resulting increase in sediment and erosion, loss of native vegetation, etc.	
Draft RMP/EIS	UBAOG	G-22	WF34	The DEIS does not define and appears to misuse the term "habitat fragmentation." The discussion incorrectly states that agriculture uses fragment habitat. Agriculture in the planning area is primarily ranching and it does not "fragment habitat." Second, the alleged fragmentation is probably due to private land ownership along water bodies. Unless the land uses prevent life processes, it is inaccurate to describe the habitat as fragmented. Moreover, fragmentation means different things to different species and the broad-brush discussion incorrectly assumes that habitat changes have an equal effect.	The Section 3.19.2 in the PRMP/FEIS has been revised to include a definition for habitat fragmentation. Otherwise, the commenter does not provide any additional information to substantiate or support the assertions made concerning habitat fragmentation within the VPA.
Draft RMP/EIS	UBAOG	G-22	WF35	This conclusion does not appear to be adequately supported by findings in the chapter and is an overstatement of the potential impacts.	Section 4.15.6 in the PRMP/FEIS has been revised to include supporting statements for the conclusion reached in this section.
Draft RMP/EIS	UBAOG	G-22	WF36	Efforts have not been made in Alternative B to allocate forage to wild horses.	The commenter is correct. Alternative B represents part of the range of alternatives by CEQ regulations (40 CFR 1502.1).

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	UBAOG	G-22	WF8	"During periods of prolonged dryness or drought, to the extent that wildlife grazing ungulate populations cannot be sustained due to competition for water and available forage, and overall animal health is compromised. BLM would enter into discussions with the Utah Division of Wildlife Resources (UDWR) regarding herd numbers and overall management options to combat the effects of drought." Remove "and overall animal health is compromised." Remove "combat" on last line and add "ensure that rangeland health is maintained and to address."	Table 2.1.1 (Management Common to All Alternatives under the subsection entitled Fire, Drought, and Natural Disasters has been revised to incorporate the suggested changes.
Draft RMP/EIS	Laird Fetzer Hamblin	I-169	WF132 (JWF-22)	EIS states that in the VPA there are 15 species of plants and animals federally listed as T&E and 1 candidate species. EIS states that there are 28 species considered by Utah to as sensitive to becoming endangered. Both of these lists are incomplete for the federal and state species documented to or expected to exist in the VPA.	At the time of Draft RMP publication, the listing of federal and state special status species was complete, based on information obtained from the USFWS and Utah DWR. The Final EIS has been updated to include the latest and most current T&E and special status species designations.
Draft RMP/EIS	Laird Fetzer Hamblin	I-171	WF118 (JWF-8)	A small population of mountain plovers on Myton Beach is in need of special protection. Any use of the area that directly or indirectly affects the plovers or their habitat should be avoided. This study shows a steady decline in numbers. Evaluation of the condition of habitat	Table 2.1.21 (Special Status Species) of the PRMP/FEIS has been revised to read as follows: "Manage non-listed sensitive species and the habitats upon which they depend in such a

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				there should be undertaken immediately. May be due to increase in oil and gas production. Livestock grazing should be discontinued in on Myton Beach.	manner as to preclude the need to list them as either threatened or endangered under the Endangered Species Act. The guidance for this management is put forth in the BLM 6840 Manual."
Draft RMP/EIS	IPAMS	O-14	WF155 (LWF-3)	The restriction on operations in sage grouse habitats is inconsistent in Appendix K and the timing restrictions. Add 'active lek' to restrictions.	Appendix K in the PRMP/FEIS has been revised to correct the inconsistencies.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	WF190 (R-WF16)	-Alternative A, Alternative D The RMP does not define surface disturbance. If the term is defined as the actual construction of a road, where vegetation is removed and soil is mixed or removed, this may be reasonable. If the term is used to apply to any activity that scuffs dirt, then it is unreasonable. The RMP fails to document the scientific basis for prohibiting surface-disturbing activities along migration corridors.	The EIS text has been revised to include the definition of surface disturbance, in the context of the wildlife and fisheries management actions.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	WF194 A (R-WF20)	The term surface-disturbing needs to be defined as recommended on page 5 of these comments. EPCA, Executive Orders and BLM Policy require more detailed analysis and documentation than what is found in the draft RMP with respect to wildlife management conditions and the imposition of overlapping conditions. This standard needs to be limited to surface-disturbing activities and to only apply to significant impacts. The RMP must ensure that restrictions have a scientific basis. For example, it is shown that big game become accustomed to incidental uses of a road by motor vehicles or	The Glossary of the PRMP/FEIS has been revised to include the definition of surface disturbance, in the context of the wildlife and fisheries management actions.

Table 5.14bb. Comments Requiring a Change in the Document: Wildlife

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				even drilling in the distance. If the activity involves 6 acres out of 18,000 acres it is not a significant activity.	
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	WF199 A (R-WF25)	-Alternative D If Alternative D is the same as A, the conclusion makes no sense.	The comparison of Alternatives A and D are made within the context of designating SRMAs and byways. As stated in Section 4.19.2.7, the long-term impacts on wildlife and fisheries populations (both beneficial and adverse) would be similar for Alternatives A and D. The EIS text has been revised to state that the impacts under Alternative D would be "similar" to Alternative A (as it is stated in Section 4.19.2.7).
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	WF202 (R-WF28)	The RMP discussion should also address changes in big game and wildlife populations and trends. Elk numbers, for example, in this region are reportedly increasing and this upward trend will continue for the next decade. If UDWR has increased its herd objectives that fact is also relevant to the issue of where rangeland conditions are not maintaining or achieving rangeland health standards and the contributing factors.	Section 3.19 in the EIS text has been revised and trend count data added to the section.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	WF207 (R-WF33)	Add the following statement at the top of the table: These range improvements are only projected and are not a ceiling.	Table 4.19.8 in the PRMP/FEIS has been revised to add language as suggested for clarification purposes.

Table 5.14cc. Comments Requiring a Change in the Document: Water Resources

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SW20	The paragraph at the top of page 2-28 states that the BLM will "Develop additional and maintain existing water rights." We would appreciate more detail and specifics on this statement.	The Bureau has need for water rights for present and future use. These may include livestock, wildlife, public use, or conservation. Table 2.1.17 (Soil and Water Resources) of the PRMP/FEIS under the subsection entitled Management Actions Common to All Alternatives has been revised to clarify the statement as follows: "BLM implements multiple types of water uses on public lands that require water rights from the State of Utah, such as livestock watering, wildlife watering and habitat, wild horse watering, recreation facilities, and fire suppression. BLM will continue to implement actions to maintain its current water rights for these purposes, such as filing proofs of beneficial use, filing diligence claims, changing existing water rights to fit new uses and projects, and filing protests as necessary to protect existing BLM water rights. BLM will also file for new water rights in accordance with and when allowed under state water law procedures. Situations in which BLM will file for new water rights include locations where existing water rights are insufficient or not in place to support the water use, or when existing water rights cannot be changed to support the water use on public land. "
Draft RMP/EIS	USFS—Ashley	G-19	SW47 (LSW-5)	Mention the directives for floodplains under EO 11988.	Executive Order No. 1988; Floodplain Management; May 24, 1977 has been added to

Table 5.14cc. Comments Requiring a Change in the Document: Water Resources

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	National Forest				the References in the PRMP/FEIS.
Draft RMP/EIS	USFS—Ashley National Forest	G-19	SW49 (LSW-7)	Clarify how the aquifers described in the RMP mesh with those mapped by the USGS and Ashley NF.	Information has been added to Section 3.13.4.2 denoting the relationship between the aquifers described in the RMP and those mapped by the USGS and Ashley National Forest to the extent that such information is available.
Draft RMP/EIS	UBAOG	G-22	GC21	What is the definition of "active flood plains"?	The glossary in the Final EIS has been revised to include a definition of "active flood plain" to the existing definition of Flood Plan.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	SW58 (R-SW1)	Add the bolded statement where indicated: "Eliminate or reduce discharge of pollutants into surface waters and achieve water quality that provides protection and propagation of fish, amphibians, wildlife, livestock, and recreation in and on the water. Implement best management practices adopted by Utah Division of Environmental Quality ("DEQ") to limit surface discharges into water." The Utah DEQ has jurisdiction over water quality, both point and non-point sources of water pollution. BLM's only regulatory option is to implement the "best management practices" for non-point sources, which are designed to reduce sedimentation and erosion into streams.	The suggested wording has been added to Table 2.1.17 ((Soil and Water Resources) in order to clarify that the BLM acknowledges the authority of and adheres to the regulations of the DEQ (and the EPA) under all alternatives.
Draft RMP/EIS	Vermillion Ranch Limited Partnership	O-33	SW64 (R-SW7)	Any CBNG water disposal is governed by Utah DEQ. The other effects are accidental spills or unlawful actions that presumably are prevented through enforcement procedures. Disposal by	Section 4.7.2.3.2 does not claim that disposal is accidental as suggested by the comment. The statement in this section merely refers to disposal as a potential source of additional

Table 5.14cc. Comments Requiring a Change in the Document: Water Resources

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				definition is not accidental.	unquantified adverse impacts. However, the reference to accidental spills has been removed from the text, as accidental spills are tied to unplanned actions.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SD56	The discussions concerning potential recommendations for addition to the Wild and Scenic River System in the draft RMP and EIS are confusing, contradictory and incomplete, and do not meet the requirements of federal or state law or BLM policy and direction. The counties believe it is imperative that the BLM properly disclose the reasons and rationale for determinations of eligibility and suitability for proposed additions to the NWSRS, and to fully meet the requirements of state and federal law in doing so.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.
Draft RMP/EIS	State of Utah	G-1	SD63	The draft RMP indicates on page 2-29 that "new river segments found suitable" would be managed in accordance with the "Wild and Scenic River Act to prevent non-impairment of outstandingly remarkable values." We do not find the term "non-impairment" in either the Act or BLM policy direction. The Wild and Scenic	Actions Common to all for Wild and Scenic Rivers have been moved to Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS. The Actions Common to All have been revised to more clearly define how BLM intends to manage segments determined suitable as a result of this

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				Rivers guidelines of federal agencies indicate that Section 10(a) of the Act is interpreted to provide for a "nondegradation and enhancement policy for all designated river areas." However, this provision does not apply to rivers found suitable for recommendation during planning processes. The counties are concerned the statement of management found on page 2-29 is too simplistic, doesn't meet the intent of the statements found on page 3-84 or page 4-210, and fails to give the stakeholders or the public sufficient notice of criteria or process the BLM intends to employ as part of the proposed management for the river segments determined to be suitable for inclusion in the NWSRS. We request that the BLM revise the document to address these concerns.	planning process. The correct phrasing should be "prevent impairment" instead of "prevent non-impairment."
Draft RMP/EIS	State of Utah	G-1	SD66	Table 5 includes "[m]anageability of the river if designated, and other means of protecting values" as a "Suitability Consideration." However, in the "Consideration Applied" column which is supposed to provide the information about manageability, the document simply states "[m]anageability ... and other means of protecting values would be extrapolated from the impact analysis for the Vernal RMP/EIS." This analysis goes nowhere as an explanation, and is inadequate to meet the requirements of Federal law and BLM Manual 8351, and further, is not supported by the impact analysis information presented on pages 4-210 through 4-215.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	State of Utah	G-1	SD67	The draft RMP provides only cursory acknowledgment of the White River Dam project and fails to adequately represent its significance, and characterizes the impacts of an eligibility or suitability determination, and associated "protective management" on the proposed project in a contradictory manner. Statements found on pages 4-212 and 4-213 illustrate the cursory analysis, as follows: "...a suitable decision for Segment 1 of the White River would be incompatible with the continuation of an existing permit for a dam site" and t]he suitability decision for Segment 1 of the White River would result in the discontinuance of the existing permit for the dam site." The White River is also described as part of Alternative D, on page 2-57, as follows: "[u]nder this alternative, suitability findings would not be made and eligibility would continue with BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river." The discussion of Alternative D on page 4-214, reaffirms that Segment 1 of the White River "would remain eligible." However, in a contradictory manner, the discussion also states, "Segment 1 has been identified for a potential dam site." Subsequently, the last paragraph on page 4-214 concludes the description of Alternative D, as follows: "Under this alternative, the continued eligibility decision for Segment 1 of the White River would be incompatible with	Alternatives B and D are part of the range of alternatives. There is an existing right of way for a dam on the White River in segment 1. Segment 1 was carried forward for analysis purposes under the wild and scenic river situation. Also, see Response to Comment SD8-G-9.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				continuance of the existing permit for the dam site. Because this permit would continue under this alternative, the free-flowing nature of Segment 1 would not be maintained and this segment would no longer be eligible as a Wild and Scenic River." Further, Appendix C, Wild and Scenic River Eligibility, Suitability, Classification and Review does not include any information regarding the White River Dam Project.	
Draft RMP/EIS	State of Utah	G-1	SD69	The discussion of Alternative B on page 4-213 includes the following statement, "If acquired lands along Nine Mile Creek are grazed, the outstandingly remarkable cultural and scenic values would be more at risk than with Alternatives A and C". Unfortunately, nowhere in the draft RMP and EIS is there other mention of this apparent concern, or other information that would enable the reviewer to grasp its relative significance. We strongly object to this unsupported assertion that grazing threatens the ORVs in the area, especially on lands that may be acquired. Grazing can be managed to protect cultural and riparian values. The BLM needs to carefully explain the potential difficulties of this area, and analyze them in terms of proper mitigation, rather than making unsupported blanket statements such as this. In addition, the discussion of Alternative A at pages 4-211 and 4-212, contains no reference to any "acquired lands along Nine Mile Creek."	Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction.
Draft	State of	G-1	SD70	As a matter of clarification, the document, at	Table S.3 of the Executive Summary in the

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
RMP/EIS	Utah			page S-3, refers to sections of rivers, ranging from one to six rivers, which are recommended for Wild and Scenic River designation. Throughout the remainder of the document, the discussion of wild and scenic rivers refers to segments of rivers, rather than separate individual rivers. The confusion is immediately apparent when the reader looks to Table S.3, as directed by the text on page S-3. Clarity could be achieved by indicating the number of segments associated with the rivers, i.e., "Alternative C ... recommends 9 segments of six rivers."	PRMP/FEIS has been corrected and the issue clarified regarding the number of rivers and river segments.
Draft RMP/EIS	State of Utah	G-1	SD71	The information at page 2-29 does not fully characterize proposed interim management of WSRs, because the discussion of management of eligible segments, found at page 3-84, is not presented here. We recommend that information similar to that found at page 3-84 be included at page 2-29.	Chapter 2 of the PRMP/FEIS has been revised to be consistent with the information found in Section 3.14.3.2 regarding WSRs.
Draft RMP/EIS	Duchesne County	G-9	SD240 (SD-JJJ)	1st paragraph: It states that, under Alternative A, the upper and lower segments of the Green River would be determined suitable for WSR status. However, on pg. 4-212 and 4-214, it implies that these Green River segments have already been determined to be suitable. Has suitability been determined for these segments; and if so, when?	Chapter 4 in the PRMP/FEIS has been revised to clarify the status of WSR river segments under Alternative A.
Draft RMP/EIS	Uintah, Daggett, and Duchesne	G-23	SD45	The Wild and Scenic River Review in Utah, process and criteria for interagency use pages 2 and 3, suitability states "The purpose of the suitability component is to determine whether	Appendix C in the PRMP/FEIS has been revised to include additional information regarding suitability determinations.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	Counties			eligible rivers are appropriate additions to the national system by considering trade-offs between corridor development and river protection." It further states "suitability considerations include the environmental and economic consequences of designation and the manageability of the river if it is designated." Appendix E lists suitability factors to be considered in analysis. This analysis required for determination of suitability has not been accomplished in this DEIS/RMP nor in previous analysis of suitability. BLM has relied on faulty analysis that is 25 years old.	
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-24	SD88	In Alternative A, sections of Nine Mile Creek are proposed not to be identified as suitable for inclusion in the Wild & Scenic River System. There appears to be an error in the description of the first section discussed. Nine Mile Creek between the Green River and the Duchesne County line is not in Duchesne County. The outstanding ORVs identified for this section are not dependent on the river for their existence and not directly river-related as required in IM 2004-196. There is lack of detailed analysis of the need for a WSR designation, how the ORVs meet the above analysis, what management prescription will be applied and impacts on current development leases or permits. Alternative A is the only acceptable alternative, as lack of analysis, location and need to protect the ORV fail to support designation. The ORVs used to support designation have other laws or regulations to protect them or are currently	The statements in question should reference the portion of Nine Mile Creek in Duchesne and Uintah counties, from the Green River to the Duchesne-Carbon County Line. Under Alternatives C and E the river segment would be found suitable for inclusion in the NWSRS. Chapter 2 in the PRMP/FEIS has been revised to clarify that suitable rivers/river corridors will be managed to protect their outstandingly remarkable values, tentative classifications, and free-flowing nature. Specific resource allocations and management prescriptions within and outside of eligible river corridors are shown on alternative maps, whether or not such information is described in the wild and scenic river section of Chapter 2.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				protected.	
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD56	The discussions concerning potential recommendations for addition to the Wild and Scenic River System in the draft RMP and EIS are confusing, contradictory and incomplete, and do not meet the requirements of federal or state law or BLM policy and direction. The counties believe it is imperative that the BLM properly disclose the reasons and rationale for determinations of eligibility and suitability for proposed additions to the NWSRS, and to fully meet the requirements of state and federal law in doing so.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD63	The draft RMP indicates on page 2-29 that "new river segments found suitable" would be managed in accordance with the "Wild and Scenic River Act to prevent non-impairment of outstandingly remarkable values." We do not find the term "non-impairment" in either the Act or BLM policy direction. The Wild and Scenic Rivers guidelines of federal agencies indicate that Section 10(a) of the Act is interpreted to provide for a "nondegradation and enhancement policy for all designated river areas." However, this provision does not apply to rivers found suitable for recommendation during planning processes. The counties are concerned the statement of management found on page 2-29 is too simplistic, doesn't meet the intent of the statements found on page 3-84 or page 4-210, and fails to give the stakeholders or the public sufficient notice of criteria or	Actions Common to all for Wild and Scenic Rivers have been moved to Table 2.1.19 (Special Designations – Wild and Scenic Rivers) of the PRMP/FEIS. The Actions Common to All have been revised to more clearly define how BLM intends to manage segments determined suitable as a result of this planning process. The correct phrasing should be "prevent impairment" instead of "prevent non-impairment."

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				process the BLM intends to employ as part of the proposed management for the river segments determined to be suitable for inclusion in the NWSRS. We request that the BLM revise the document to address these concerns.	
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD64	Table 2.3, page 2-57, contains no information regarding the rationale related to wild and scenic river considerations, nor proposed protective management, for any of the various segments listed in the table. The counties request that the BLM revise the RMP to address these concerns.	See Response to Comment SD24-G-25,G-1.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD66	Table 5 includes "[m]anageability of the river if designated, and other means of protecting values" as a "Suitability Consideration." However, in the "Consideration Applied" column which is supposed to provide the information about manageability, the document simply states "[m]anageability ... and other means of protecting values would be extrapolated from the impact analysis for the Vernal RMP/EIS." This analysis goes nowhere as an explanation, and is inadequate to meet the requirements of Federal law and BLM Manual 8351, and further, is not supported by the impact analysis information presented on pages 4-210 through 4-215.	Appendix C of the EIS has been revised to include additional information regarding the BLM's eligibility and suitability analysis and determinations.
Draft RMP/EIS	Uintah, Daggett, and Duchesne	G-25	SD67	The draft RMP provides only cursory acknowledgment of the White River Dam project and fails to adequately represent its significance, and characterizes the impacts of	Alternatives B and D are part of the range of alternatives. There is an existing right of way for a dam on the White River in segment 1. Segment 1 was carried forward for analysis

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
	Counties			an eligibility or suitability determination, and associated "protective management" on the proposed project in a contradictory manner. Statements found on pages 4-212 and 4-213 illustrate the cursory analysis, as follows: "...a suitable decision for Segment 1 of the White River would be incompatible with the continuation of an existing permit for a dam site" and t]he suitability decision for Segment 1 of the White River would result in the discontinuance of the existing permit for the dam site." The White River is also described as part of Alternative D, on page 2-57, as follows: "[u]nder this alternative, suitability findings would not be made and eligibility would continue with BLM applying protective management to the free flowing nature, outstandingly remarkable values, and tentative classification of the river." The discussion of Alternative D on page 4-214, reaffirms that Segment 1 of the White River "would remain eligible." However, in a contradictory manner, the discussion also states, "Segment 1 has been identified for a potential dam site." Subsequently, the last paragraph on page 4-214 concludes the description of Alternative D, as follows: "Under this alternative, the continued eligibility decision for Segment 1 of the White River would be incompatible with continuance of the existing permit for the dam site. Because this permit would continue under this alternative, the free-flowing nature of Segment 1 would not be maintained and this	purposes under the wild and scenic river situation. Also, see Response to Comment SD8-G-9.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				segment would no longer be eligible as a Wild and Scenic River." Further, Appendix C, Wild and Scenic River Eligibility, Suitability, Classification and Review does not include any information regarding the White River Dam Project.	
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD68	On pages 4-211 and 4-212, the discussion of Alternative A contains contradictory statements. For example, on page 4-211, the RMP states that "where mineral leasing [is] allowed with standard stipulations or timing and controlled surface use, or where other mineral development would be allowed within the corridor of the White River (Segments 1 and 3) .... the outstandingly remarkable values of these rivers would be at risk." Segment 1 of the White River is addressed again under this same alternative, at page 4-212, which states that "the White River (Segments 1 and 2) would largely be protected from disturbance related to mineral development by either being closed to mineral leasing or by no surface occupancy stipulations." Based on this information, Segment 1 of the White River is both "at risk" and "largely protected" from mineral development under Alternative A. The same language, and thus the same apparent contradiction, exists in the discussion of Alternative C. No information, which offers any clarity, exists elsewhere in Chapters 2, 3 or 4 of the RMP. The counties request that the RMP be revised to correct these issues concerning the White River.	Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD69	The discussion of Alternative B on page 4-213 includes the following statement, "If acquired lands along Nine Mile Creek are grazed, the outstandingly remarkable cultural and scenic values would be more at risk than with Alternatives A and C". Unfortunately, nowhere in the draft RMP and EIS is there other mention of this apparent concern, or other information that would enable the reviewer to grasp its relative significance. We strongly object to this unsupported assertion that grazing threatens the ORVs in the area, especially on lands that may be acquired. Grazing can be managed to protect cultural and riparian values. The BLM needs to carefully explain the potential difficulties of this area, and analyze them in terms of proper mitigation, rather than making unsupported blanket statements such as this. In addition, the discussion of Alternative A at pages 4-211 and 4-212, contains no reference to any "acquired lands along Nine Mile Creek."	Chapter 4 of the PRMP/FEIS has been revised to correct and clarify the apparent contradiction.
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD70	As a matter of clarification, the document, at page S-3, refers to sections of rivers, ranging from one to six rivers, which are recommended for Wild and Scenic River designation. Throughout the remainder of the document, the discussion of wild and scenic rivers refers to segments of rivers, rather than separate individual rivers. The confusion is immediately apparent when the reader looks to Table S.3, as directed by the text on page S-3. Clarity could be achieved by indicating the number of segments associated with the rivers, i.e.,	Table S.3 of the Executive Summary in the PRMP/FEIS has been corrected and the issue clarified regarding the number of rivers and river segments.

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				"Alternative C ... recommends 9 segments of six rivers."	
Draft RMP/EIS	Uintah, Daggett, and Duchesne Counties	G-25	SD71	The information at page 2-29 does not fully characterize proposed interim management of WSRs, because the discussion of management of eligible segments, found at page 3-84, is not presented here. We recommend that information similar to that found at page 3-84 be included at page 2-29.	Chapter 2 of the PRMP/FEIS has been revised to be consistent with the information found in Section 3.14.3.2 regarding WSRs.
Draft RMP/EIS	Utah Farm Bureau Federation	O-9	SD38	When Alternative D includes an ACEC designation in the Lower Green River Expansion of only 1,700 acres less than Alternatives A and C, how could Alternative D "not have the benefits" described for Alternatives A and C? It should provide the same benefits but to a slightly lesser degree.	Chapter 4 in the PRMP/F EIS has been revised to indicate that Alternative D would have lesser benefit than Alternatives A, C, and E.
Draft RMP/EIS	EOG Resources	O-17	SD231 (SD-ZZ)	EOG requests that development of valid and existing leases and associated rights to access leases within a Wild and Scenic River designation would be protected. The clarity of this analysis should be improved addressing the valid existing rights issue more forthrightly and by consistently accounting for stipulations in Appendix K and Section 4.14.2 so that the source and nature of those restrictive measures proposed in the DEIS can be understood.	See Response to Comment SD174-O33. The potential impacts of restrictions included in Appendix K were incorporated into the analysis contained in Chapter 4.
Draft RMP/EIS	EOG Resources	O-17	SD233 (SD-BBB)	BLM Manual 8351, in Section .51 Management Designated WSRs, states "reasonable mining claim and mineral lease access will be permitted" in designated scenic river corridors. Because BLM manual 8351 allows for some flexibility in how W&SRs are to be managed,	Chapter 2 in the PRMP/FEIS has been revised to clarify that suitable rivers/river corridors will be managed to protect their outstandingly remarkable values, tentative classifications, and free-flowing nature. Specific resource allocations and management prescriptions

Table 5.14dd. Comments Requiring a Change in the Document: Wild and Scenic Rivers

Comment Period	Commenter Name	Comment Number & Resource Category		Comment Text	Response to Comment
				and the stipulations described in Appendix K provide a broad, relatively non-specific range of management within each proposed W&SR corridor, there is no clear description of how these areas would be managed under each alternative. This lack of proposed management prescription associated with each specially designated area makes it impossible for EOG to determine how the proposed designations would affect its current and future leases and development potential.	within and outside of eligible river corridors are shown on alternative maps, whether or not such information is described in the wild and scenic river section of Chapter 2.
Draft RMP/EIS	Utah Rivers Council	O-26	SD175 (PR-I)	Seven suitability factors for Wild and Scenic Rivers were considered, but in many cases the "notes" section was left unresolved and vague. More importantly, the basis for rejecting segments as unsuitable was not provided, except in the cases where the limited nature of federal land ownership may make management a challenge. Nowhere in the draft RMP does the Vernal BLM share how they evaluated the factors to come to a decision about suitability. Because of this disconnect, the DRMP's suitability determinations are not supported by substantial evidence on the record and so are not defensible. In addition the seven factors that were considered are incomplete. We respectfully request that the VFO conduct in depth suitability analysis of all the rivers and streams found eligible for protection using the approach recommended by the Interagency Wild & Scenic Rivers Coordinating Council and involving the public throughout the process.	The WSR suitability appendix has been expanded to address the suitability factors in more detail. However, although the factors are clearly discussed for each eligible river segment, there is no "rejecting segments as unsuitable" in this appendix or elsewhere in the RMP/EIS. The actual decision regarding suitability and the rationale for that decision will be made in the record of decision for the RMP/EIS.

5.6. DISTRIBUTION LIST FOR THE PROPOSED RMP/FINAL EIS

A copy of the PRMP/FEIS has been sent to all the entities identified in the distribution list below (Table 5.15). The individuals, groups, organizations, and agencies included in the mailing list for the Vernal RMP will be notified that the PRMP/FEIS is available and a hard copy or compact disc of the document can be provided upon request. In an effort to reduce printing costs, the PRMP/FEIS is also available on the Vernal RMP website at http://www.blm.gov/ut/st/en/fo/vernal/planning.html/, the Vernal Field Office, the public room in the BLM Utah State Office, and the public libraries listed on the distribution list.

Table 5.15. Distribution List for the Proposed RMP/Final EIS

Bureau of Land Management	
U.S. Department of the Interior Bureau of Land Management Washington, DC	U.S. Department of the Interior Bureau of Land Management Utah State Office Salt Lake City, Utah
U.S. Department of the Interior Bureau of Land Management White River Field Office Meeker, CO	U.S. Department of the Interior Bureau of Land Management Craig, CO
U.S. Department of the Interior Bureau of Land Management Grand Junction, CO	U.S. Department of the Interior Bureau of Land Management Moab, UT
U.S. Department of the Interior Bureau of Land Management Rock Springs, WY	U.S. Department of the Interior Bureau of Land Management Price, UT
Federal Agencies (Required)	
Bureau of Reclamation Denver Federal Center Denver, CO	U.S. Geological Survey Reston, VA
U.S. Fish and Wildlife Service Division of Environmental Quality Arlington, VA	National Park Service Washington, DC
Office of Environmental Compliance Department of Energy Washington, D.C.	Bureau of Indian Affairs Reston, VA
U.S. Environmental Protection Agency Office of Federal Activities Washington, DC	Office of Surface Mining Washington, DC
U.S. Geological Survey Environmental Affairs Program Reston, VA	Office of Environmental Policy and Compliance U.S. Department of the Interior Washington, DC

Table 5.15. Distribution List for the Proposed RMP/Final EIS

U.S. Environmental Protection Agency Region 8 Denver, CO	U.S. Department of the Interior Natural Resources Library Washington, DC
Minerals Management Service Environmental Division Herndon, VA	Federal Depository Library System Government Printing Office Washington DC
Additional Federal Agencies	
Mineral Management Service P.O. Box 25165 Denver, CO 80225	Natural Resources Conservation Service Provo Service Center 302 E 1860 S Provo, UT 84606-6154
Federal Highway Administration Utah Division 2520 W. 4700 South Suite 9A Salt Lake City, UT 84118	U.S. Army Corps of Engineers Chief, Planning Diving 1325 J Street Sacramento, CA 95814-2922
U.S. Department of Energy Grand Junction Office 2597 B ¾ Road Grand Junction, CO 81503	Deputy Assistant Secretary of the Air Force Environment, Safety, and Occupational Health 1660 Air force, Pentagon Washington DC 20330-1660
Betsy Hermman U.S. Fish and Wildlife Service 2369 W. Orton Cir. Suite 50 West Valley City, UT 84119	Federal Depository Library System Government Printing Office 732 North Capitol Street NW Washington DC 20401
Bureau of Reclamation 302 E. 1860 South Provo, UT 84606-7317	Bureau of Indian Affairs Fort Duchesne, UT
U.S. Fish and Wildlife Service Ecological Services Denver, CO	National Park Service Salt Lake City, UT
National Park Service Dinosaur National Park Dinosaur, CO	Ashley National Forest Vernal, UT
Corps Of Engineers Grand Junction, CO	

Table 5.15. Distribution List for the Proposed RMP/Final EIS

State Agencies (Required)	
Carolyn Wright RDCC Coordinator, Public Lands Section Public Lands Policy Coordination Office 5110 State Office Building PO Box 141107 Salt Lake City, UT 84114-1107	Utah School and Institutional Trust Lands Administration Lavonne Garrison 675 East 500 South, Suite 500 Salt Lake City, UT 84102
Utah State Historic Preservation Office Matt Seddon 300 South Rio Grande Street Salt Lake City, UT 84101	
Additional State Agencies	
Utah Division of History Salt Lake City, UT	Utah Division of Water Resources Salt Lake City, UT
Utah Department of Natural Resources Salt Lake City, UT	Utah Division of Wildlife Resources Northeast Region Vernal, UT
State Institutional Trust Lands Administration Salt Lake City, UT	Utah Division of Wildlife Resources Salt Lake City, UT
Utah State Parks & Recreation Salt Lake City, UT	Utah Division of Workforce Services Vernal, UT
Local Government	
Uintah County Commissioners Vernal, UT	Daggett County Commissioners Manila, UT
Duchesne County Commissioners Duchesne, UT	Uintah & Ouray Tribal Business Committee Fort Duchesne, UT
Uintah County Planning Office Vernal, UT	Uintah County Road Department Vernal, UT
Uintah County Public Lands Committee Vernal, UT	Vernal Area Chamber of Commerce Vernal, UT
Duchesne County Planning & Zoning Duchesne, UT	Roosevelt City Corporation Roosevelt, UT
Naples City Naples, UT	Naples Police Department Naples, UT
Tribal	
Ute Mountain Ute Tribe Towaoc, CO	Confederated Tribes Of The Goshute Reservation Ibapah, UT
Laguna Pueblo Laguna, NM	Southern Ute Tribal Council Ignacio, CO

Table 5.15. Distribution List for the Proposed RMP/Final EIS

Santa Clara Pueblo Espanola, NM	Hopi Tribal council Kykotsmovi, AZ
Navajo Nation Window Rock, AZ	Northwestern Band of Shoshone Nation Brigham City, UT
White Mesa Ute Council White Mesa, UT	Zia Pueblo Zia Pueblo, NM
Ute Indian Tribe Fort Duchesne, UT	Eastern Shoshone Business Council Fort Washakie, WY
Other Organizations	
Action Target, Inc. Provo, UT	National Trust For Historic Preservation Washington, DC
AE Vernal, UT	Natural Gas Resources Defense Council Washington, DC
AEC Oil & Gas Company Denver, CO	Nature Conservancy Of Utah Salt Lake City, UT
Alton N. Moon & Sons Duchesne, UT	Nine Mile Canyon Coalition Price, UT
American Gilsonite Company Bonanza, UT	Northeastern Utah Visitors Center Vernal, UT
Anadarko Petroleum CO Denver, CO	Oil & Gas Accountability Project Durango, CO
Ashley Valley Veterinary Vernal, UT	Oregon Episcopal School Portland, OR
Bar F Partnership Myton, UT	OSO Energy Resources Corporation Durango, CO
Bar Lazy J Ranch Vernal, UT	Ouray Construction Inc. Vernal, UT
Basin Sports Vernal, UT	Ouray, Ute Wildlife Refuge Randlett, UT
Beecher Films Salt Lake City, UT	People For The West Vernal, UT
Bennion Land And Livestock LLC Vernal, UT	Petroglyph Denver, CO
Bill Barrett Corporation Denver, CO	Petroleum Exploration Wheatridge, CO
Biology And Environmental Studies Keene, NH	Piney Valley Ranches Trust Craig, CO
BJ Services Jensen, UT	PLC-UC Vernal, UT
Bjork, Lindley, & Little Denver, CO	Provo Area-BOR Provo, UT

Table 5.15. Distribution List for the Proposed RMP/Final EIS

Blackhawk Engineer Helper, UT	Public Land Policy Coordination Office Salt Lake City, UT
Booz-Allen-Hamilton Falls Church, VA	Public Lands Advocacy Denver, CO
Bork, Lindley, Danielson & Little, Pc Denver, CO	QEP Uinta Basin, Inc Vernal, UT
Brown's Park Maybell, CO	Questar E&P Denver, CO
Budd-Falen Law Offices, LLC Cheyenne, WY	Questar Market Resources Group Salt Lake City, UT
Buys & Associates Littleton, CO	Questar Regulated Services, Co. Salt Lake City, UT
C. W. McCoy Sheep CO. C/O Paul W. McCoy Vernal, UT	Raftopoulos Brothers Craig, CO
C.E. Brooks & Associates Denver, CO	Red Man Pipe & Supply Vernal, UT
Californians For Western Wilderness San Francisco, CA	Rising Sun 4x4 Club Of Colorado Littleton, CO
Carroll/Carroll Davidson Partnership Ltd. Meeker, CO	Robert H. Williams, Family Trust Vernal, UT
Center For Native Ecosystems Denver, CO	Rocky Mountain Elk Foundation Missoula, MT
Center For Natural Resources Denver, CO	Rocky Mountain Power Salt Lake City, UT
Chacoi, Inc. Paonia, CO	Ruperstrain Cyber Services Flagstaff, AZ
Chew Livestock Jensen, UT	Rural Public Lands County Council Washington, DC
Chivers Ranch Inc. Vernal, UT	School & Institutional Trust Lands Administration Salt Lake City, UT
Citizens Oil & Gas Support Center Durango, CO	School Of Aquatic And Fishery Sciences Seattle, WA
Colorado State University Library Fort Collins, CO	Searle Brothers C/O Larry Searle Vernal, UT
Colton Ranch Inc. Bountiful, UT	Shenandoah Energy Vernal, UT
Cook Livestock Vernal, UT	Siddoway Diamond Mountain Association Vernal, UT

Table 5.15. Distribution List for the Proposed RMP/Final EIS

Craig's Roustabout Services Jensen, UT	Sierra Club Salt Lake City, UT
Cripple Cowboy Cow Outfit, Inc Rangely, CO	Simper Lumber, Inc. Vernal, UT
Daggett County Library Manila, UT	Simplot Phosphates LLC Vernal, UT
Davidson Yellow Jacket Ranch, Ltd. Meeker, CO	Smiling Lake Consulting Evergreen, CO
Dept Of Bioengineering Salt Lake City, UT	Southern Utah Wilderness Alliance Moab, UT
Dept Of Integrative Biology Provo, UT	Southern Utah Wilderness Alliance Salt Lake City, UT
Deseret News Salt Lake City UT	Stewart Mach & Vernal, UT
Diamond Mountain Rustlers Myton, UT	Stone Art CO. Orem, UT
Dinaland Snow Vernal, UT	Stonegate Resources, LLC Park City, UT
Dinosaurland Travel Board Vernal, UT	Strawberry River Livestock, Inc. Duchesne, UT
Director Of Conservation Program Flagstaff, AZ	Stuntz Valley Ranch L C Jensen, UT
Duchesne County Water District Roosevelt, UT	SWT Consulting Stanford, CA
Duchesne County Library Roosevelt, UT	The Access Fund Boulder, CO
Earth Justice Denver, CO	The Cleveland-Cliffs Iron Company Rifle, CO
Elcan And Associates, Inc. Mobile, AL	The Cliffs Synfuel Corp. Rifle, CO
Elmer R. Moon & Sons Duchesne, UT	The National Outdoor Leadership School Lander, WY
Environment Preservation Foundation Salt Lake City, UT	The Nature Conservancy Salt Lake City, UT
EOG Resources Denver, CO	The Salt Lake Tribune Salt Lake City, UT
EOG Resources, Inc. Big Piney, WY	The Shipley Group Woods Cross, UT
EOG Resources, Inc. Denver, CO	The Wilderness Society Denver, CO

Table 5.15. Distribution List for the Proposed RMP/Final EIS

Colorado River Basin Salinity Forum Bountiful, UT	Theodore Roosevelt Conservation Partnership Boulder, WY
FIML Natural Resources Denver, CO	Thunder Ranch, L.L.C. Jensen, UT
Flying C Ranches Bluffdale, UT	Titan Energy Resources Park City, UT
Forest Guardians Santa Fe, Nm	TRC Mariah Association Inc Laramie, WY
Forestry & Lands, Utah Vernal, UT	Tri W Pipe & Supply Roosevelt, UT
Fulbright & Jaworski LLP Denver, CO	Uintah Basin Grazing Association Talmage, UT
Gardner Family Trust Vernal, UT	Uintah Basin Grazing Association Mountain Home, UT
Goodrich MUC CO Vernal, UT	Uintah Basin Standard Roosevelt, UT
Grant L. Hacking Family LLC Vernal, UT	Uintah County Library Vernal, UT
Hacking Land & Livestock Vernal, UT	Uintah Engineering & Land Vernal, UT
Halliburton Vernal, UT	Uintah Mountain Club Vernal, UT
Hawk Watch International Salt Lake City, UT	US Steel Corp. Pittsburgh, PA
High Country News Paonia, CO	Glen Canyon National Recreation Area Page, AZ
Hiko Bell Mining & Oil Company Vernal, UT	USU Uintah Basin Vernal, UT
Hoy Mountain Ranch, L.L.C. Vernal, UT	Utah Cattlemen's Association Salt Lake City, UT
Hunt Oil Company Cody, WY	Utah Environmental Congress Salt Lake City, UT
Hunter Education Instructors Vernal, UT	Utah Farm Bureau Federation Sandy, UT
Hunting Ray Jensen, UT	Utah Natural Heritage Program Salt Lake City, UT
J R Day Investments Coalville, UT	Utah Rivers Council Salt Lake City ,UT

Table 5.15. Distribution List for the Proposed RMP/Final EIS

J. Willard Marriott Library Government Documents Dept. Salt Lake City, UT	Utah Rock Art Research Association Salt Lake City, UT
John Siddoway Livestock & Investment Company Salt Lake City, UT	Utah Shared Access Alliance Spanish Fork, UT
KN Energy Vernal, UT	Utah Snowmobile Association Salt Lake City, UT
KNEU Radio Roosevelt, UT	Utah State University Logan, UT
KVEL Radio Vernal, UT	Utah Water User Association Murray, UT
LCD Trust Randlett, UT	Utah Wilderness Coalition Salt Lake City, UT
Leland N. Sowards Partnership West Valley City, UT	Vantage Energy Englewood, CO
Lexco, Inc Vernal, UT	Vermillion Ranch Limited Partners Rock Springs, WY
Litmus Epollc Littleton, CO	Vernal Express Vernal, UT
Lonesome Horse Ranch Vernal, UT	Vincent Brothers Sunshine Ranch Jensen, UT
Magic Valley ATV Riders Twin Falls, ID	Wasatch Mountain Club Salt Lake City, UT
Marta Corp. Vernal, UT	Western Land Exchange Project Seattle, WA
McCall Saddle Vernal, UT	Western Watershed Project Mender, UT
McDermott, Will & Emery Washington, D.C.	Western Wildlife Conservancy Salt Lake City, UT
Merrick & CO Aurora, CO	White Mesa Ute Council White Mesa, UT
Montgomery & Neal, LLC Prineville, OR	Wild Scenic Rivers Programs Washington, DC
Moon Ranch L.L.C. Duchesne, UT	Wilderness Society Denver, CO
Morapos Creek Sheep CO. Meeker, CO	Willow Creek Land And Livestock Inc. Dutch John, UT
Naples Police Department Naples, UT	WP Wells Petroleum, Inc. Genesse Center I Golden, CO

Table 5.15. Distribution List for the Proposed RMP/Final EIS

National Outdoor Leadership School Lander, WY	ZCM Drilling Vernal, UT
National Outdoor Leadership School Vernal, UT	Ziegler Chemical & Mineral Corp. Bonanza, UT
	Ziegler Chemical & Mineral Corp. Jericho, NV

5.7. LIST OF PREPARERS

The BLM Vernal FO DRMP/EIS was written and produced by a team composed of BLM Vernal FO interdisciplinary resource specialists and SWCA, Inc., an independent, third-party consulting firm. In accordance with 40 CFR 1506.5(c), SWCA certified that it does not have any financial or other interest in the outcome of the decisions made pursuant to this RMP/EIS. Under the guidance and direction of the BLM, and in collaboration with the cooperating agencies, the team developed alternatives, collected baseline data to be used in the analysis, assessed potential effects of the alternatives, and prepared all the necessary elements of an RMP with additional participation, comments, and critique from the cooperating agencies. Table 5.16 lists the team members, job titles, and responsibility associated with the RMP/EIS.

Table 5.16. List of Preparers

Name	Position	Planning Role
SWCA Environmental Consultants		
Laura Burch	Environmental Planner	Socioeconomics, Hazardous Materials
Catherine Chatfield	GIS Specialist	GIS
Tonya Dombroski, Ph.D	Environmental Chemist	Air Quality
Sheri Ellis	Cultural Resources Lead	Fire Management, Lands and Realty, Cultural Resources
Jason Green	Environmental Planner	Recreation, Transportation
Janet Guinn	Project Coordinator	Formatting
Dave Harris	NEPA Specialist	Recreation, Visual, Woodlands
Susan Martin	Ecologist	Vegetation, TES Plants
Kristin Knippenberg	Resource Specialist, Technical Editor	Editing/Minerals
Brian Nicholson	Ecologist	Riparian and Soils and Watershed
Mathew Petersen	Principal Ecologist	QA/QC
Deb Reber	Natural Resources Planner	Project Manager/ QA/QC
Jan Reed	Ecologist	Livestock Grazing
Mathew Seddon, Ph. D	Anthropologist	Cultural Resources
Thomas Sharp	Ecologist	Wildlife, Special Status Species

Table 5.16. List of Preparers

Name	Position	Planning Role
Bureau of Land Management		
Howard Cleavinger	Associate Field Manager	Project Manager
Kelly Buckner	Planning and Environmental Coordinator	Project Manager, QA/QC, writer/editor
Denise Ohler	Environmental Administrative Assistant	QA/QC, writer/editor
Craig Nichols	National Air Quality Modeler – BLM NOC	Air Quality
Blaine Phillips	Archaeologist	Cultural Resources, SHPO Consultation
Stephanie Howard	Planning and Environmental Coordinator	Environmental Justice
Troy Suwyn	Fire Management Officer	Fire Management
Jo-Ann Stroh	IT Specialist	GIS
Kyle Smith	Cartographic Technician	GIS
Merlin Sinfield	Civil Engineering Technician	Hazardous Materials
Naomi Hatch	Branch Chief – Lands and Minerals	Lands & Realty
Marc Stavropoulos	Supervisor Range	Forage, Livestock Grazing, Wild Horse & Burros
Jerry Kenzcka	AFM for Lands and Minerals	Minerals and Energy Resources
Robin Hansen	Geologist	Paleontology
Chuck Patterson/ Jason West	Recreation Planner	Recreation, Special Designations, Visual Resource Management,
Tim Faircloth	AFM for Renewable Resources	Riparian and Wetlands
Bill Stevens	Recreation Planner	Socioeconomics
Steve Strong	Natural Resource Specialist	Soil and Water Resources
Amy Torres	Wildlife Biologist	Special Status Species, Section 7 Consultation, Wildlife and Fisheries
Clayton Newberry/ Jesse Salix	Botanist	Special Status Species, Vegetation
David Palmer	Forester	Woodlands and Timber

5.8. RECORD OF DECISION

Following publication by the EPA and BLM of a Notice of Availability of the PRMP/FEIS in the Federal Register on August 15, 2008 and distribution of the PRMP/FEIS, a 30-day protest period runs. In addition, a 60-day Governor's Consistency Review period runs concurrently with the protest period.

The State Director will approve the PRMP/FEIS by issuing a public Record of Decision (ROD), which is a concise document summarizing the findings and decisions brought forth from the PRMP. However, approval shall be withheld on any portion of a plan being protested until final

action has been completed on such protest. Before such approval is given, there shall be public notice and opportunity for public comment on any significant change made to the Proposed RMP. Among other decisions, the proposed ACEC designations and OHV categories (limitations and closures) will be approved when the ROD is signed.

Management actions specified for the Proposed Alternative in Chapter 2 of the PRMP/FEIS are labeled as follows:

Land-use Plan Decisions (P): These broad-scale decisions guide future land management actions and subsequent site-specific implementation decisions. Land-use plan decisions fall into two categories: desired outcomes (goals; standards, including land health standards; and objectives) and allowable uses and actions to achieve outcomes. Proposed land-use plan decisions are protestable to the BLM Director.

Implementation Decisions (I): These decisions take action to implement land-use plan decisions on a site-specific basis. They may be incorporated into implementation plans or may exist as stand-alone decisions. When issued, implementation decisions are generally appealable to the Interior Board of Land Appeals as outlined in 43 CFR Part 4.

Administrative and Policy Decisions (A): These decisions are based on law, regulation, and/or policy and do not require a land-use plan decision or implementation decision. They are not protestable or appealable.

5.9. VERNAL RMP/EIS MEETING AND COORDINATION LOG

Contractor Interviews

- Contractor met with Daggett County Commission to identify planning issues and discuss Coop. Agency Status – November 6, 2001.
- Contractor met with Uintah County Commission to identify planning issues and discuss Coop. Agency Status – November 2001.
- Contractor met with Duchesne County Commission to identify planning issues and discuss Coop. Agency Status – November 9, 2001.

Coordination Meetings and Other Contacts

- Met with State Legislators (Evans, Snow, and Seitz) – July 20, 2001.
- Met with Daggett County Commission – August 21, 2001.
- Met with FWS (Dan Alonzo). Discussed plan and EPCA – August 28, 2001.
- Partners Meeting at BLM, briefed on plan – September 4, 2001.
- Met with EPA and FWS in SLC, briefed on plan – September 14, 2001.
- Uinta Basin Partners, briefed group on planning schedule and progress – October 9, 2001.
- Oil and Gas Working Group, briefed group on planning schedule and progress – October 10, 2001.
- Ute Tribe, briefed Business Committee on plan and expressed desire to work closely with them – October 11, 2001.
- Met with Uintah County – November 9, 2001.

- Met with Daggett County – November 20, 2001.
- Met with Fish & Wildlife Service – November 28, 2001.
- Met with Environmental Protection Agency – November 28, 2001.
- Met with Oil and Gas Working Group – November 29, 2001.
- State Legislators (Beverly Evans, Gordon Snow, Dan Price) – November 30, 2001.
- Met with Daggett County – January 8, 2002.
- Met with Environmental Protection Agency – January 14, 2002.
- Fish & Wildlife Service – January 14, 2002.
- Utah State University on Resource Assessments, all County Commissioners Invited (Rich Etchberger) – January 18, 2002.
- Met with Uintah County – January 29, 2002.
- Met with Duchesne County – January 31, 2002.
- Met with Uintah County – February 6, 2002.
- Ute Business Committee (SWCA attended) – February 6, 2002.
- Uintah County Public Lands Committee – February 11, 2002.
- Duchesne County – March 20, 2002.
- Duchesne County Public Lands Committee – March 20, 2002.
- Utah State University (Resource Assessment Progress Report), County Commissioners Invited – April 18, 2002.
- Duchesne County (SWCA attended). County was given copies of Scoping Comments and Summary, Draft Mineral Potential Report, and Planning Bulletins – April 30, 2002.
- Duchesne County (Moore and Howell) – May 3, 2002.
- Uintah County – May 7, 2002.
- Uintah County (SWCA attended). County was given copies of Scoping Comments and Summary, Draft Mineral Potential Report, and Planning Bulletins – May 15, 2002.
- Daggett County (SWCA attended). County was given copies of Scoping Comments and Summary, Draft Mineral Potential Report, and Planning Bulletins – May 15, 2002.
- Fish & Wildlife Service (Dan Alonzo) – May 22, 2002.
- Forest Service (Ashley, Bert Kulesza) – May 22, 2002.
- Uintah County Public Lands Committee – June 10, 2002.
- State of Utah (John Harja) on Wild & Scenic Rivers – June 10, 2002.
- Uinta Basin Partners – June 12, 2002.
- Uintah County Commission and members of Public Lands Committee – June 24, 2002.
- Fish & Wildlife Service (Salt Lake City) – July 2, 2002.
- Ute Business Committee (Coop. Agency Agreement) – July 9, 2002.
- Utah State University (Resource Assessment Progress Report), All County Commissioners invited – July 12, 2002.
- Uinta Basin Association of Governments – July 16, 2002.
- Joint meeting with Meeker and Craig Field Offices – July 16, 2002.

- State of Utah (Wild & Scenic Rivers) – July 23, 2002.
- Joint meeting with Grand Junction, Meeker, Craig, & Moab Field Offices on SUWA's proposed wilderness areas – July 30, 2002.
- Ute Business Committee (Wild & Scenic Rivers) – August 27, 2002.
- RAC (Discussion of Raptor Best Management Practices Scenarios) – August 27, 2002.
- Alternative Development Meeting with Counties, FWS, Resource Specialists, and Contractor – October 7, 2002.
- Alternative Development Meeting with Counties, FWS, Resource Specialists, and Contractor – October 8, 2002.
- Alternative Development Meeting with Counties, FWS, Resource Specialists, and Contractor – October 22, 2002.
- Alternative Development Meeting with Counties, FWS, Resource Specialists, and Contractor – October 23, 2002.
- Alternative Development Meeting with Counties, FWS, State of Utah and Contractor – Oct. 28, 2002.
- Duchesne County Commission to discuss coordination problems – October 28, 2002.
- Alternative Development Meeting with Counties and Contractor – November 4, 2002.
- Uintah County Commission to discuss coordination problems and give them a copy of the AMS and Mineral Potential Report – November 4, 2002.
- Alternative Development Meeting with Counties, State of Utah, and Contractor – November 5, 2002.
- EPA in Vernal F. O. to discuss air quality modeling for the RMP effort – November 6, 2002.
- The working draft of Chapter 2 and alternative matrix was sent to Uintah County and UBAG for their use and review – November 22, 2002.
- Copies of 20 Wilderness Determination forms were sent to Uintah County – December 2, 2002.
- A draft copy of the Paleontological section of the AMS was sent to Uintah County – December 3, 2002.
- Draft copies of the Livestock Grazing and Alternative Energy sections of the AMS were sent to Uintah County and UBAG for their review – December 18, 2002.
- Brief Utah Division of Wildlife Resources on alternatives for the plan – December 4, 2002.
- Met with State of Utah DEQ to review protocol for Air Quality Modeling for RMP. Attended by BLM (Utah & Colo.), SWCA (Deb Reber), Trinity Consultants (YuShan Huang), and the Uinta Basin Association of Governments (Clayton Chidester) – December 14, 2002.
- Met with State of Colorado DEQ to review protocol for Air Quality Modeling for RMP. Attended by BLM (Utah & Colo.), and Trinity Consultants (YuShan Huang). Clayton Chidester was invited but did not attend. – December 16, 2002.
- Uinta Basin Partners Meeting, briefed those in attendance on progress on RMP. – January 8, 2003.

- Met with Park Service to discuss the Alternatives for the RMP that could impact the Monument. – January 8, 2003.
- Met with Senator Beverly Evans and the Uinta Basin Association of Governments to brief them and answer questions about the status and progress of the RMP – January 16, 2003.
- Briefed new BIA Superintendent on RMP effort – January 22, 2003.
- Briefed Utah Division of Wildlife Resources on alternatives for the plan – January 27, 2003.
- Met with Clayton Chidester and Dave Allison (UGAOG) to discuss issues related to the RMP – January 28, 2003.
- Daggett County Commission, updated them on progress of RMP effort – February 3, 2003.
- Duchesne County Commission, updated them on progress of RMP effort – February 6, 2003.
- Meeting between BLM, EPA, Forest Service, Park Service, FWS, and Air Quality Subcontractor for RMP to discuss protocol for air quality analysis for RMP. Clayton Chidester (UBAG) was invited to attend but declined – February 11, 2003.
- Uintah County Commission, updated them on progress of RMP effort – February 12, 2003.
- BLM met with John Harja (State Of Utah) and Cathryn Collis (SWCA) to discuss alternative presentation in the RMP – February 13, 2003.
- Met in Uintah County Building to discuss county concerns about RMP schedule. The meeting was attended by County Commissioners from all three counties, UBAG, State of Utah, Senator Beverly Evans, and BLM. The BLM State Director and Vernal Field Office Manager were both in attendance – February 14, 2003.
- Worked with Uinta Basin Association of Governments (Clayton Chidester) to scan, or copy, 1979 wilderness files, 1999 wilderness inventory files, and externally generated proposed wilderness files – February 18, 19, 20, 25,26, 27, 2003.
- Partners Meeting, held at Fire Center. RMP update was presented. Commissioners from Daggett and Duchesne Counties were present – March 12, 2003.
- Partners Meeting, held at BLM's new fire building. RMP update was presented and an offer was made to meet and discuss the plan in more detail with anyone that was interested. – April 9, 2003.
- Uintah County Public Lands Committee meeting, attended to respond to any questions committee members may have about the RMP. – April 14, 2003.
- State Resource Development Coordination Committee (RDCC) meeting at DNR Building in SLC. Briefed the members on the top five issues in the RMP: Oil and Gas, OHV, Raptors, Special Designations, and Wild Horses. A question-and-answer session was held following the briefing. – April 16, 2003.
- Question-and-answer session with counties and State on draft alternatives for RMP, attending were Louise Sainsbury, Clayton Chidester, Dave Allison, Mike McKee, LaVonne Garrison, and John Harja. Held at BLM office – April 24, 2003.

- Question-and -answer session with counties and State on draft alternatives for RMP, attending were Louise Sainsbury, Clayton Chidester, Dave Allison, Mike McKee, and LaVonne Garrison. Held at BLM office – May 6, 2003.
- Question-and-answer session with counties and State on draft alternatives for RMP, attending were Louise Sainsbury, Clayton Chidester, Dave Allison, and Scott Chamberland. Held at BLM office – May 12, 2003.
- Question-and-answer session with counties and State on draft alternatives for RMP, attending were Louise Sainsbury, Clayton Chidester, Dave Allison, Mike McKee, Diana Whittington. Raptor Management was the topic of discussion for the meeting. BLM gave the counties copies of the Alternative Matrix for the RMP that we had been using at the last five meetings to record county comments and concerns. They were going to review the comments, make needed corrections, and send it back to BLM through the County Commissioners as their official comments on the draft alternatives. Meeting was held at the Vernal BLM office – May 27, 2003.
- May 28, 2003 – Meeting with the Ute Business Committee at Fort Duchesne, Utah. The purpose of the meeting was to keep the Business Committee informed and involved in the BLM-Resource Management Plan. The meeting included a presentation and discussion of the following topics:
    - Area of Critical Environmental Concern (ACEC)
    - Wild & Scenic Rivers
    - Off Highway Vehicle (OHV) Designated Travel
    - Oil and Gas leasing Categories
    - Wild Horses
    - Hill Creek Extension federal subsurface minerals issues
- Question-and-answer session with the counties and State on the draft alternatives for the RMP. The focus of the meeting was to present modifications to the RMP that were required following the Wilderness Settlement. Attending were Louise Sainsbury, Clayton Chidester, Dave Allision, Mike McKee, and Val Payne. The meeting was held at the BLM Office – June 3, 2003.
- Met with John Harja and Val Payne on Friday June 6, 2003, at the SWCA Office in SLC to explain the changes that were made to the alternatives in the RMP that were required as a result of the Wilderness Settlement. Dave Howell, Deb Reber, Dave Moore, Steve Knox, and Maggie Kelsey were also in attendance.
- Joint meeting with the Ashley National Forest and the Vernal Field Office leadership teams on June 20, 2003 to discuss a variety of cross boundary issues, but with particular emphasis on the RMP and edge matching on resource management.

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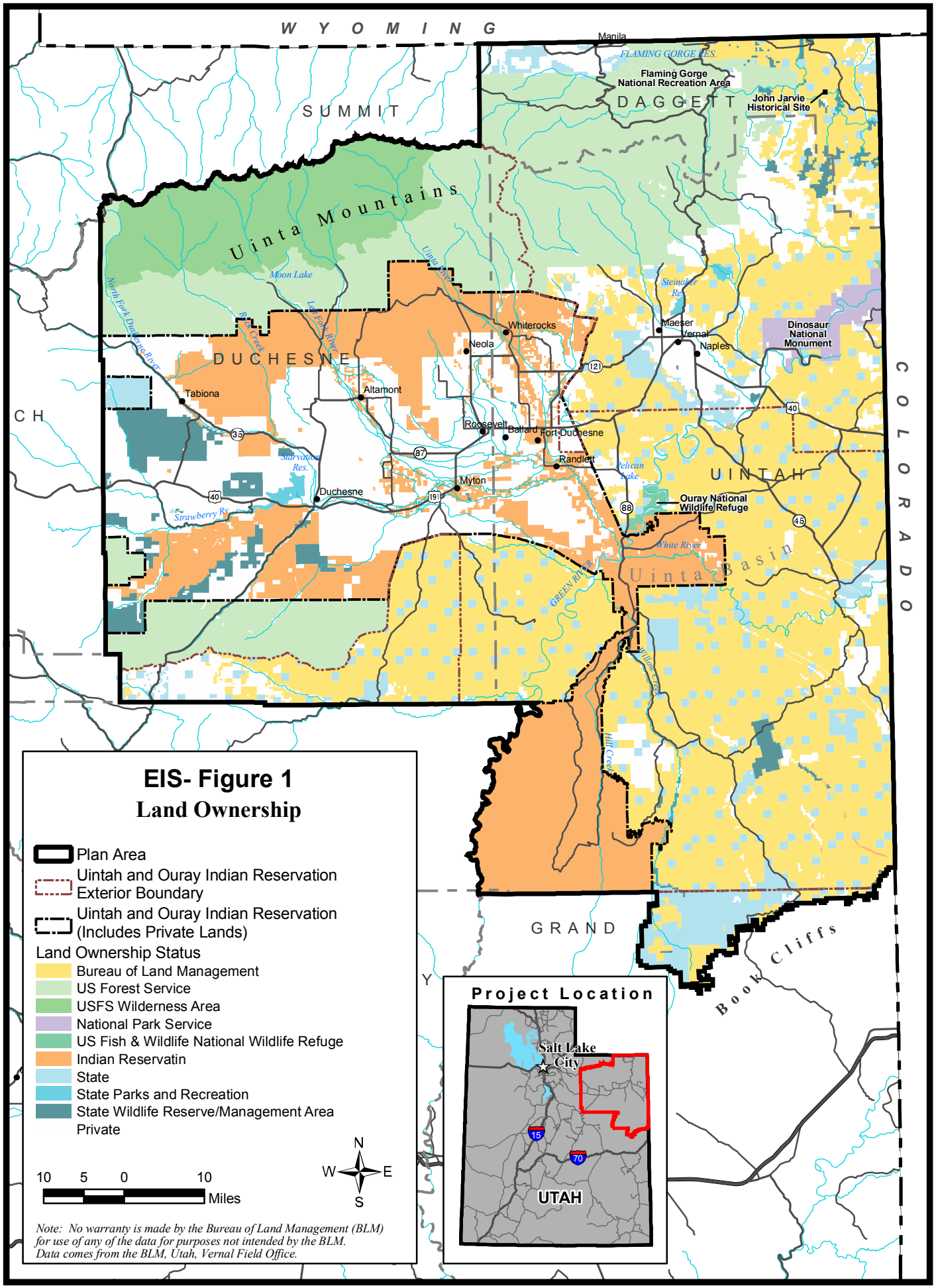

EIS- Figure 1
Land Ownership

Plan Area
Uintah and Ouray Indian Reservation Exterior Boundary
Uintah and Ouray Indian Reservation (Includes Private Lands)

Land Ownership Status
- Bureau of Land Management
- US Forest Service
- USFS Wilderness Area
- National Park Service
- US Fish & Wildlife National Wildlife Refuge
- Indian Reservatin
- State
- State Parks and Recreation
- State Wildlife Reserve/Management Area
- Private

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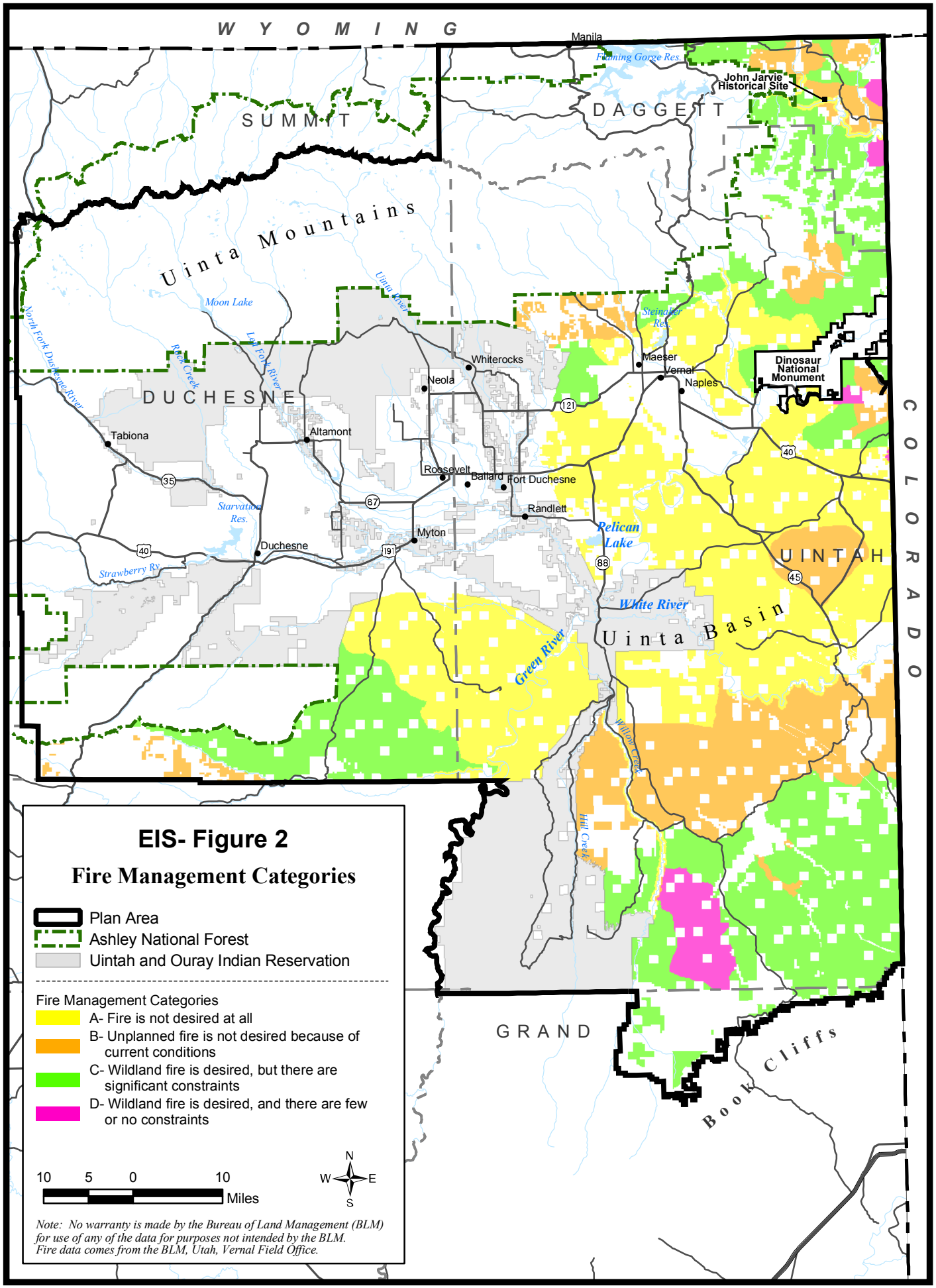
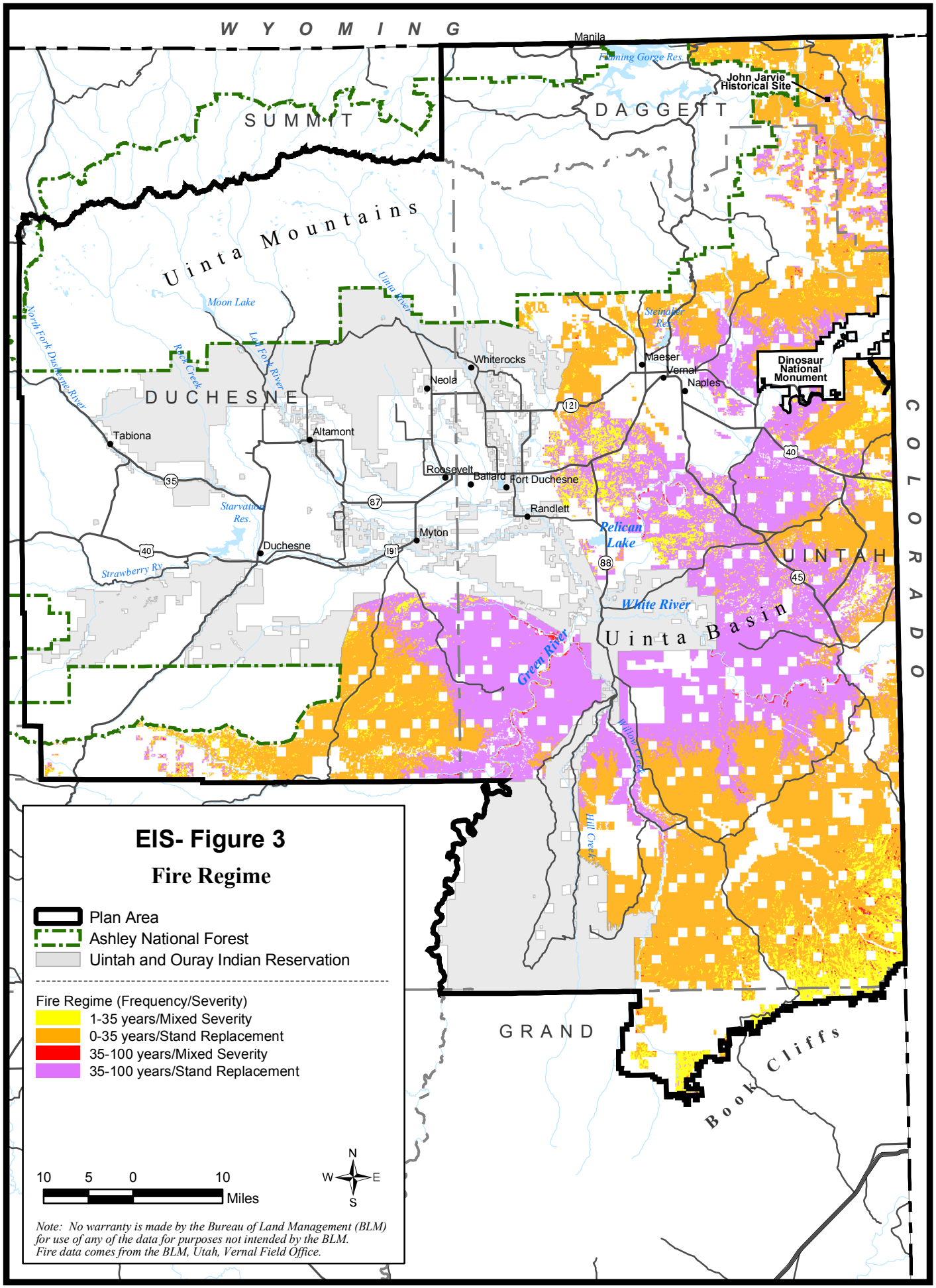

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Relican Lake
White River
Green River
Willow Creek
Hill Creek
121
35
87
40
191
88
45
EIS- Figure 2
Fire Management Categories
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Fire Management Categories
A- Fire is not desired at all
B- Unplanned fire is not desired because of current conditions
C- Wildland fire is desired, but there are significant constraints
D- Wildland fire is desired, and there are few or no constraints
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Fire data comes from the BLM, Utah, Vernal Field Office.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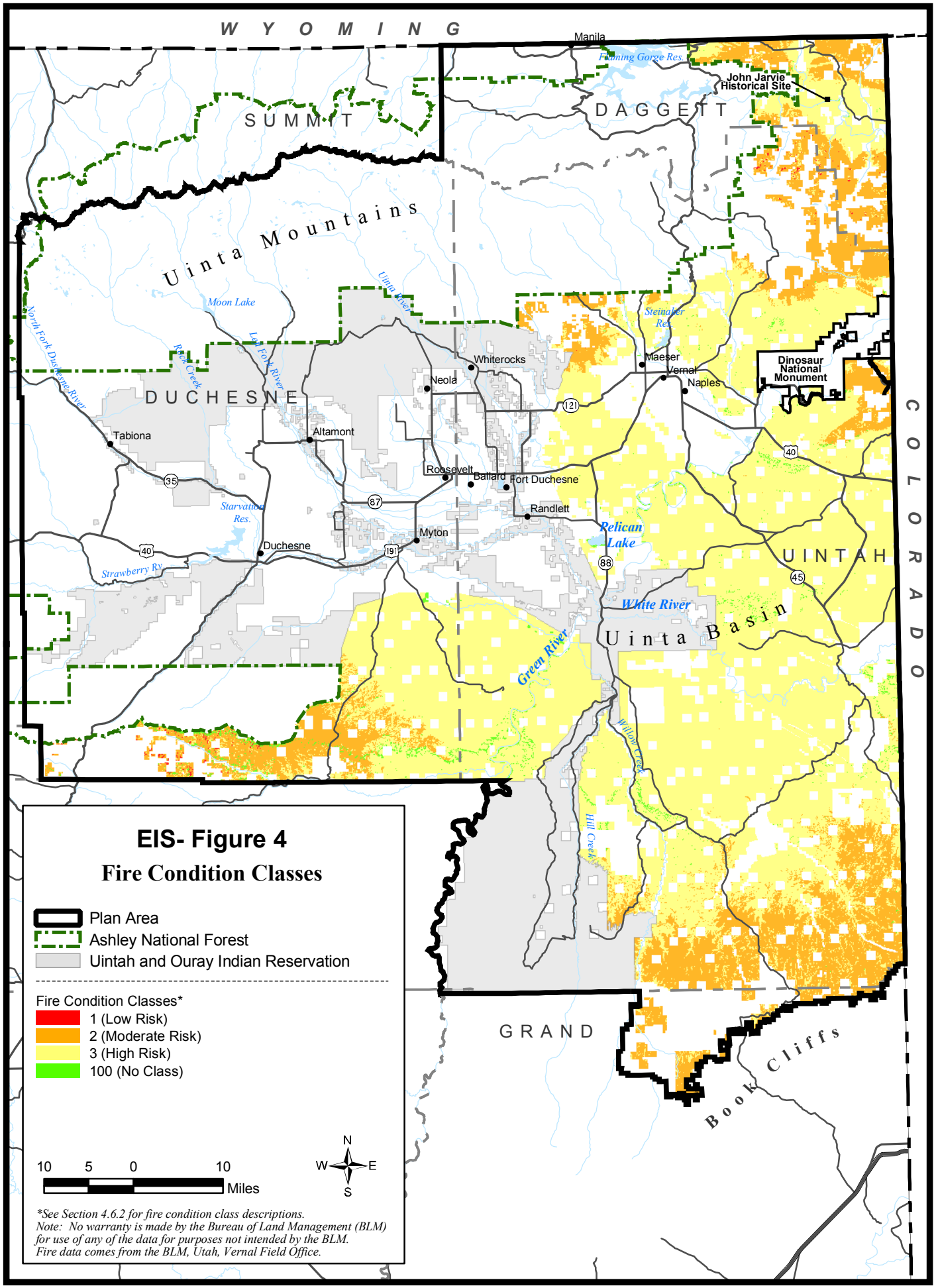
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Relican Lake
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 3
Fire Regime
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Fire Regime (Frequency/Severity)
1-35 years/Mixed Severity
0-35 years/Stand Replacement
35-100 years/Mixed Severity
35-100 years/Stand Replacement
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Fire data comes from the BLM, Utah, Vernal Field Office.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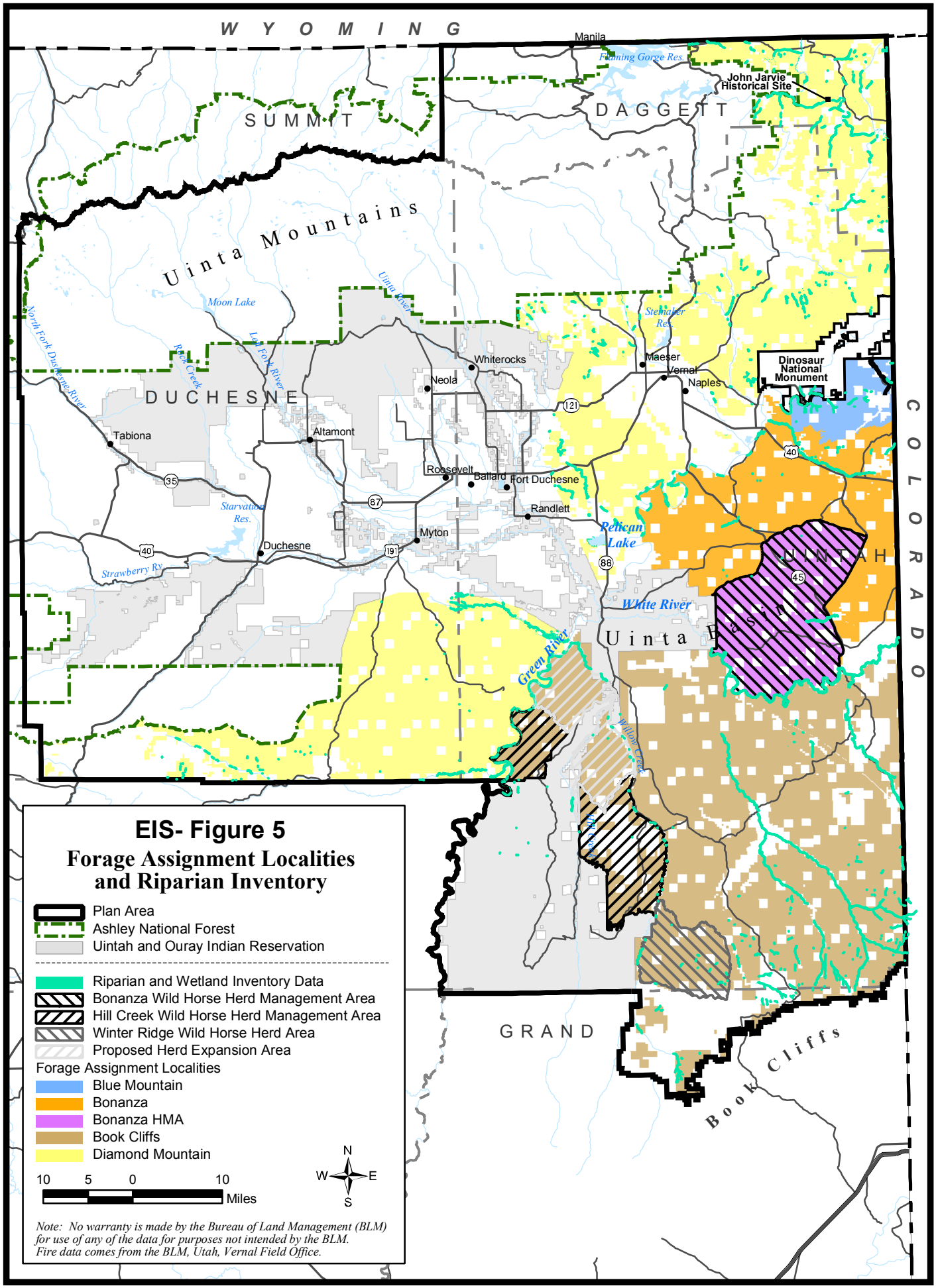
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Relican Lake
White River
Green River
Willow Creek
Hill Creek
121
35
87
40
191
88
45
EIS- Figure 4
Fire Condition Classes
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Fire Condition Classes*
1 (Low Risk)
2 (Moderate Risk)
3 (High Risk)
100 (No Class)
10 5 0 10
Miles
N
W
E
S
*See Section 4.6.2 for fire condition class descriptions.
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Fire data comes from the BLM, Utah, Vernal Field Office.


WYOMING
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Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Stewart Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 5
Forage Assignment Localities and Riparian Inventory
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Riparian and Wetland Inventory Data
Bonanza Wild Horse Herd Management Area
Hill Creek Wild Horse Herd Management Area
Winter Ridge Wild Horse Herd Area
Proposed Herd Expansion Area
Forage Assignment Localities
Blue Mountain
Bonanza
Bonanza HMA
Book Cliffs
Diamond Mountain
10 5 0 10 Miles
N
W
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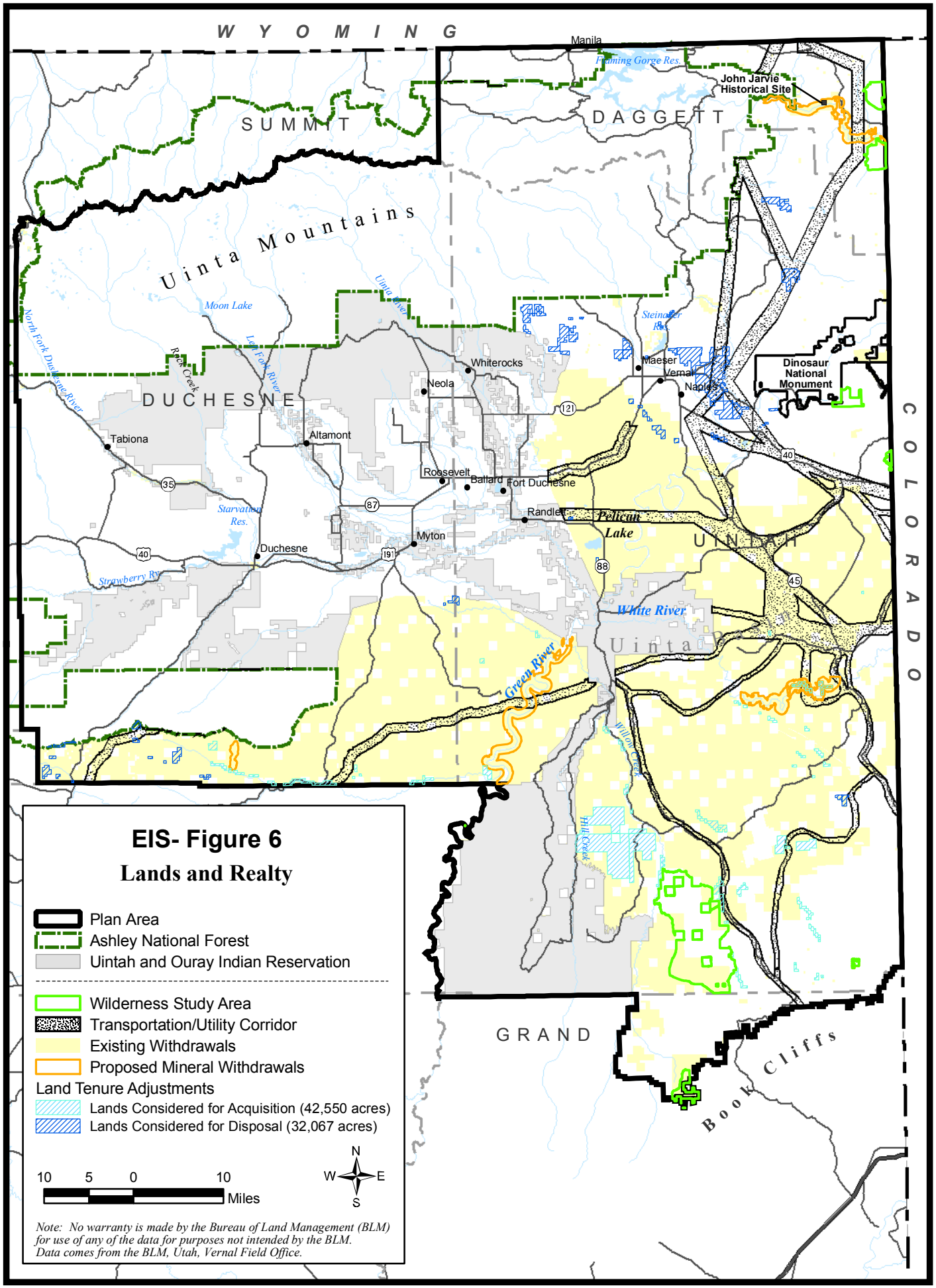
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Fire data comes from the BLM, Utah, Vernal Field Office.


WYOMING
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Manila
Flaming Gorge Res.
John Jarvie Historical Site
Uinta Mountains
Moon Lake
Uinta River
North Fork Duchesne River
Left Fork River
Rock Creek
Steinaker Res.
Whiterocks
Maeser
Vernal
Naples
Dinosaur National Monument
Neola
DUCHESNE
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Myton
Duchesne
Strawberry Ry
UINTAH
White River
Uinta
Green River
Willow Creek
Hill Creek
COLORADO
GRAND
Book Cliffs
EIS- Figure 6
Lands and Realty
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Wilderness Study Area
Transportation/Utility Corridor
Existing Withdrawals
Proposed Mineral Withdrawals
Land Tenure Adjustments
Lands Considered for Acquisition (42,550 acres)
Lands Considered for Disposal (32,067 acres)
10 5 0 10
Miles
N
W
E
S
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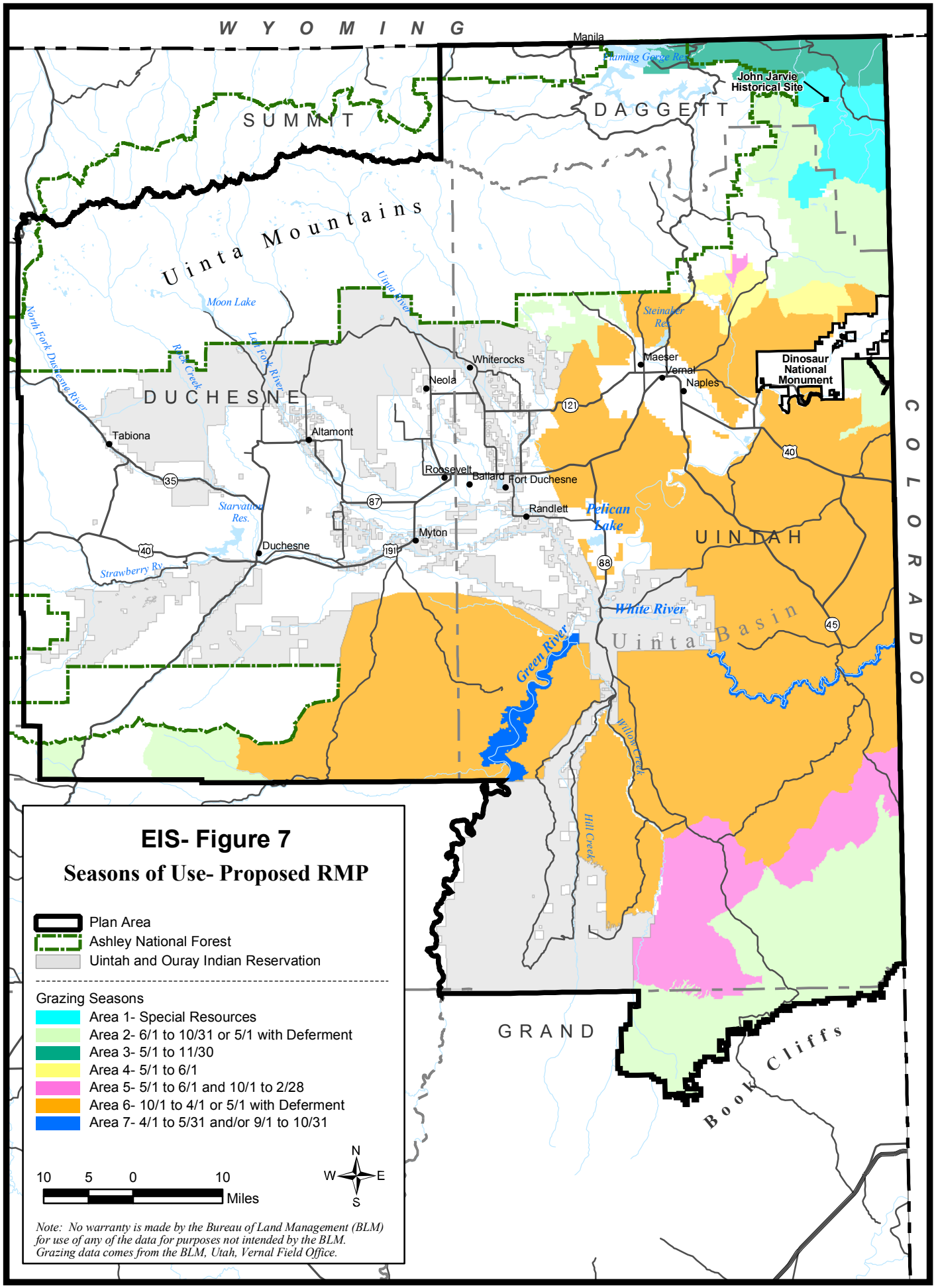
Data comes from the BLM, Utah, Vernal Field Office.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Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Rv.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 7
Seasons of Use- Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Grazing Seasons
Area 1- Special Resources
Area 2- 6/1 to 10/31 or 5/1 with Deferment
Area 3- 5/1 to 11/30
Area 4- 5/1 to 6/1
Area 5- 5/1 to 6/1 and 10/1 to 2/28
Area 6- 10/1 to 4/1 or 5/1 with Deferment
Area 7- 4/1 to 5/31 and/or 9/1 to 10/31
10 5 0 10
Miles
N
W
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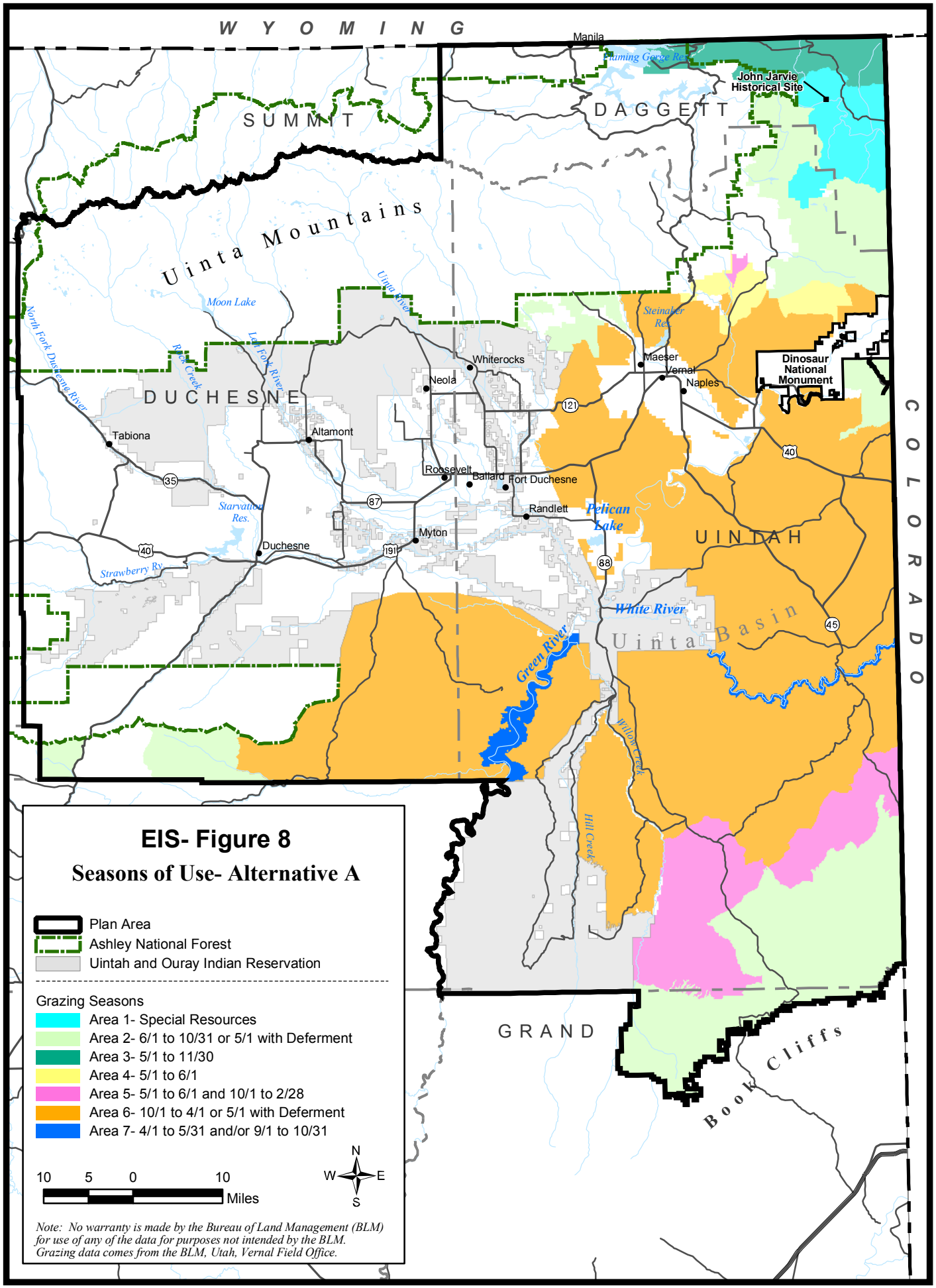
Grazing data comes from the BLM, Utah, Vernal Field Office.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Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Rv.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 8
Seasons of Use- Alternative A
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Grazing Seasons
Area 1- Special Resources
Area 2- 6/1 to 10/31 or 5/1 with Deferment
Area 3- 5/1 to 11/30
Area 4- 5/1 to 6/1
Area 5- 5/1 to 6/1 and 10/1 to 2/28
Area 6- 10/1 to 4/1 or 5/1 with Deferment
Area 7- 4/1 to 5/31 and/or 9/1 to 10/31
10 5 0 10
Miles
N
W
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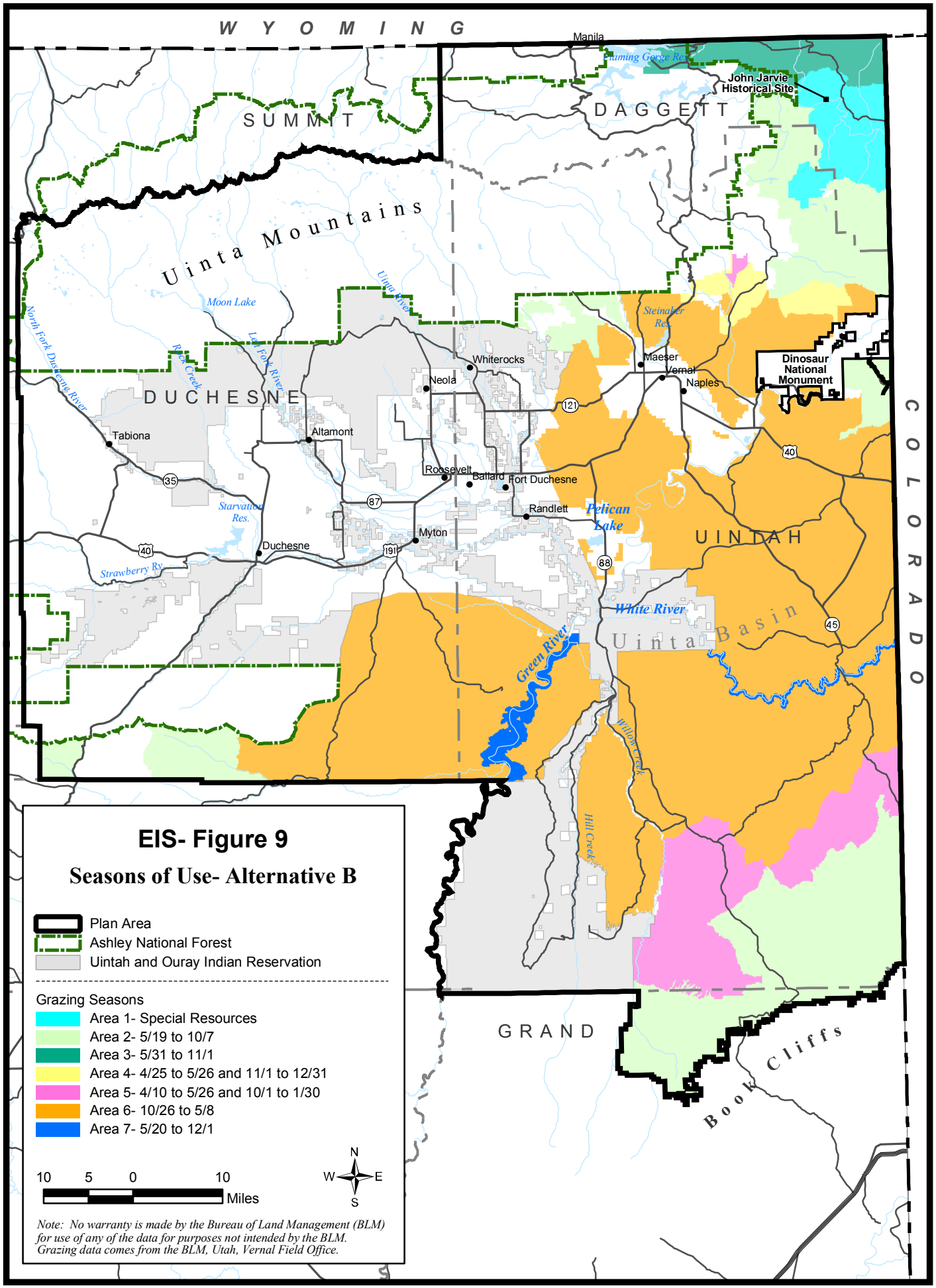
WYOMING
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Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Rv.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 9
Seasons of Use- Alternative B
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Grazing Seasons
Area 1- Special Resources
Area 2- 5/19 to 10/7
Area 3- 5/31 to 11/1
Area 4- 4/25 to 5/26 and 11/1 to 12/31
Area 5- 4/10 to 5/26 and 10/1 to 1/30
Area 6- 10/26 to 5/8
Area 7- 5/20 to 12/1
10 5 0 10
Miles
N
W
E
S
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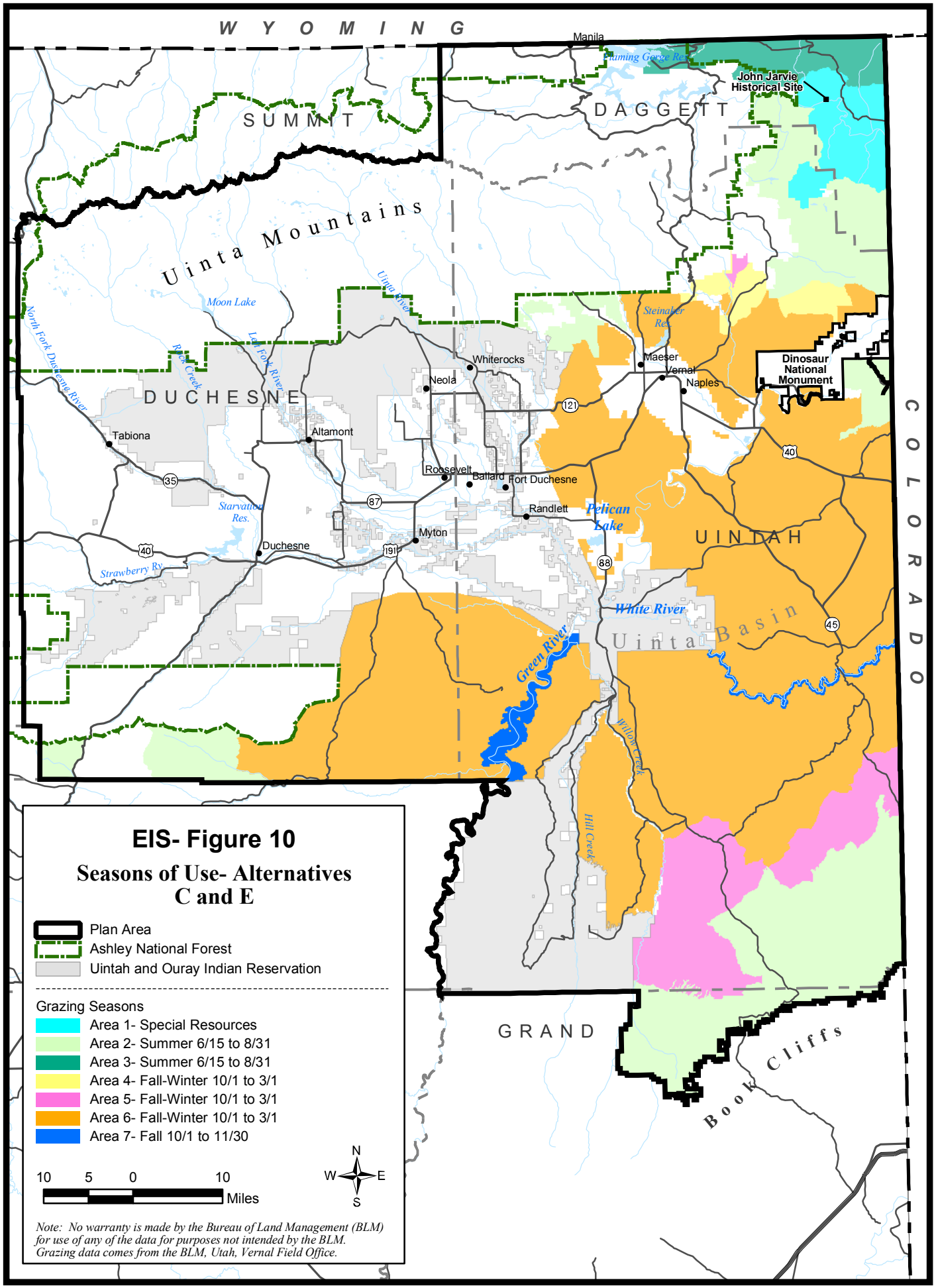
WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Rv.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 10
Seasons of Use- Alternatives C and E
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Grazing Seasons
Area 1- Special Resources
Area 2- Summer 6/15 to 8/31
Area 3- Summer 6/15 to 8/31
Area 4- Fall-Winter 10/1 to 3/1
Area 5- Fall-Winter 10/1 to 3/1
Area 6- Fall-Winter 10/1 to 3/1
Area 7- Fall 10/1 to 11/30
10 5 0 10
Miles
N
W
E
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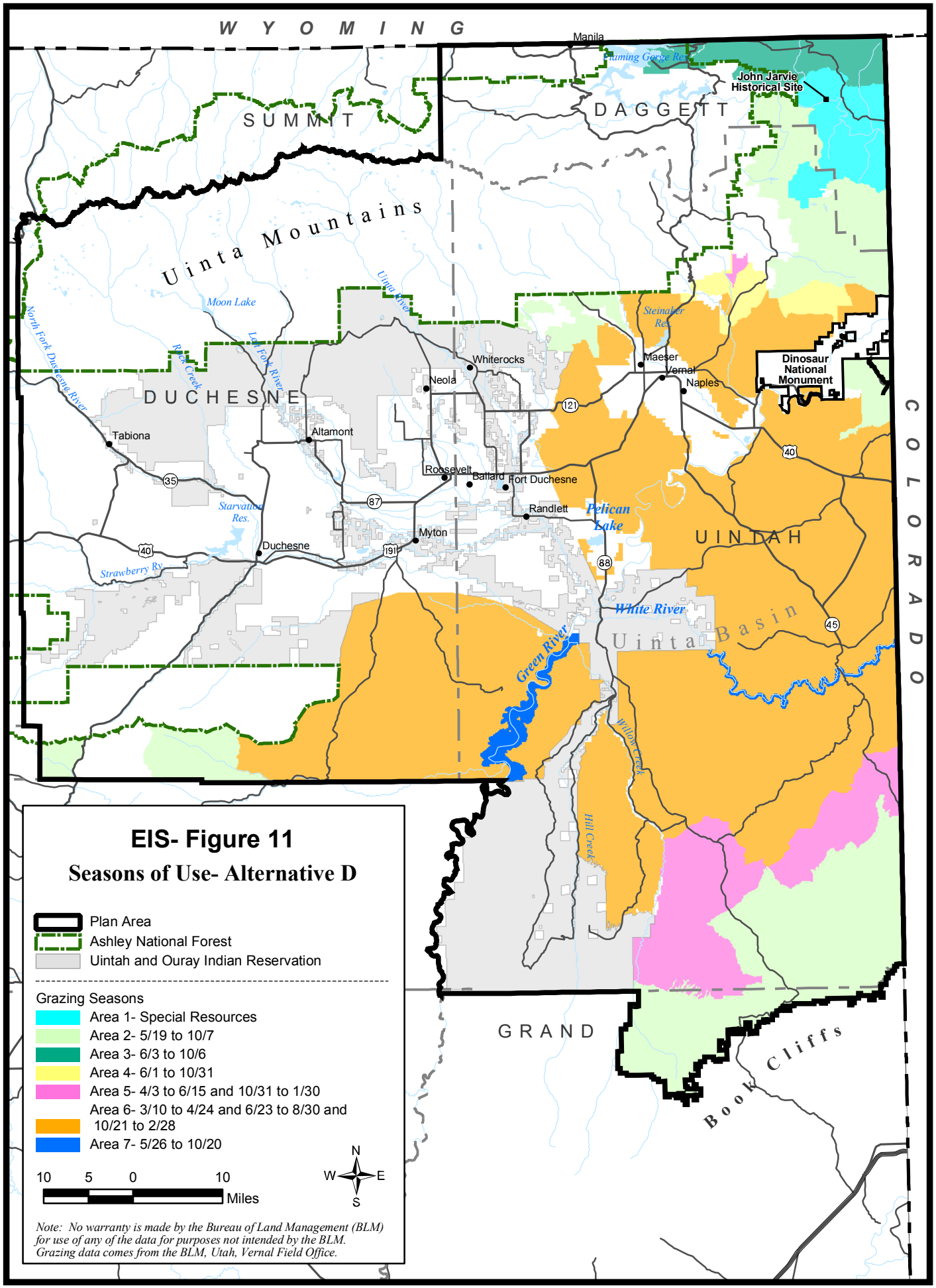
Grazing data comes from the BLM, Utah, Vernal Field Office.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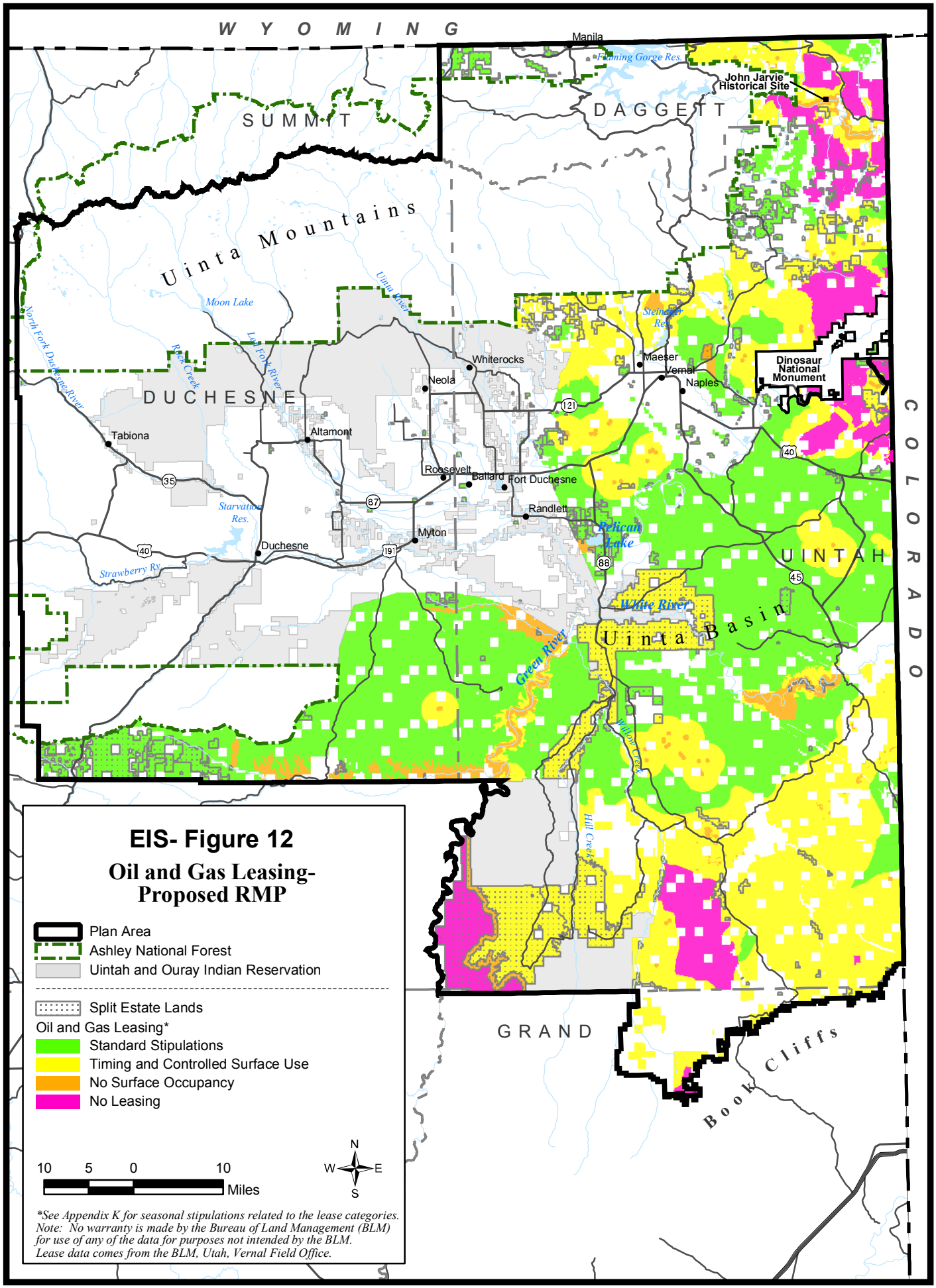
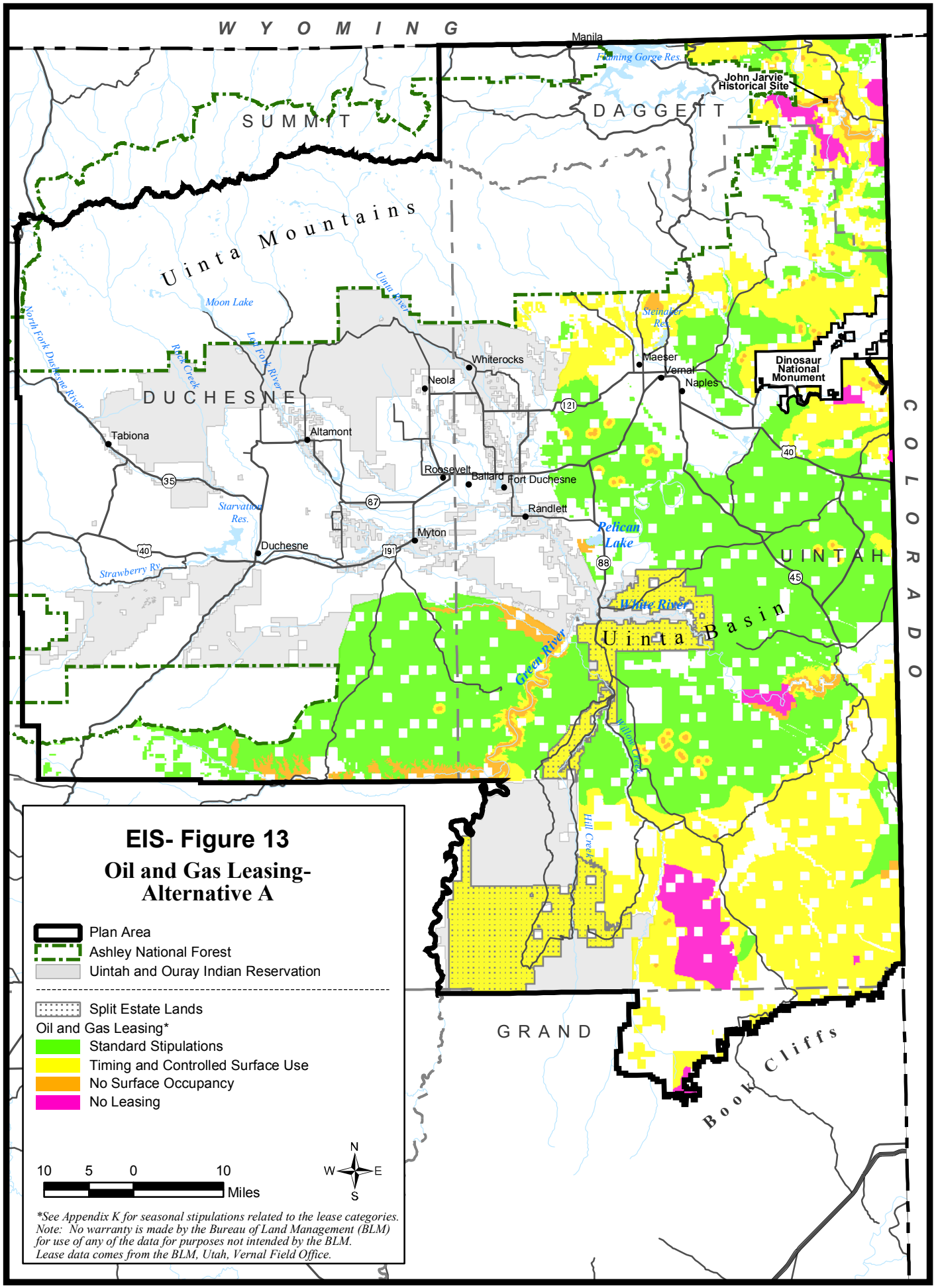
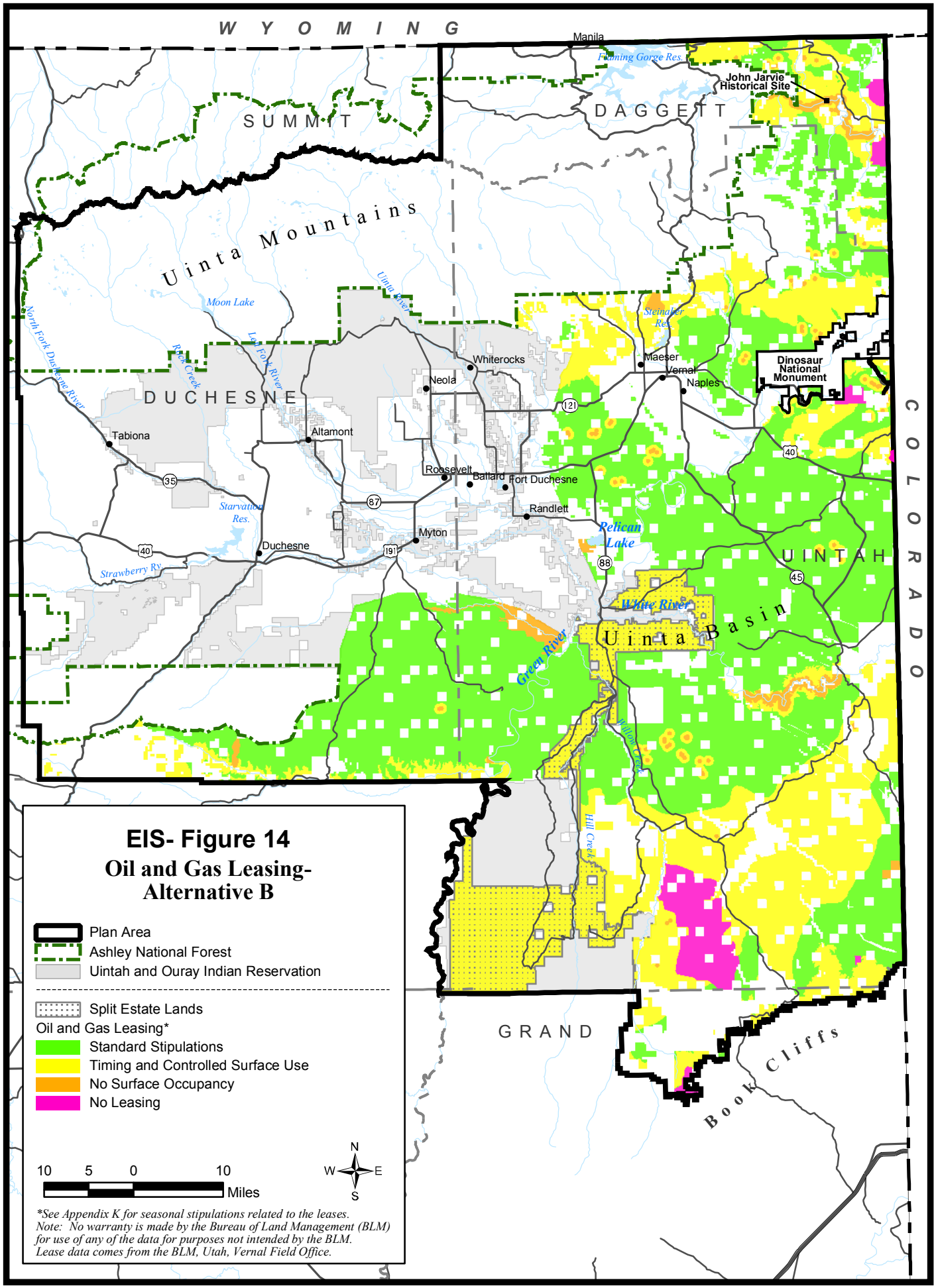
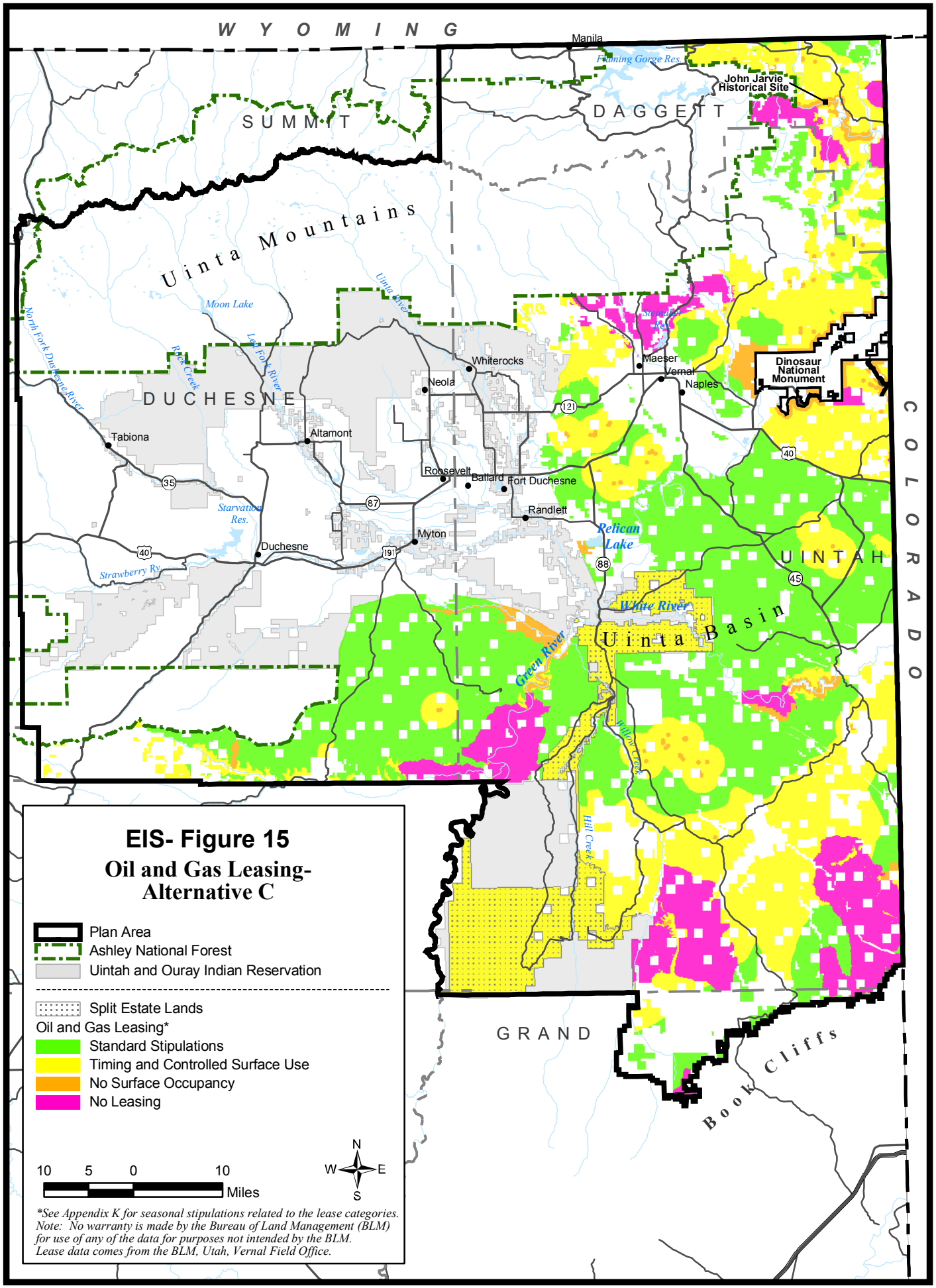
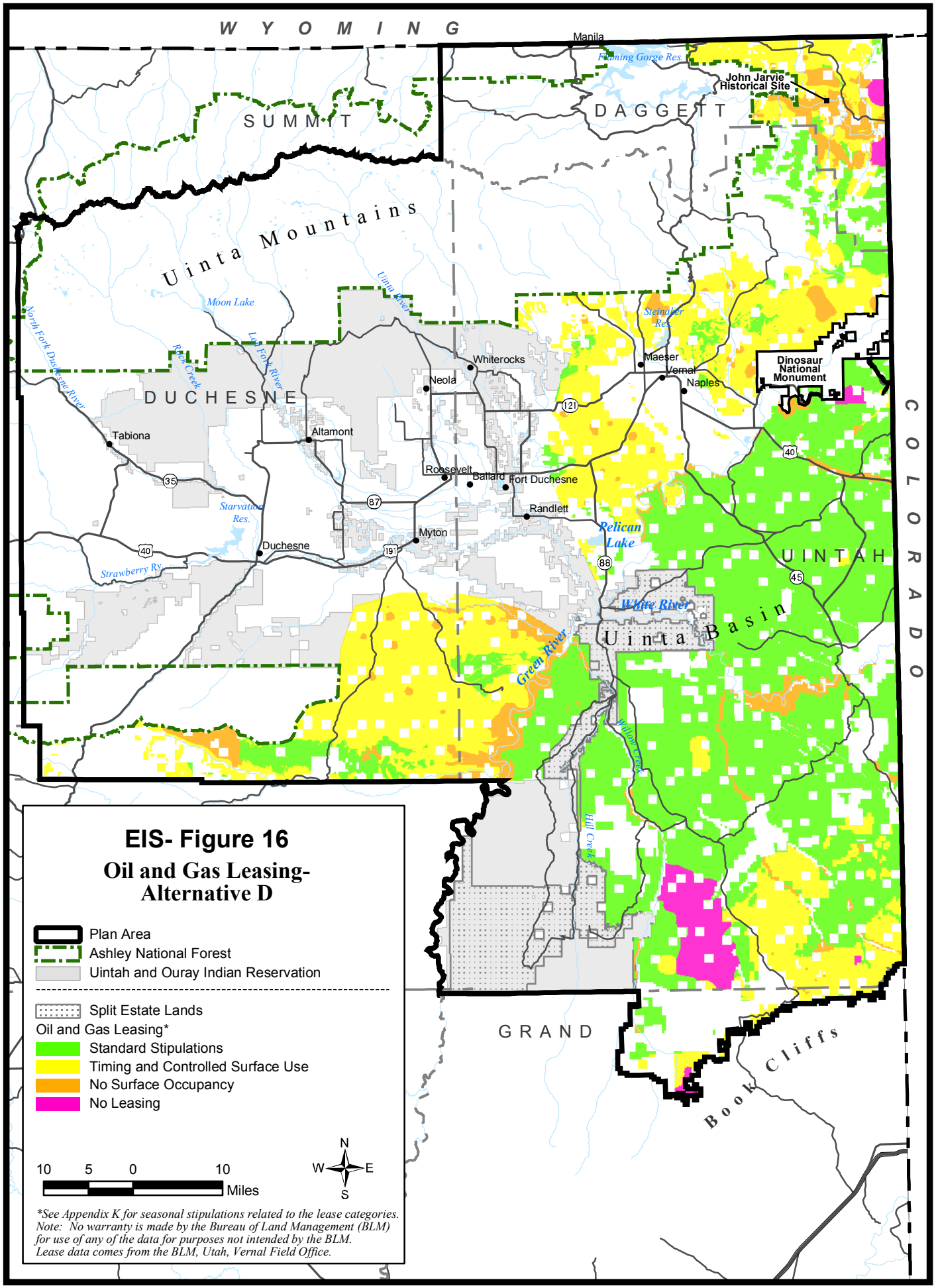
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Rv.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 11
Seasons of Use- Alternative D
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Grazing Seasons
Area 1- Special Resources
Area 2- 5/19 to 10/7
Area 3- 6/3 to 10/6
Area 4- 6/1 to 10/31
Area 5- 4/3 to 6/15 and 10/31 to 1/30
Area 6- 3/10 to 4/24 and 6/23 to 8/30 and 10/21 to 2/28
Area 7- 5/26 to 10/20
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Grazing data comes from the BLM, Utah, Vernal Field Office.

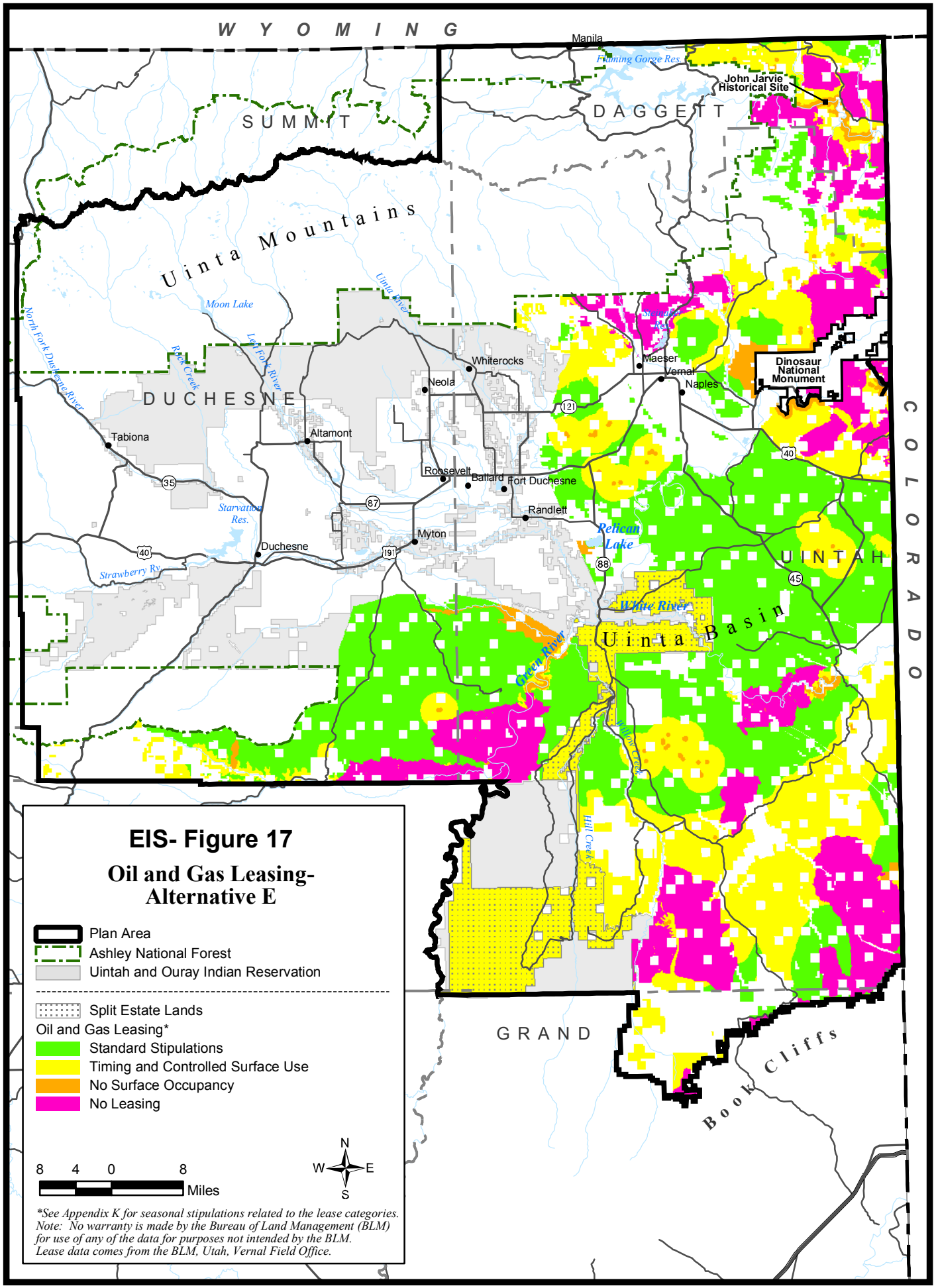

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Hill Creek
121
35
87
40
191
88
45
EIS- Figure 12
Oil and Gas Leasing-
Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Split Estate Lands
Oil and Gas Leasing*
Standard Stipulations
Timing and Controlled Surface Use
No Surface Occupancy
No Leasing
10 5 0 10
Miles
N
W
E
S
*See Appendix K for seasonal stipulations related to the lease categories.
Note: No warranty is made by the Bureau of Land Management (BLM)
for use of any of the data for purposes not intended by the BLM.
Lease data comes from the BLM, Utah, Vernal Field Office.

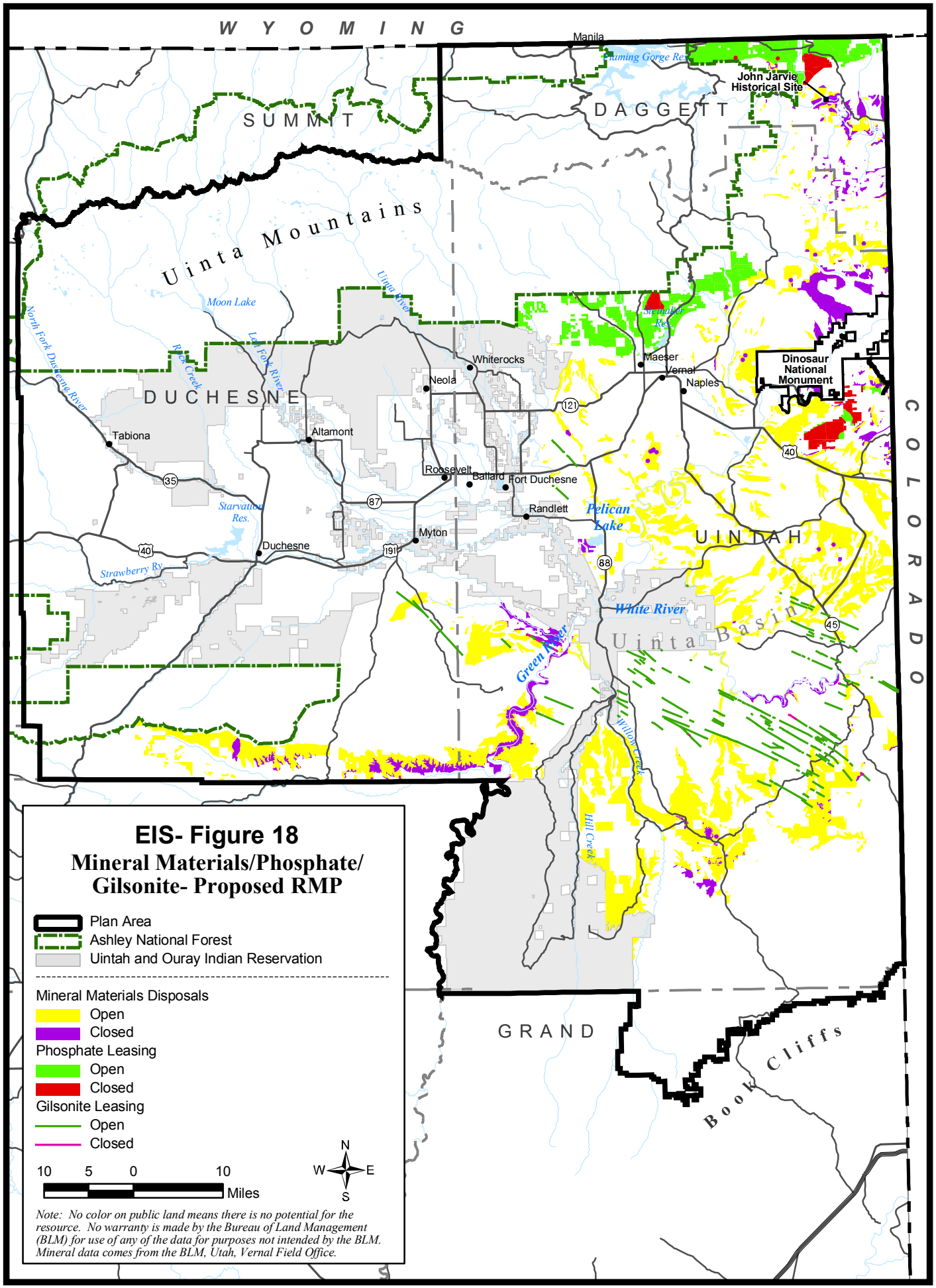

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 13
Oil and Gas Leasing-
Alternative A
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Split Estate Lands
Oil and Gas Leasing*
Standard Stipulations
Timing and Controlled Surface Use
No Surface Occupancy
No Leasing
10 5 0 10
Miles
N
W
E
S
*See Appendix K for seasonal stipulations related to the lease categories.
Note: No warranty is made by the Bureau of Land Management (BLM)
for use of any of the data for purposes not intended by the BLM.
Lease data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 14
Oil and Gas Leasing-
Alternative B
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Split Estate Lands
Oil and Gas Leasing*
Standard Stipulations
Timing and Controlled Surface Use
No Surface Occupancy
No Leasing
10 5 0 10
Miles
N
W
E
S
*See Appendix K for seasonal stipulations related to the leases.
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Lease data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Starvation Res.
Strawberry Ry.
Green River
White River
Willow Creek
Hill Creek
Pelican Lake
Stewart Lake
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
121
35
87
40
191
88
45
EIS- Figure 15
Oil and Gas Leasing-
Alternative C
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Split Estate Lands
Oil and Gas Leasing*
Standard Stipulations
Timing and Controlled Surface Use
No Surface Occupancy
No Leasing
10 5 0 10
Miles
N
W
E
S
*See Appendix K for seasonal stipulations related to the lease categories.
Note: No warranty is made by the Bureau of Land Management (BLM)
for use of any of the data for purposes not intended by the BLM.
Lease data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Uinta Basin
Green River
Willow Creek
Hill Creek
Book Cliffs
121
35
87
40
191
88
45
EIS- Figure 16
Oil and Gas Leasing-
Alternative D
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Split Estate Lands
Oil and Gas Leasing*
Standard Stipulations
Timing and Controlled Surface Use
No Surface Occupancy
No Leasing
10 5 0 10
Miles
N
W
E
S
*See Appendix K for seasonal stipulations related to the lease categories.
Note: No warranty is made by the Bureau of Land Management (BLM)
for use of any of the data for purposes not intended by the BLM.
Lease data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 17
Oil and Gas Leasing-
Alternative E
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Split Estate Lands
Oil and Gas Leasing*
Standard Stipulations
Timing and Controlled Surface Use
No Surface Occupancy
No Leasing
8 4 0 8
Miles
N
W
E
S
*See Appendix K for seasonal stipulations related to the lease categories.
Note: No warranty is made by the Bureau of Land Management (BLM)
for use of any of the data for purposes not intended by the BLM.
Lease data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 18
Mineral Materials/Phosphate/ Gilsonite- Proposed RMP

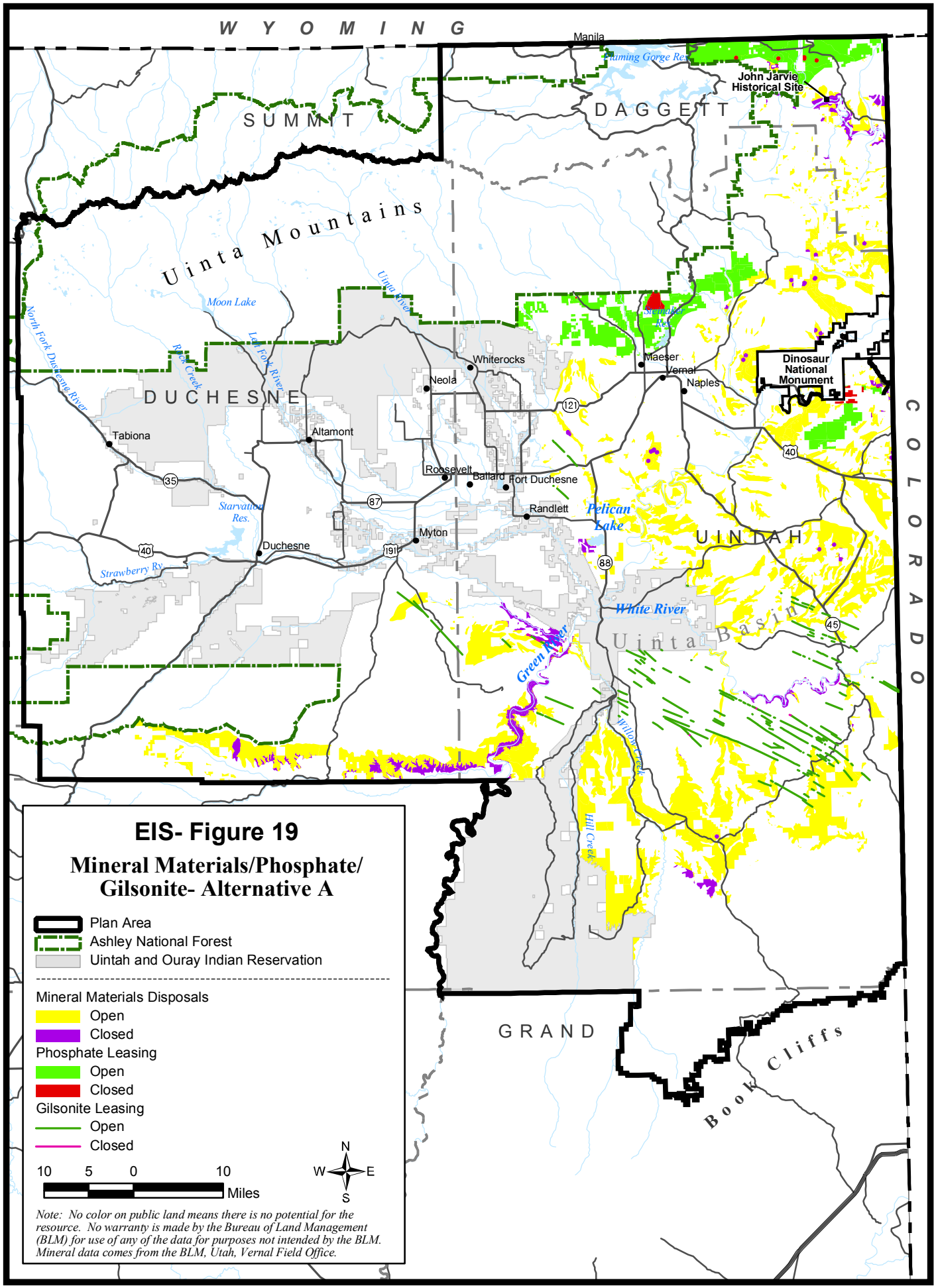
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation

Mineral Materials Disposals
Open
Closed
Phosphate Leasing
Open
Closed
Gilsonite Leasing
Open
Closed

10 5 0 10 Miles

N W E S

Note: No color on public land means there is no potential for the resource. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Mineral data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 19

Mineral Materials/Phosphate/ Gilsonite- Alternative A

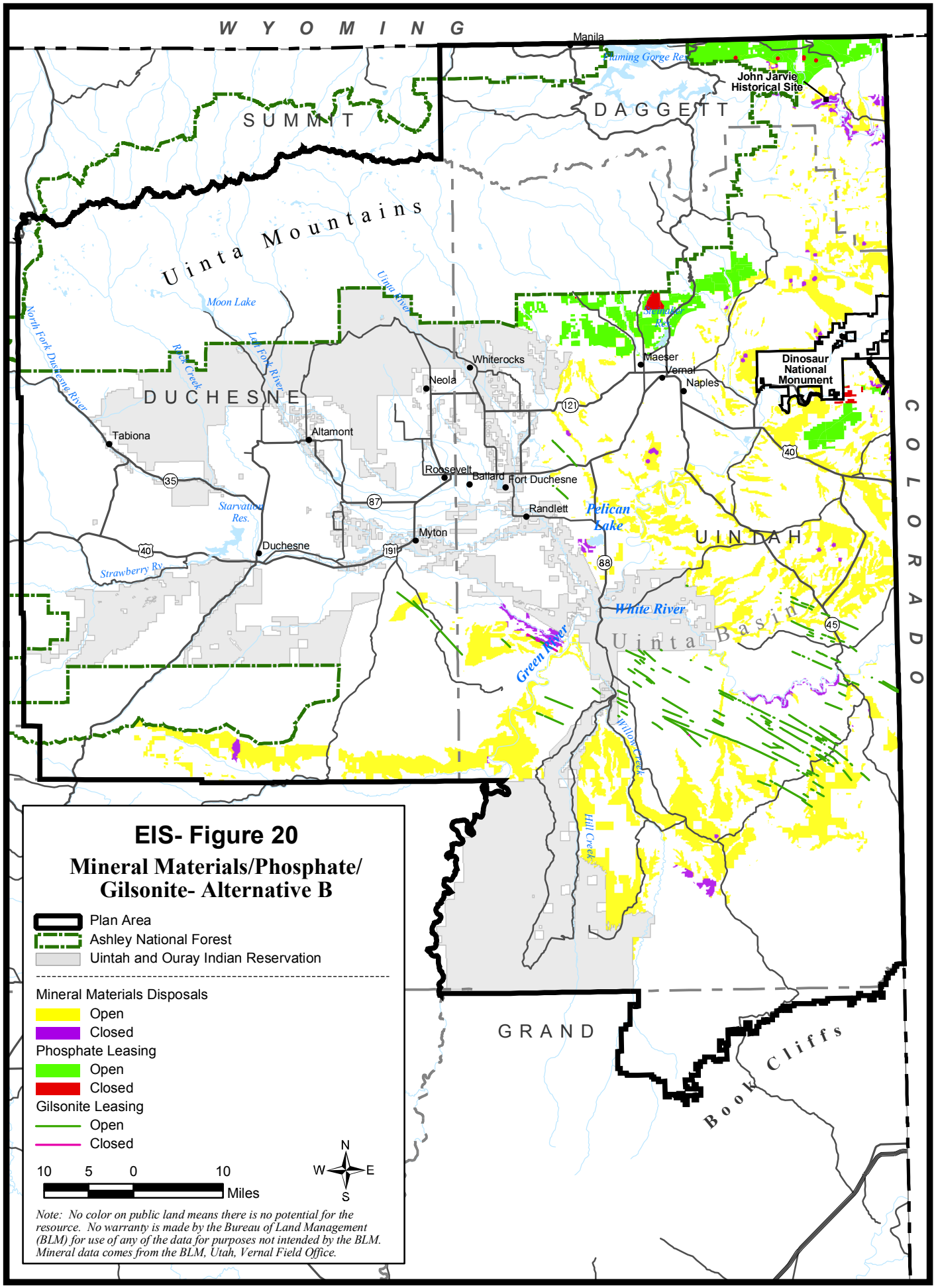
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation

Mineral Materials Disposals
Open
Closed
Phosphate Leasing
Open
Closed
Gilsonite Leasing
Open
Closed

10 5 0 10 Miles

N W E S

Note: No color on public land means there is no potential for the resource. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Mineral data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 20

Mineral Materials/Phosphate/ Gilsonite- Alternative B

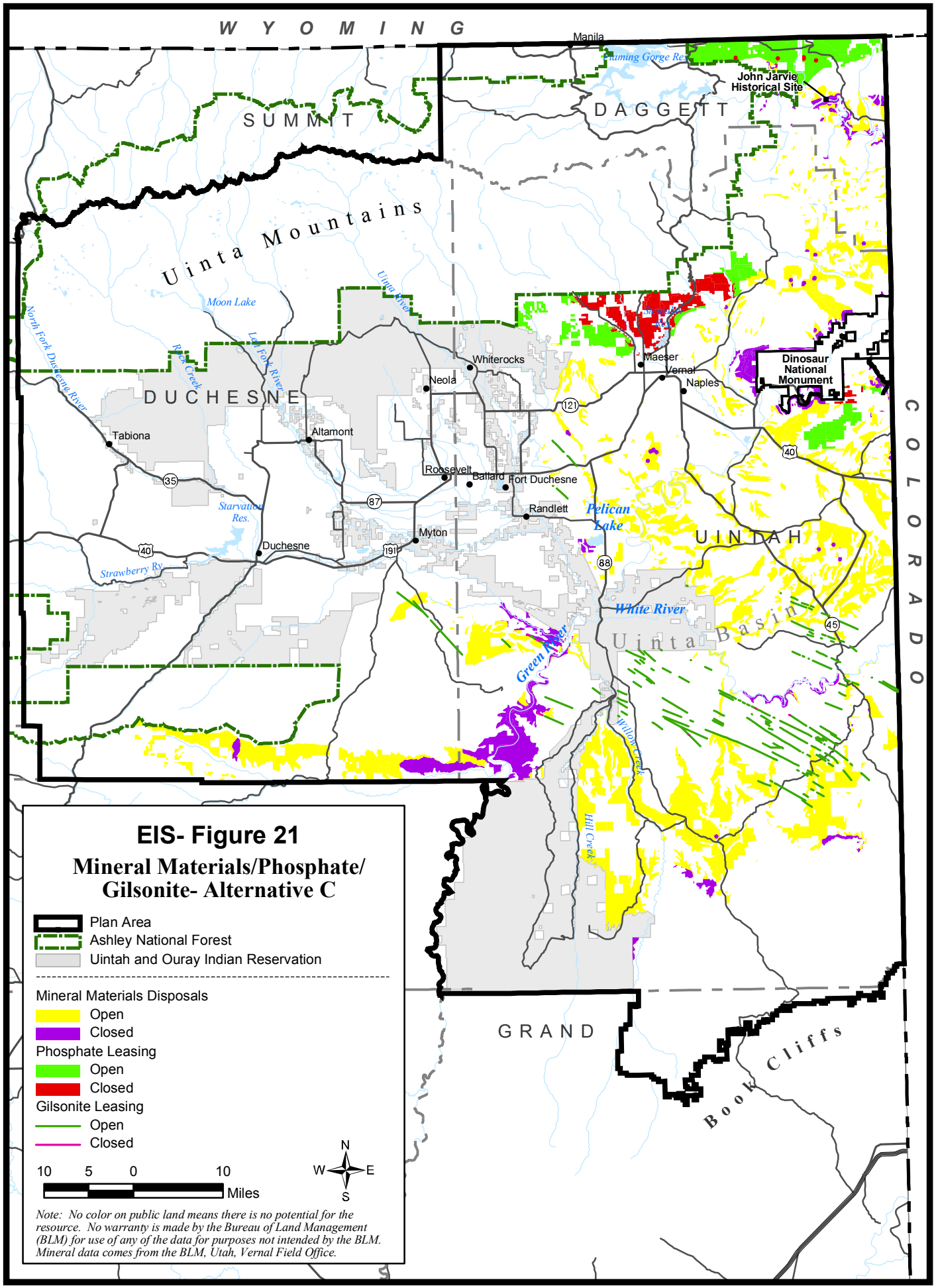
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation

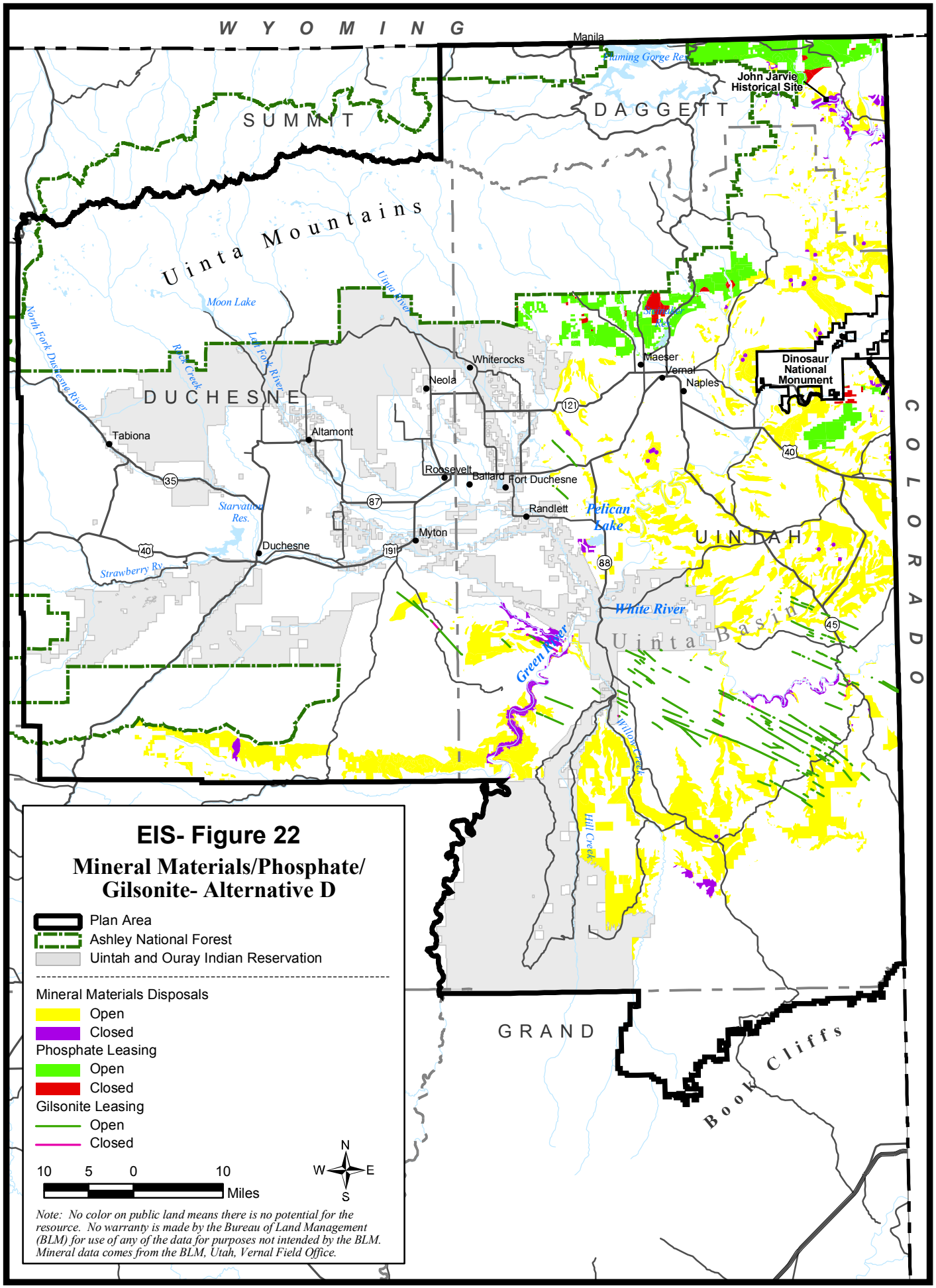
Mineral Materials Disposals
Open
Closed
Phosphate Leasing
Open
Closed
Gilsonite Leasing
Open
Closed

10 5 0 10 Miles

N W E S

Note: No color on public land means there is no potential for the resource. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Mineral data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Starvation Res.
Strawberry Rv.
Green River
White River
Willow Creek
Hill Creek
Pelican Lake
Whiterocks
Neola
Maeser
Vernal
Naples
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
121
35
87
40
191
88
45
EIS- Figure 21
Mineral Materials/Phosphate/ Gilsonite- Alternative C
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Mineral Materials Disposals
Open
Closed
Phosphate Leasing
Open
Closed
Gilsonite Leasing
Open
Closed
10 5 0 10
Miles
N
W
E
S
Note: No color on public land means there is no potential for the resource. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Mineral data comes from the BLM, Utah, Vernal Field Office.



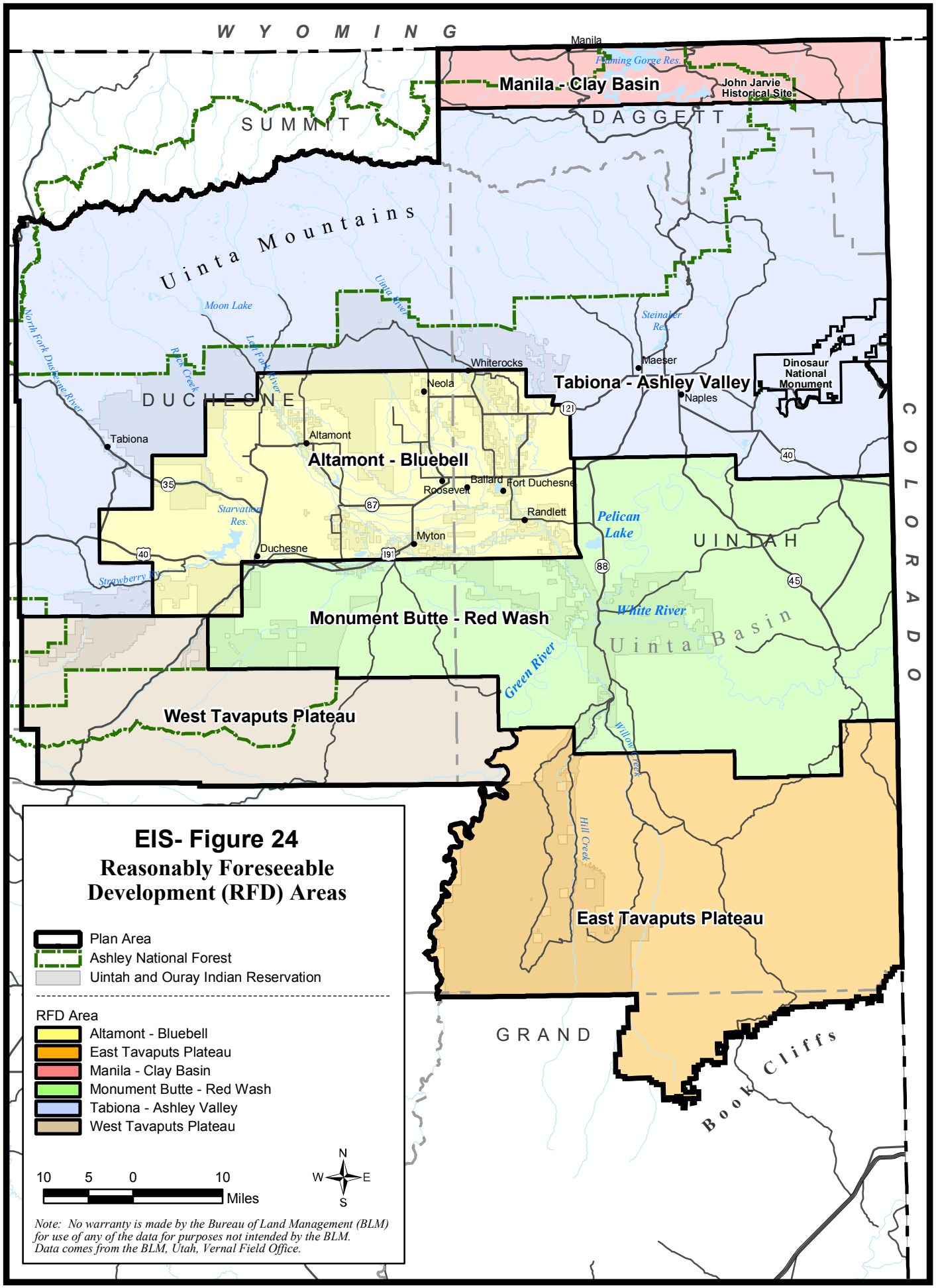
EIS- Figure 22

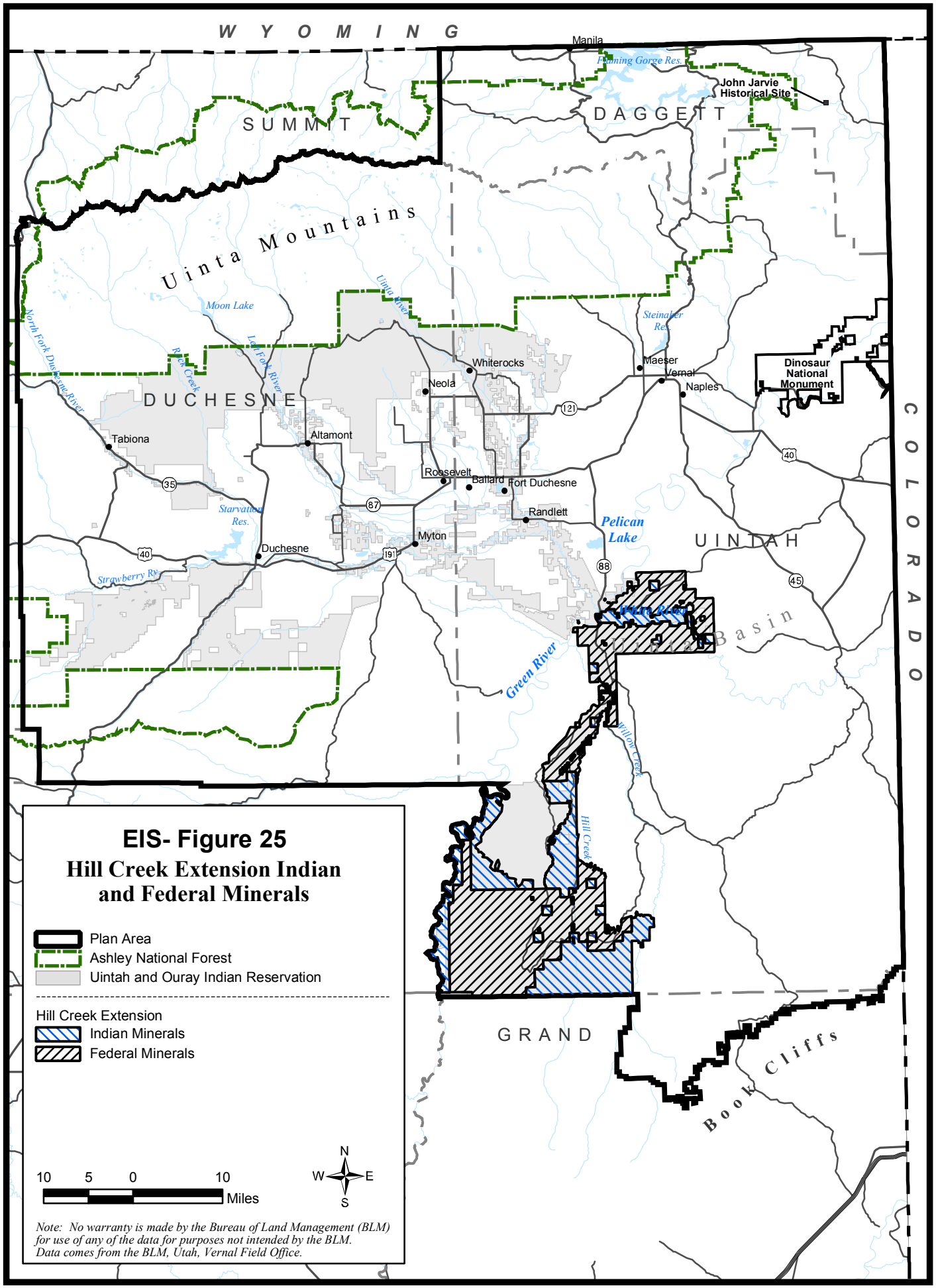
Mineral Materials/Phosphate/ Gilsonite- Alternative D

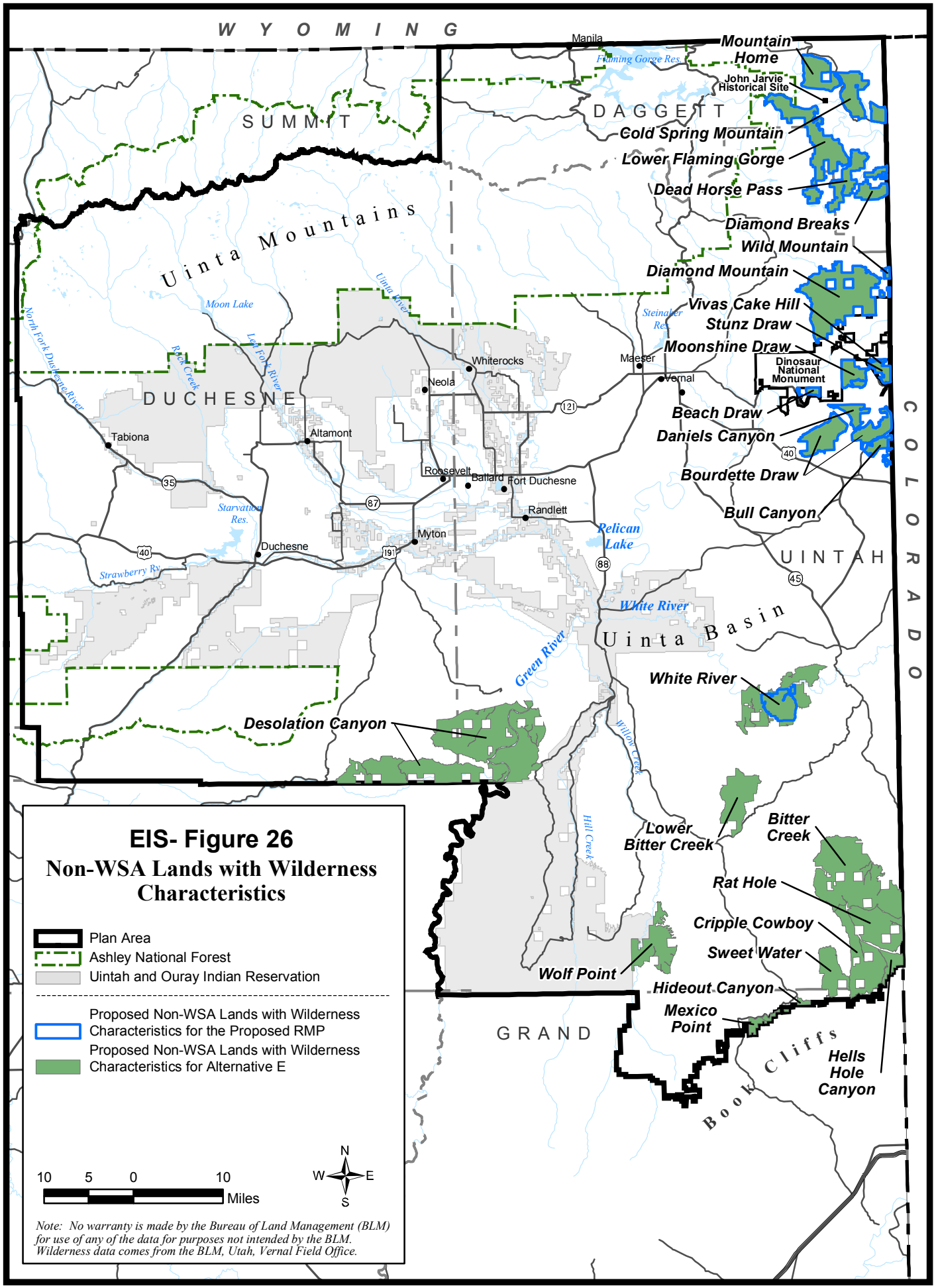
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation

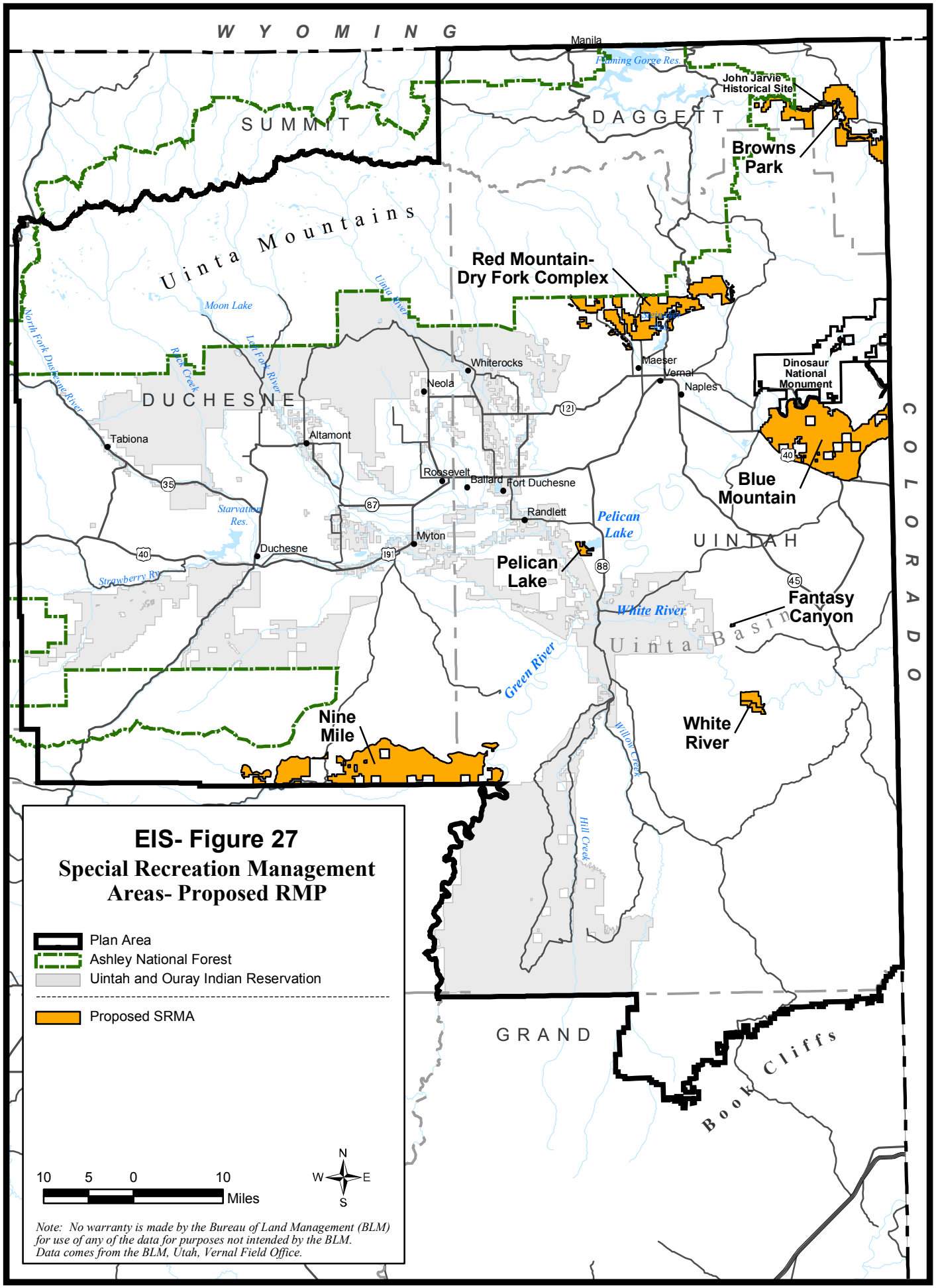
Mineral Materials Disposals
Open
Closed
Phosphate Leasing
Open
Closed
Gilsonite Leasing
Open
Closed

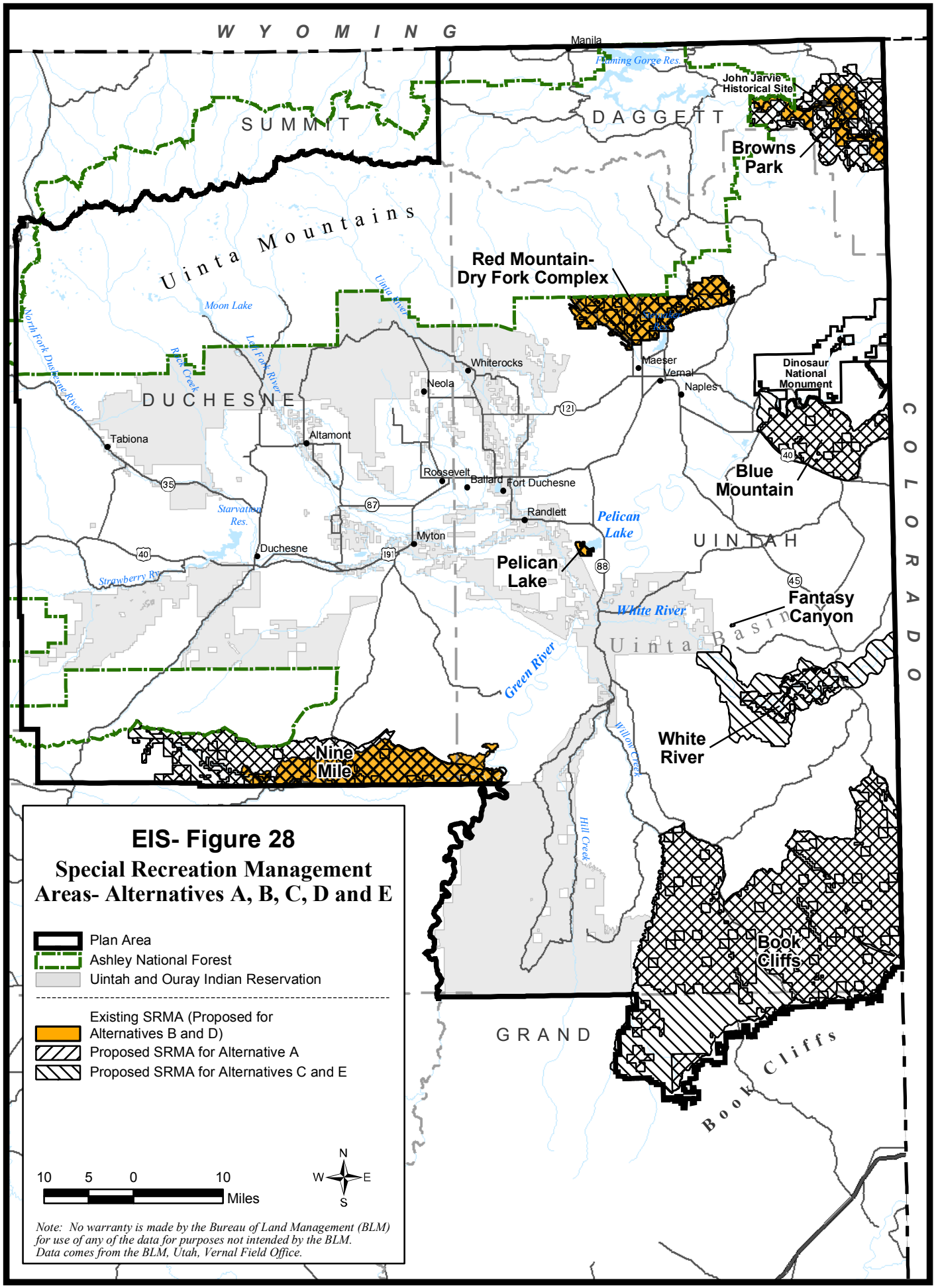
Note: No color on public land means there is no potential for the resource. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Mineral data comes from the BLM, Utah, Vernal Field Office.

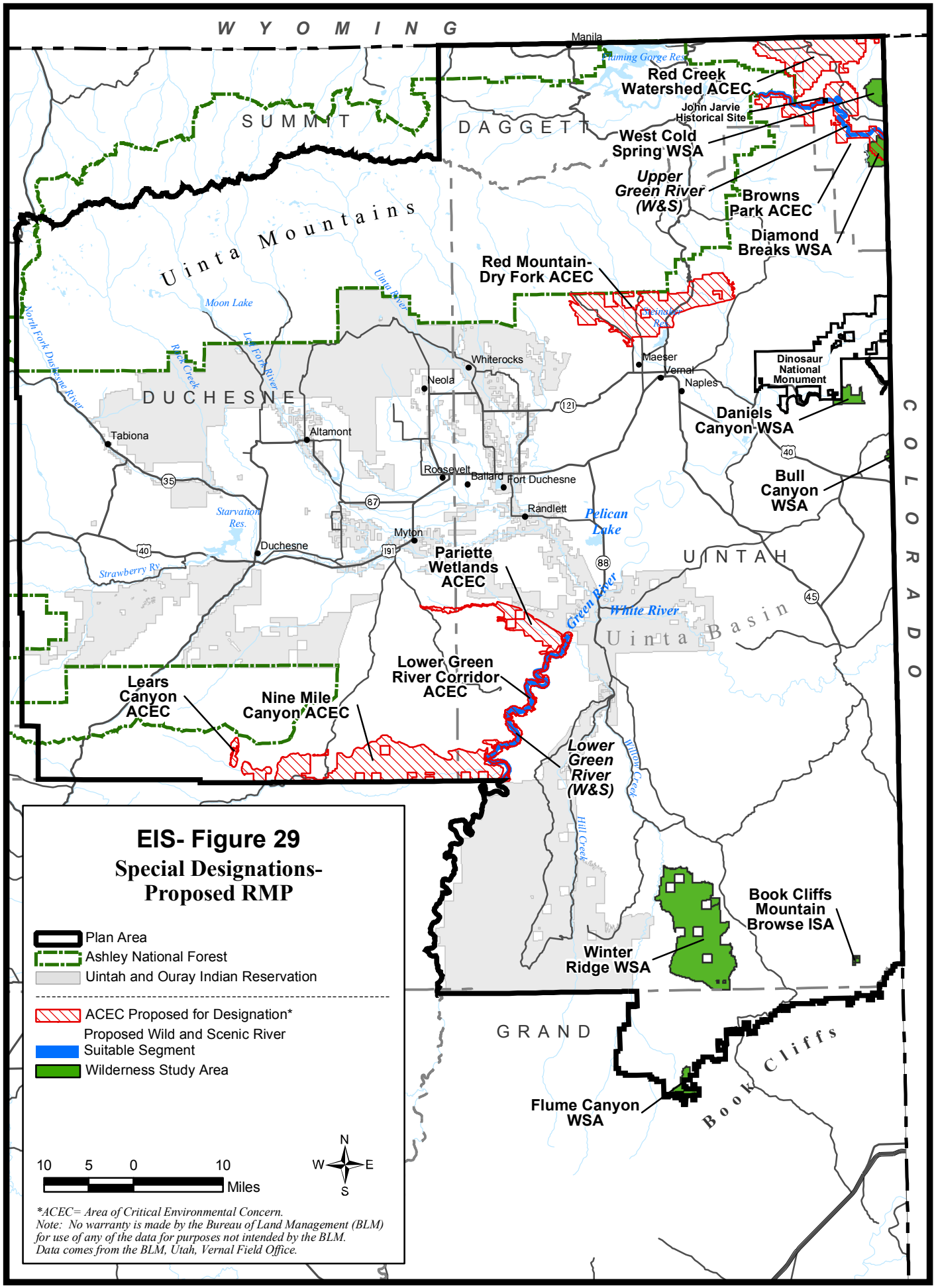

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Manila - Clay Basin
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Tabiona - Ashley Valley
Maeser
Naples
Dinosaur National Monument
Steinaker Res.
Whiterocks
Neola
Altamont
Altamont - Bluebell
Tabiona
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
Starvation Res.
Strawberry Res.
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Pelican Lake
White River
Green River
Willow Creek
Hill Creek
Uinta Basin
Monument Butte - Red Wash
West Tavaputs Plateau
East Tavaputs Plateau
Book Cliffs
35
87
40
191
121
88
45
EIS- Figure 24
Reasonably Foreseeable Development (RFD) Areas
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
RFD Area
Altamont - Bluebell
East Tavaputs Plateau
Manila - Clay Basin
Monument Butte - Red Wash
Tabiona - Ashley Valley
West Tavaputs Plateau
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.

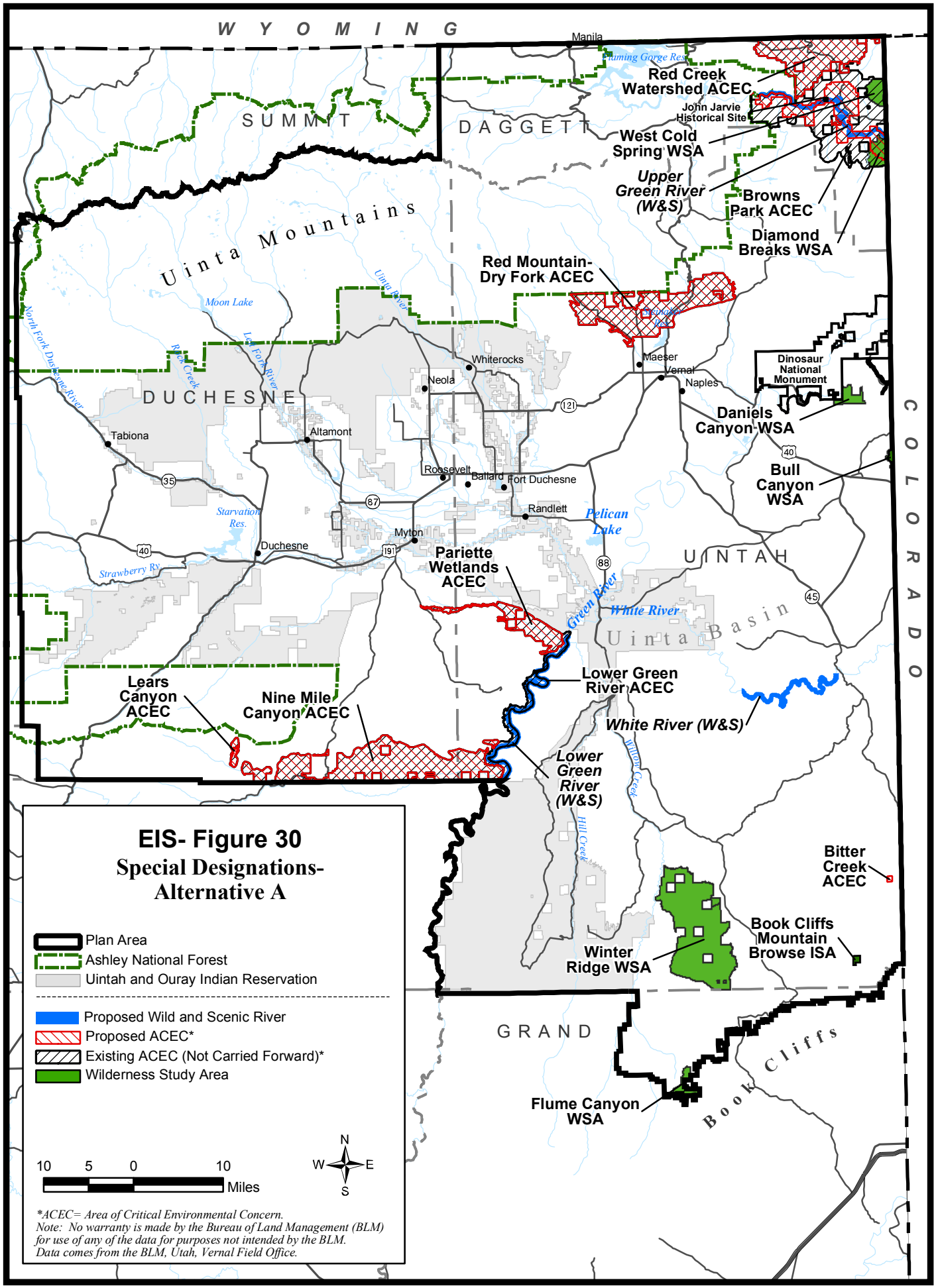

WYOMING
SUMMIT
DAGGETT
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Uinta Mountains
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Steinaker Res.
Whiterocks
Maeser
Vernal
Naples
Dinosaur National Monument
Neola
DUCHESNE
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Pelican Lake
UINTAH
Myton
Duchesne
Strawberry Rv.
Green River
Willow Creek
Hill Creek
COLORADO
GRAND
Book Cliffs
35
87
121
40
191
88
45
EIS- Figure 25
Hill Creek Extension Indian and Federal Minerals
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Hill Creek Extension
Indian Minerals
Federal Minerals
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.


EIS- Figure 26
Non-WSA Lands with Wilderness Characteristics
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Proposed Non-WSA Lands with Wilderness Characteristics for the Proposed RMP
Proposed Non-WSA Lands with Wilderness Characteristics for Alternative E
10 5 0 10 Miles
N W E S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Wilderness data comes from the BLM, Utah, Vernal Field Office.
WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
Mountain Home
John Jarvie Historical Site
Cold Spring Mountain
Lower Flaming Gorge
Dead Horse Pass
Diamond Breaks
Wild Mountain
Diamond Mountain
Vivas Cake Hill
Stunz Draw
Moonshine Draw
Dinosaur National Monument
Beach Draw
Daniels Canyon
Bourdette Draw
Bull Canyon
Steinaker Res.
Maeser
Vernal
Whiterocks
Neola
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Duchesne
Myton
Strawberry Ry.
Relican Lake
White River
Green River
Willow Creek
Hill Creek
White River
Desolation Canyon
Lower Bitter Creek
Bitter Creek
Rat Hole
Cripple Cowboy
Sweet Water
Wolf Point
Hideout Canyon
Mexico Point
Hells Hole Canyon
121
40
35
87
191
88
45

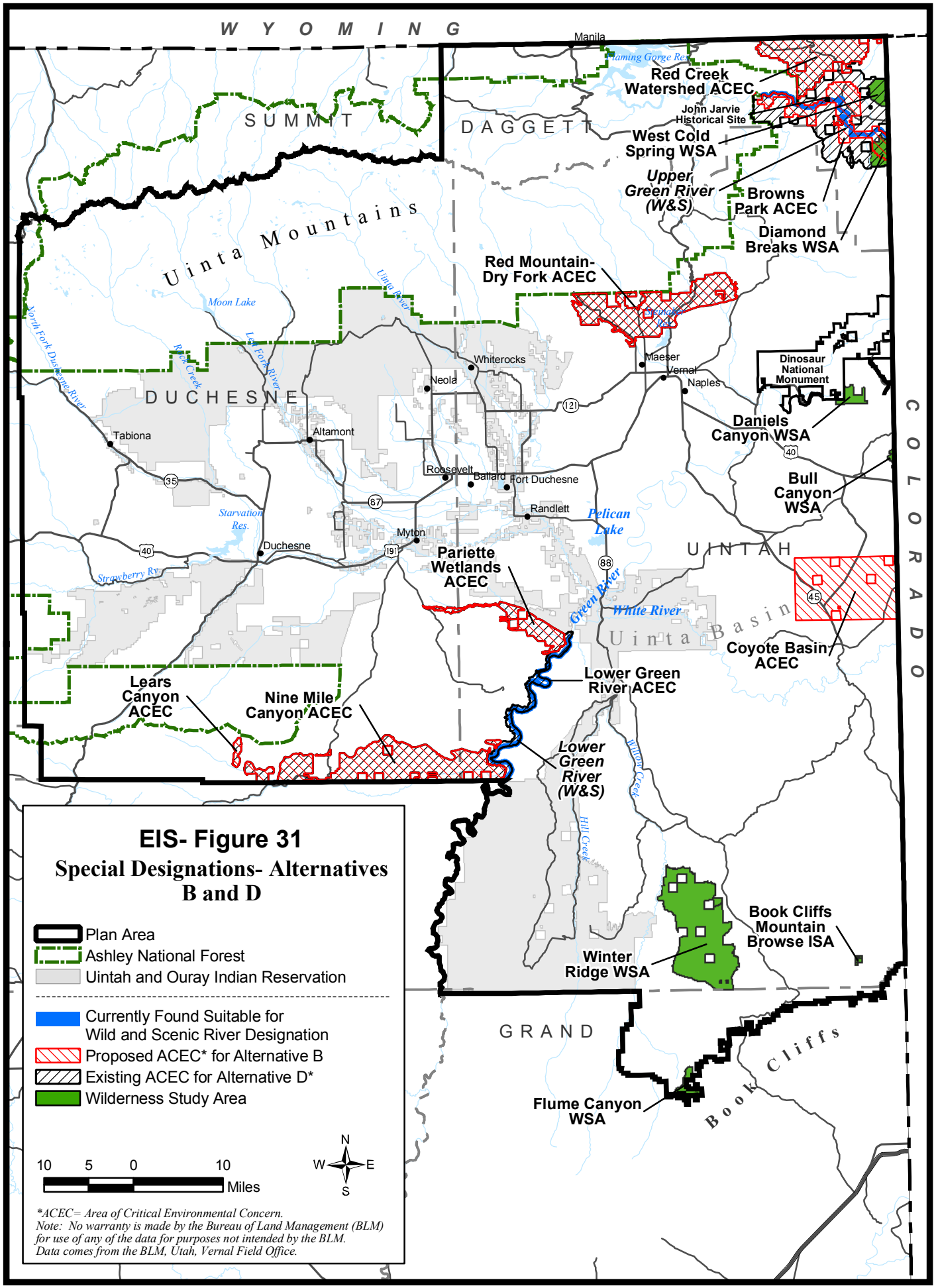

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Browns Park
Red Mountain-Dry Fork Complex
Dinosaur National Monument
Blue Mountain
Fantasy Canyon
Pelican Lake
White River
Nine Mile
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Starvation Res.
Strawberry Ry
Green River
Willow Creek
Hill Creek
Whiterocks
Neola
Maeser
Vernal
Naples
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
121
35
87
40
191
88
45
EIS- Figure 27
Special Recreation Management Areas- Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Proposed SRMA
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.

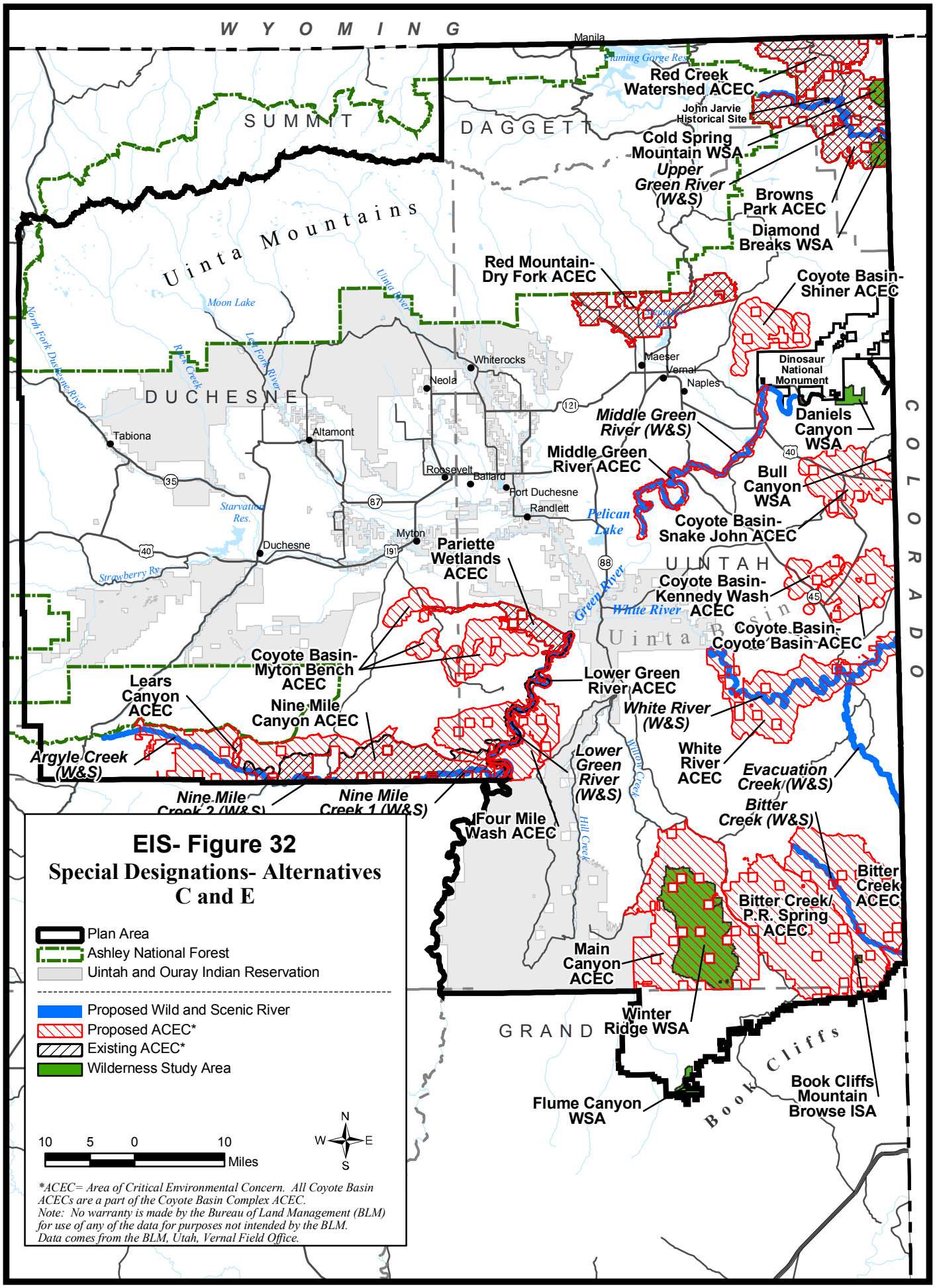

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Browns Park
Red Mountain-Dry Fork Complex
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Blue Mountain
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Ry
White River
Fantasy Canyon
Green River
Willow Creek
Hill Creek
Nine Mile
White River
Book Cliffs
121
35
87
40
191
88
45
EIS- Figure 28
Special Recreation Management Areas- Alternatives A, B, C, D and E
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Existing SRMA (Proposed for Alternatives B and D)
Proposed SRMA for Alternative A
Proposed SRMA for Alternatives C and E
10 5 0 10 Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
Red Creek Watershed ACEC
John Jarvie Historical Site
West Cold Spring WSA
Upper Green River (W&S)
Browns Park ACEC
Diamond Breaks WSA
Red Mountain-Dry Fork ACEC
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Daniels Canyon WSA
Bull Canyon WSA
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Duchesne
Myton
Strawberry Ry.
Pariette Wetlands ACEC
Green River
White River
Lower Green River Corridor ACEC
Lears Canyon ACEC
Nine Mile Canyon ACEC
Lower Green River (W&S)
Willow Creek
Hill Creek
Book Cliffs Mountain Browse ISA
Winter Ridge WSA
Flume Canyon WSA
35
87
40
191
121
88
45
EIS- Figure 29
Special Designations-Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
ACEC Proposed for Designation*
Proposed Wild and Scenic River Suitable Segment
Wilderness Study Area
10 5 0 10 Miles
N
W
E
S
*ACEC= Area of Critical Environmental Concern.
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.



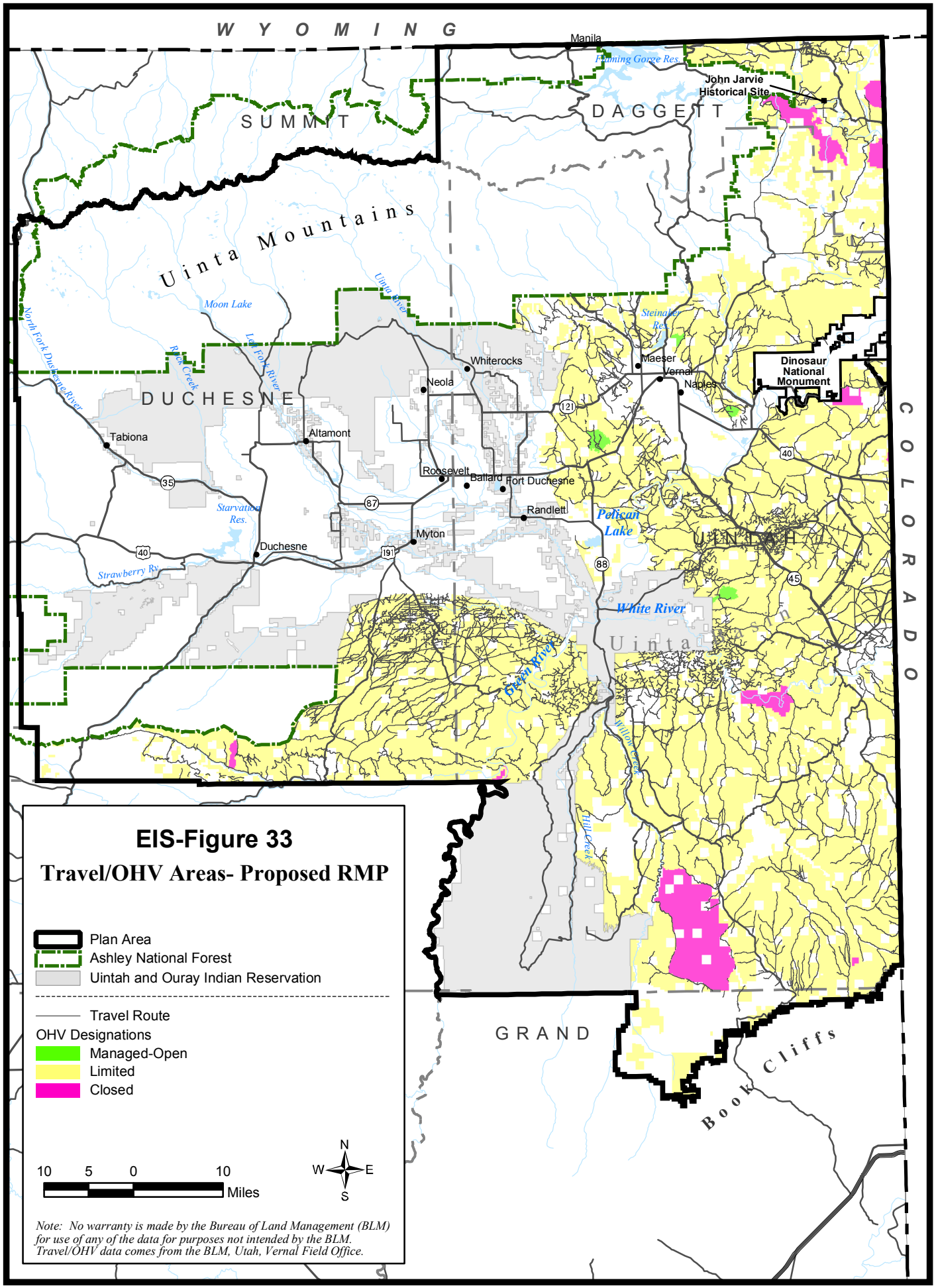
EIS- Figure 30
Special Designations- Alternative A

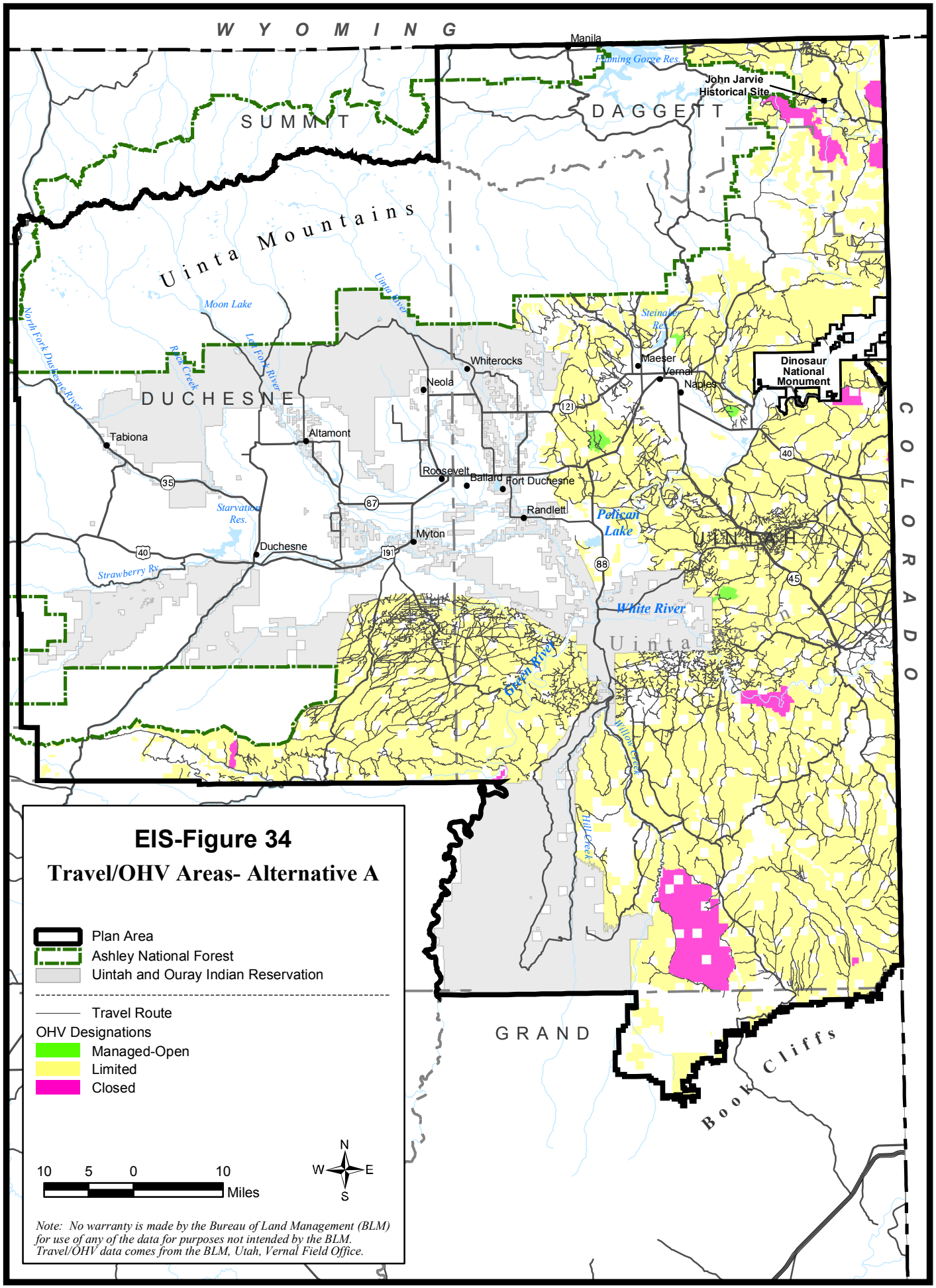

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
Red Creek Watershed ACEC
John Jarvie Historical Site
West Cold Spring WSA
Upper Green River (W&S)
Browns Park ACEC
Diamond Breaks WSA
Red Mountain-Dry Fork ACEC
Moon Lake
Uinta River
North Fork Duchesne River
Red Creek
Lake Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Daniels Canyon WSA
Bull Canyon WSA
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pariette Wetlands ACEC
Green River
White River
Coyote Basin ACEC
Lower Green River ACEC
Lears Canyon ACEC
Nine Mile Canyon ACEC
Lower Green River (W&S)
Willow Creek
Hill Creek
Book Cliffs Mountain Browse ISA
Winter Ridge WSA
Flume Canyon WSA
121
35
87
40
191
88
45
EIS- Figure 31
Special Designations- Alternatives B and D
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Currently Found Suitable for Wild and Scenic River Designation
Proposed ACEC* for Alternative B
Existing ACEC for Alternative D*
Wilderness Study Area
10 5 0 10 Miles
N
W
E
S
*ACEC= Area of Critical Environmental Concern.
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.

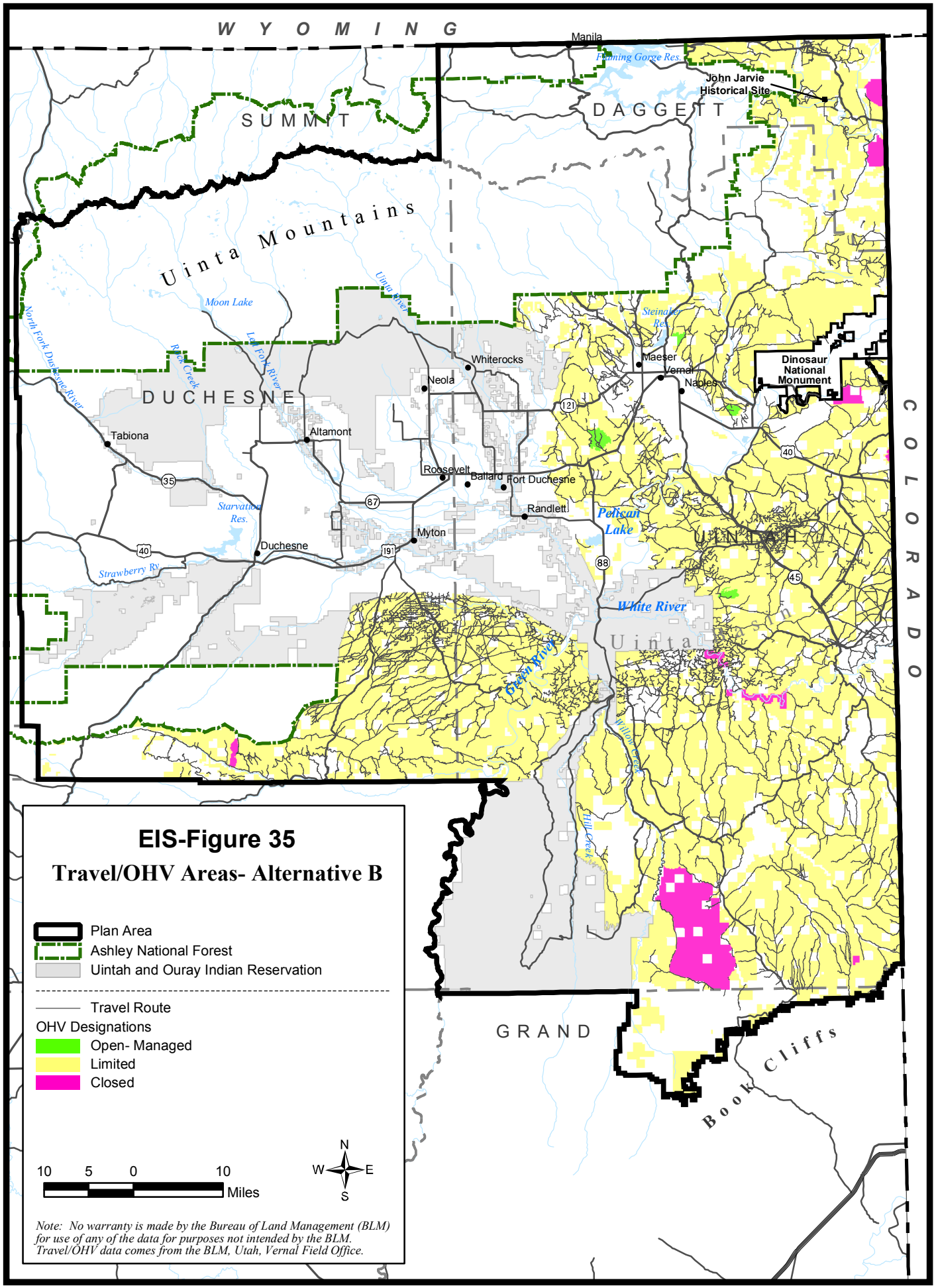


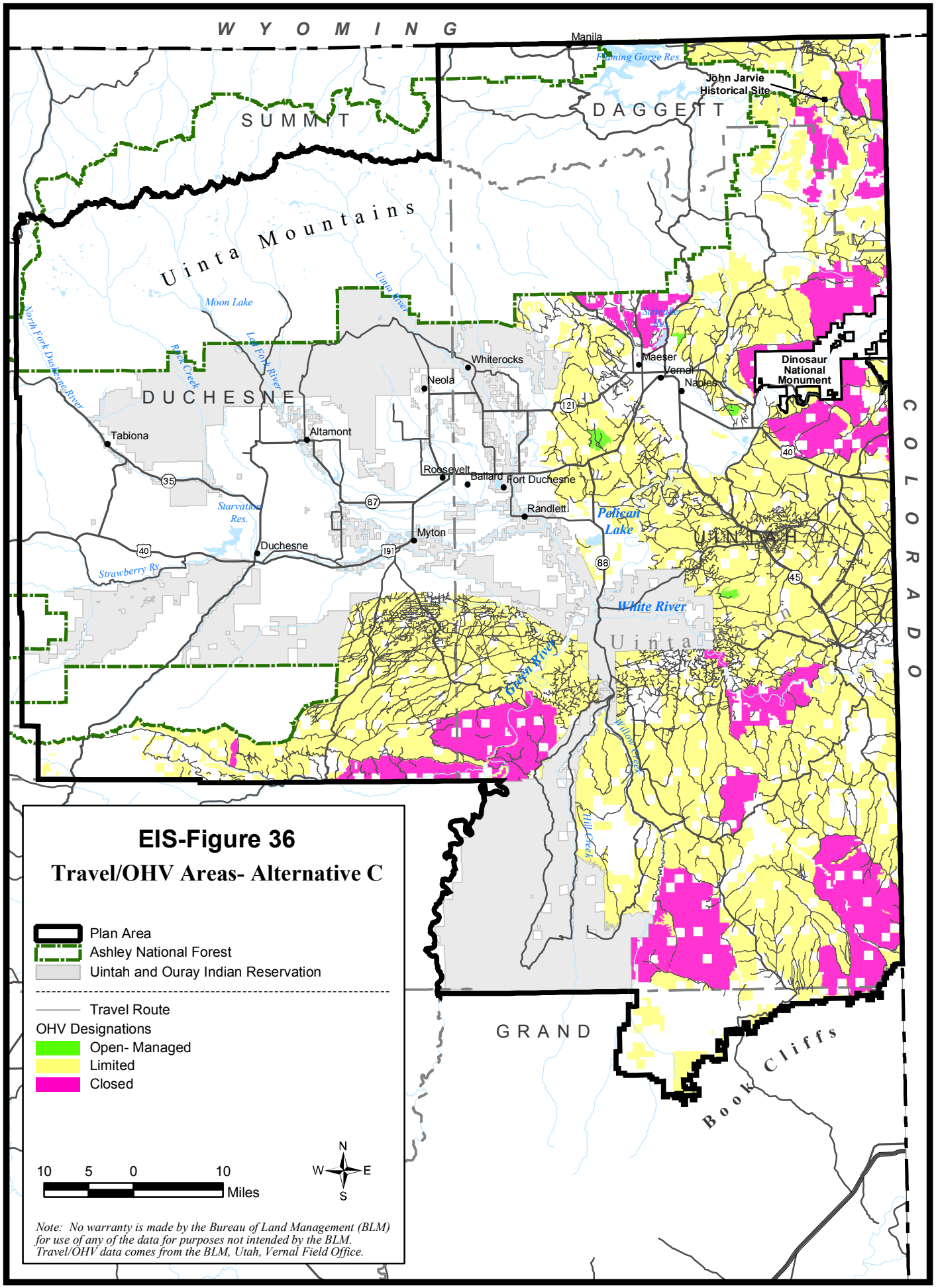
EIS- Figure 32

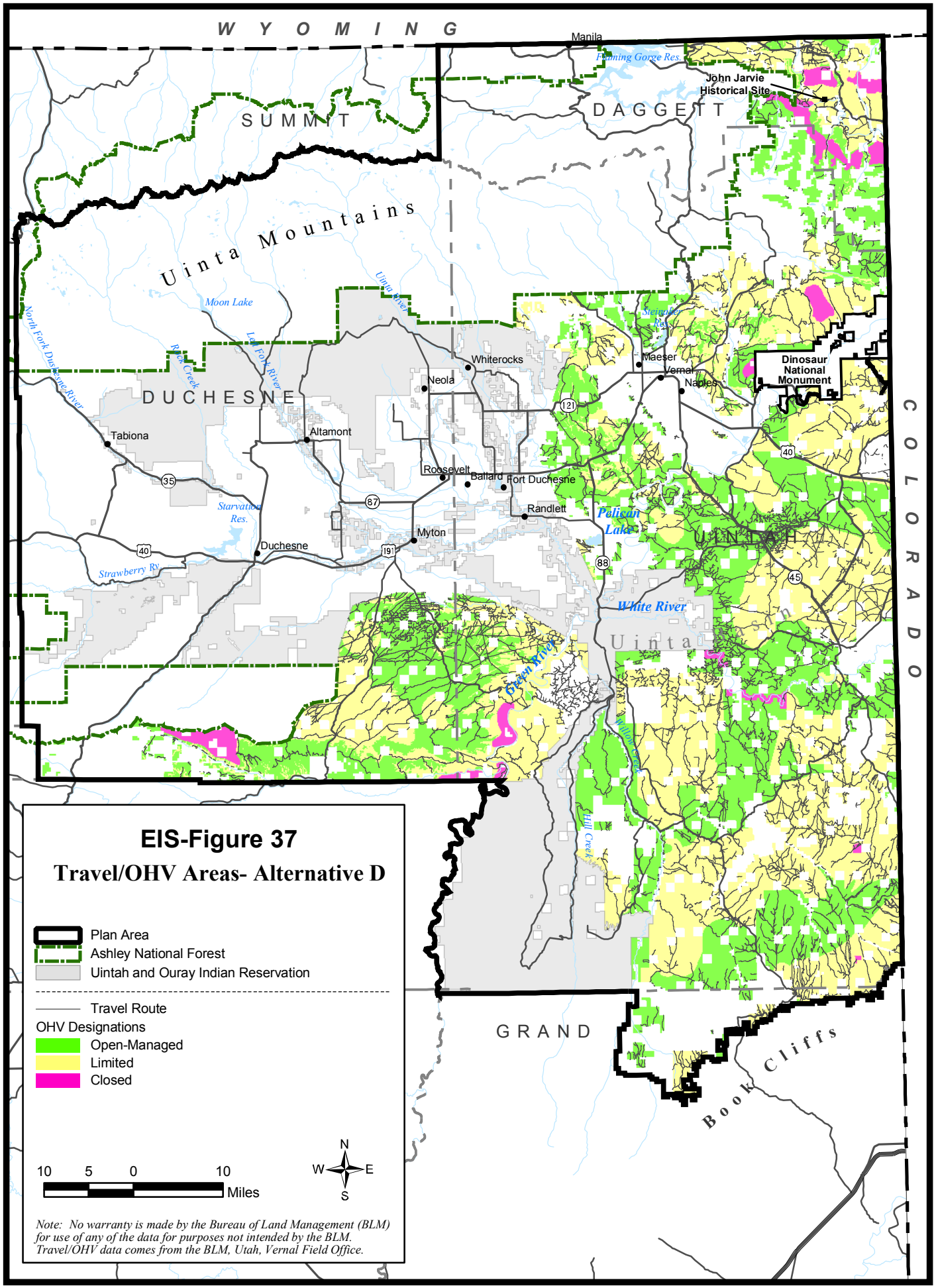
Special Designations- Alternatives C and E

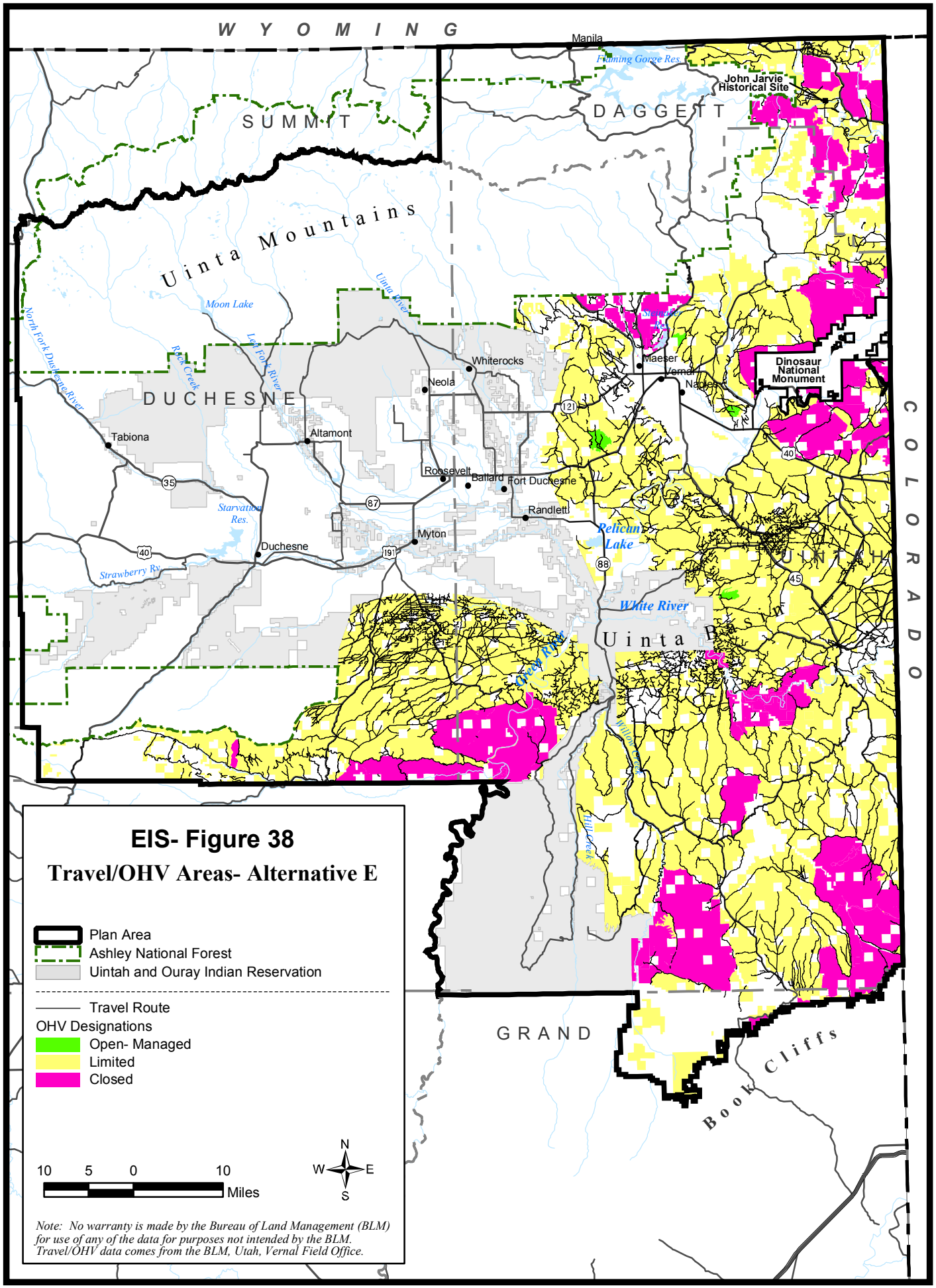

WYOMING
SUMMIT
DAGGETT
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Uinta Mountains
Moon Lake
Uinta River
North Fork Duchesne River
Neck Creek
Left Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
DUCHESNE
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Myton
Duchesne
Strawberry Ry.
UINTAH
White River
Uintah
Green River
Willow Creek
Hill Creek
COLORADO
GRAND
Book Cliffs
121
40
35
87
191
88
45
EIS-Figure 33
Travel/OHV Areas- Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Travel Route
OHV Designations
Managed-Open
Limited
Closed
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Travel/OHV data comes from the BLM, Utah, Vernal Field Office.

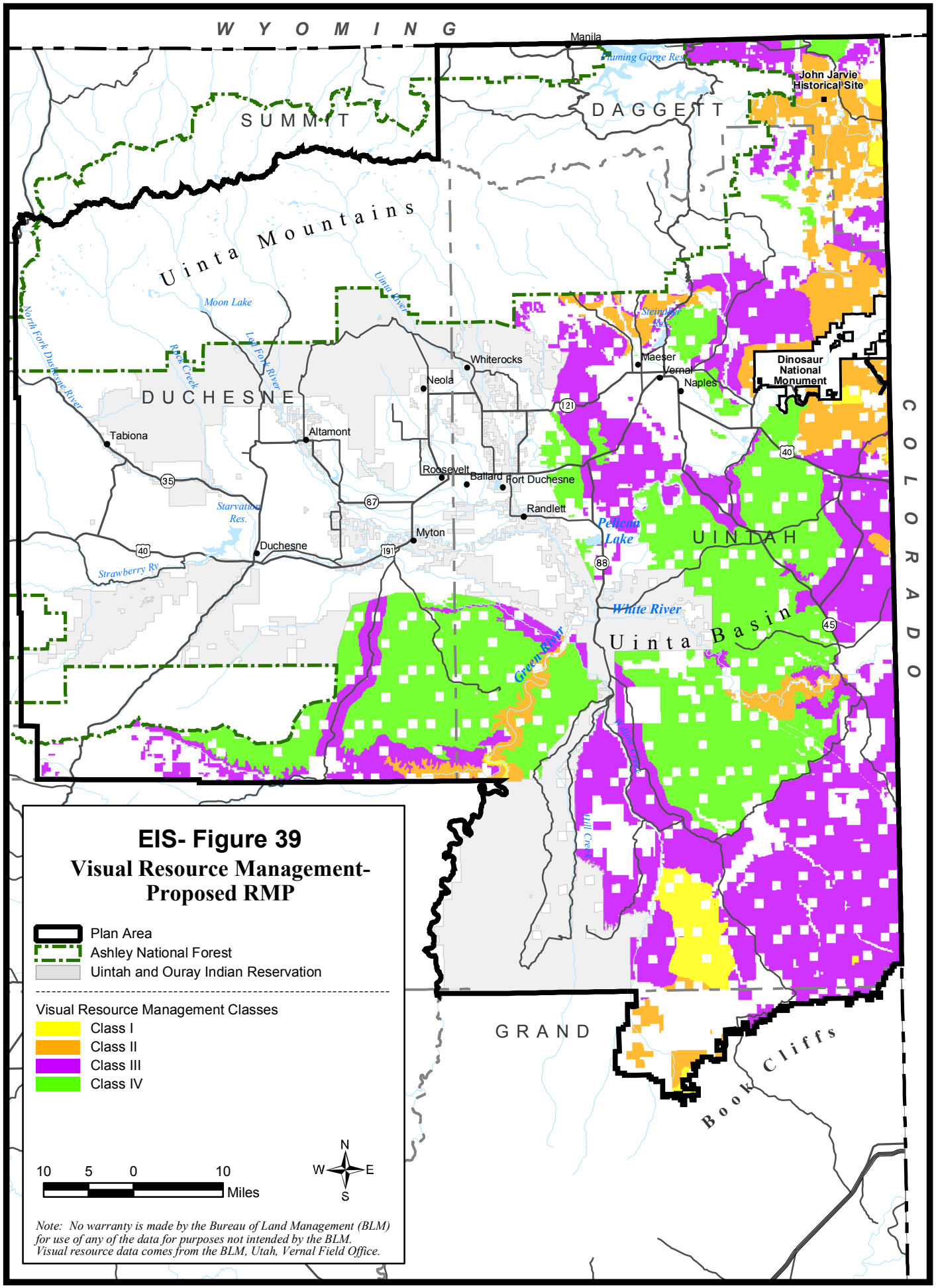

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Neck Creek
Left Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Myton
Duchesne
Strawberry Ry.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS-Figure 34
Travel/OHV Areas- Alternative A
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Travel Route
OHV Designations
Managed-Open
Limited
Closed
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Travel/OHV data comes from the BLM, Utah, Vernal Field Office.

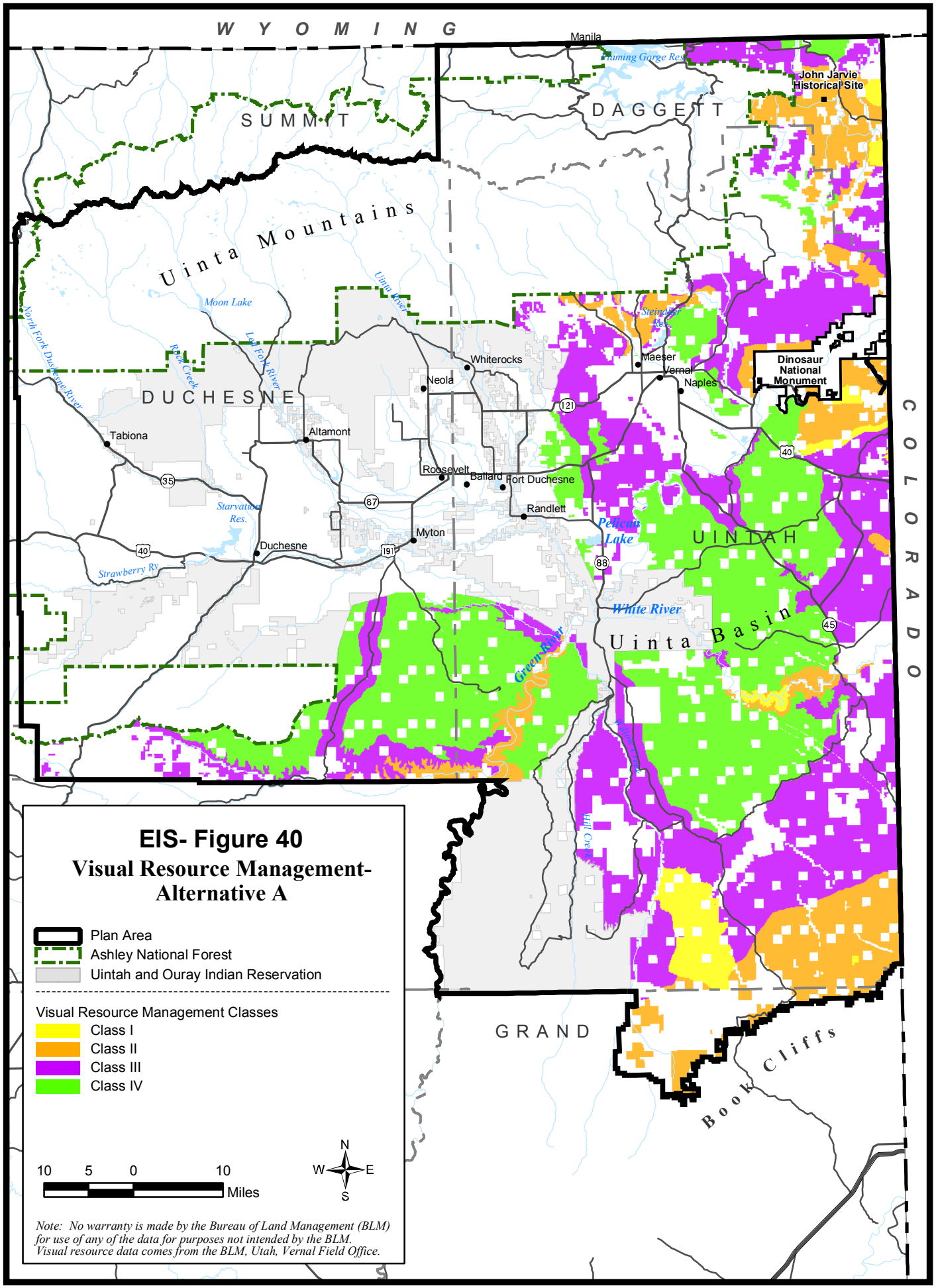

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Steinaker Res.
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Pelican Lake
Starvation Res.
Myton
Duchesne
Strawberry Ry.
White River
Green River
Willow Creek
Hill Creek
121
40
35
87
191
88
45
EIS-Figure 35
Travel/OHV Areas- Alternative B
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Travel Route
OHV Designations
Open- Managed
Limited
Closed
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Travel/OHV data comes from the BLM, Utah, Vernal Field Office.

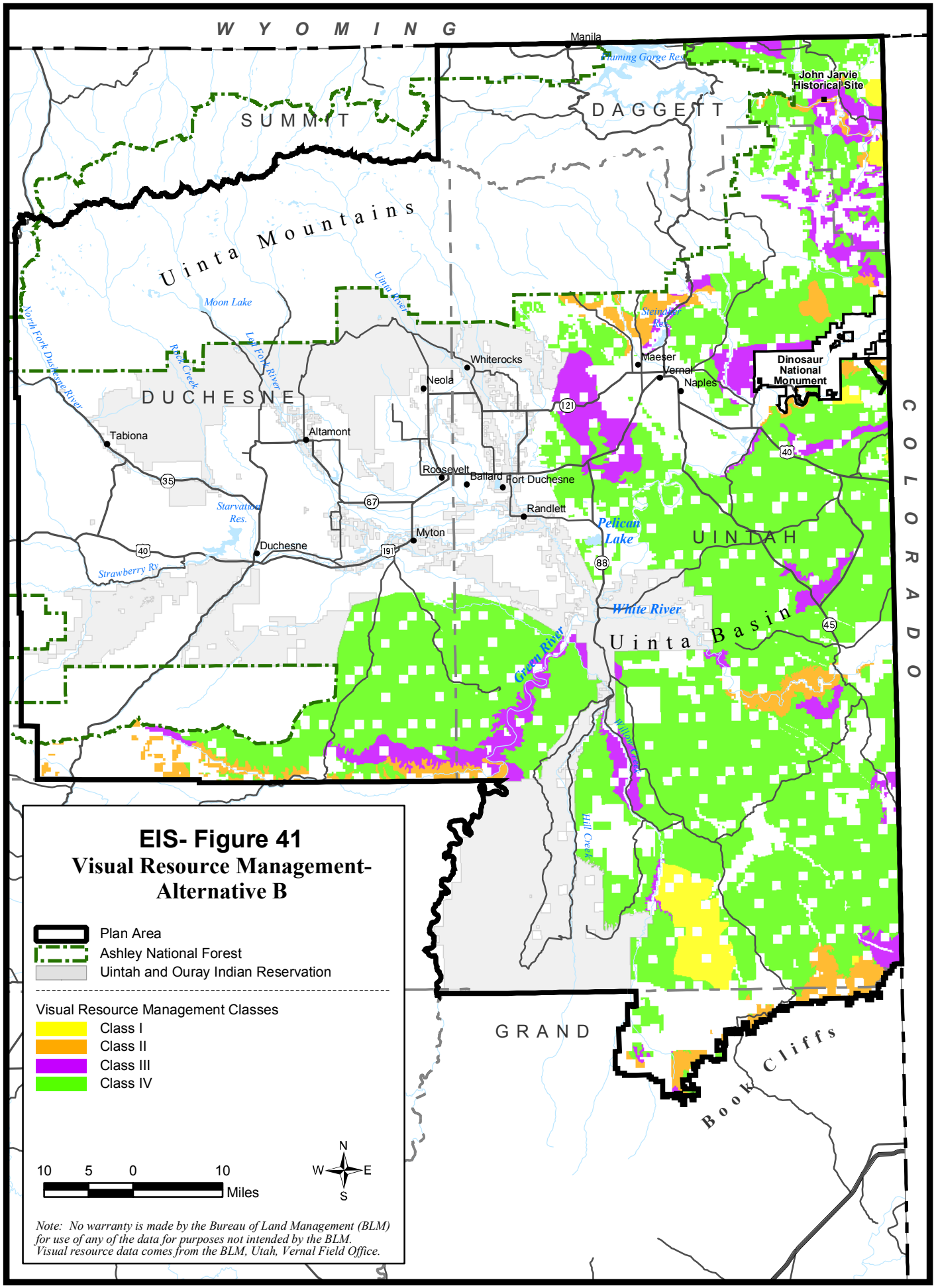

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Moon Lake
Uinta River
North Fork Duchesne River
Lake Fork River
Rock Creek
Starvation Res.
Strawberry Ry.
Pelican Lake
White River
Green River
Willow Creek
Hill Creek
Whiterocks
Neola
Maeser
Vernal
Naples
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
121
35
87
40
191
88
45
EIS-Figure 36
Travel/OHV Areas- Alternative C
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Travel Route
OHV Designations
Open- Managed
Limited
Closed
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Travel/OHV data comes from the BLM, Utah, Vernal Field Office.

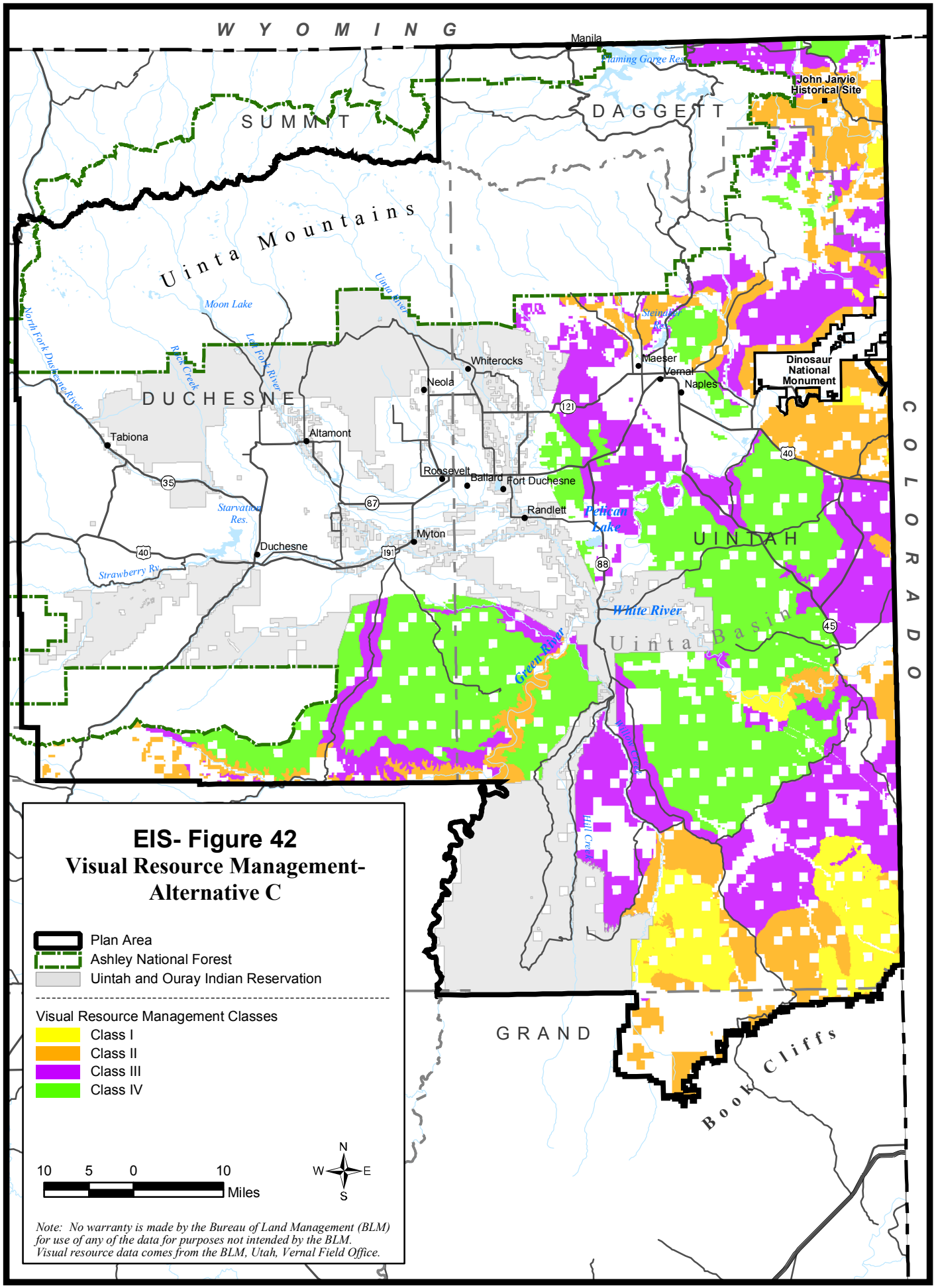

WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Maeser
Vernal
Naples
Whiterocks
Neola
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
Moon Lake
Starvation Res.
Strawberry Ry.
Pelican Lake
White River
Green River
Uinta River
North Fork Duchesne River
Lake Fork River
Rock Creek
Hill Creek
Stewart Lake
121
40
35
87
191
88
45
EIS-Figure 37
Travel/OHV Areas- Alternative D
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Travel Route
OHV Designations
Open-Managed
Limited
Closed
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Travel/OHV data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
COLORADO
GRAND
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Willow Creek
Hill Creek
35
87
40
191
121
88
45
EIS- Figure 38
Travel/OHV Areas- Alternative E
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Travel Route
OHV Designations
Open- Managed
Limited
Closed
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Travel/OHV data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Starvation Res.
Strawberry Ry.
Pelican Lake
White River
Green River
Hill Creek
Whiterocks
Neola
Maeser
Vernal
Naples
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
121
35
87
40
191
88
45
EIS- Figure 39
Visual Resource Management-
Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Visual Resource Management Classes
Class I
Class II
Class III
Class IV
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Visual resource data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Starvation Res.
Strawberry Ry.
Pelican Lake
White River
Green River
Hill Creek
Whiterocks
Neola
Maeser
Vernal
Naples
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
121
35
87
40
191
88
45
EIS- Figure 40
Visual Resource Management-
Alternative A
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Visual Resource Management Classes
Class I
Class II
Class III
Class IV
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Visual resource data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Starvation Res.
Strawberry Ry.
Pelican Lake
White River
Green River
Hill Creek
Tabiona
Altamont
Neola
Whiterocks
Roosevelt
Ballard
Fort Duchesne
Randlett
Myton
Duchesne
Maeser
Vernal
Naples
121
40
35
87
191
88
45
EIS- Figure 41
Visual Resource Management-
Alternative B
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Visual Resource Management Classes
Class I
Class II
Class III
Class IV
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Visual resource data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 42
Visual Resource Management- Alternative C

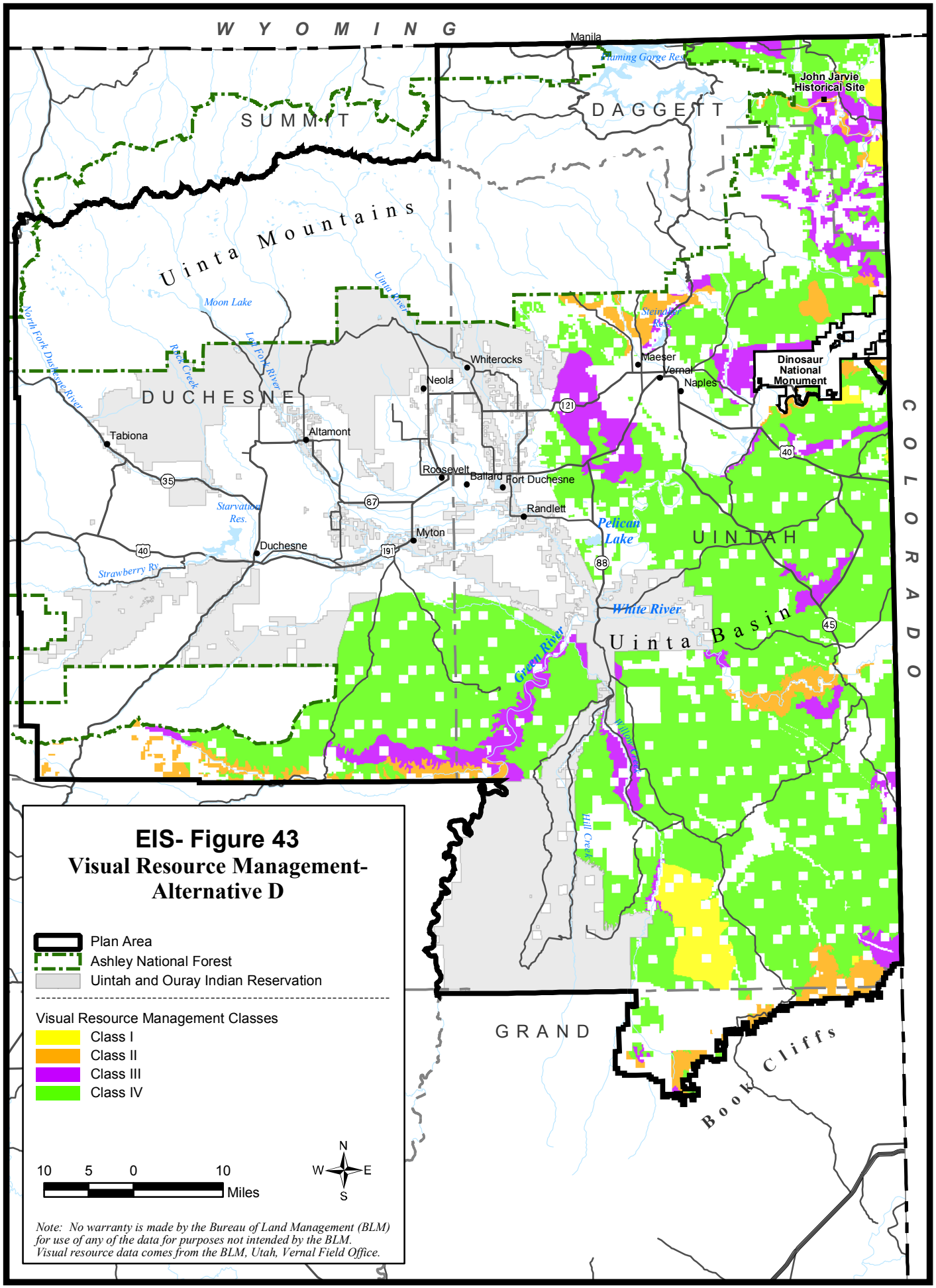
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation

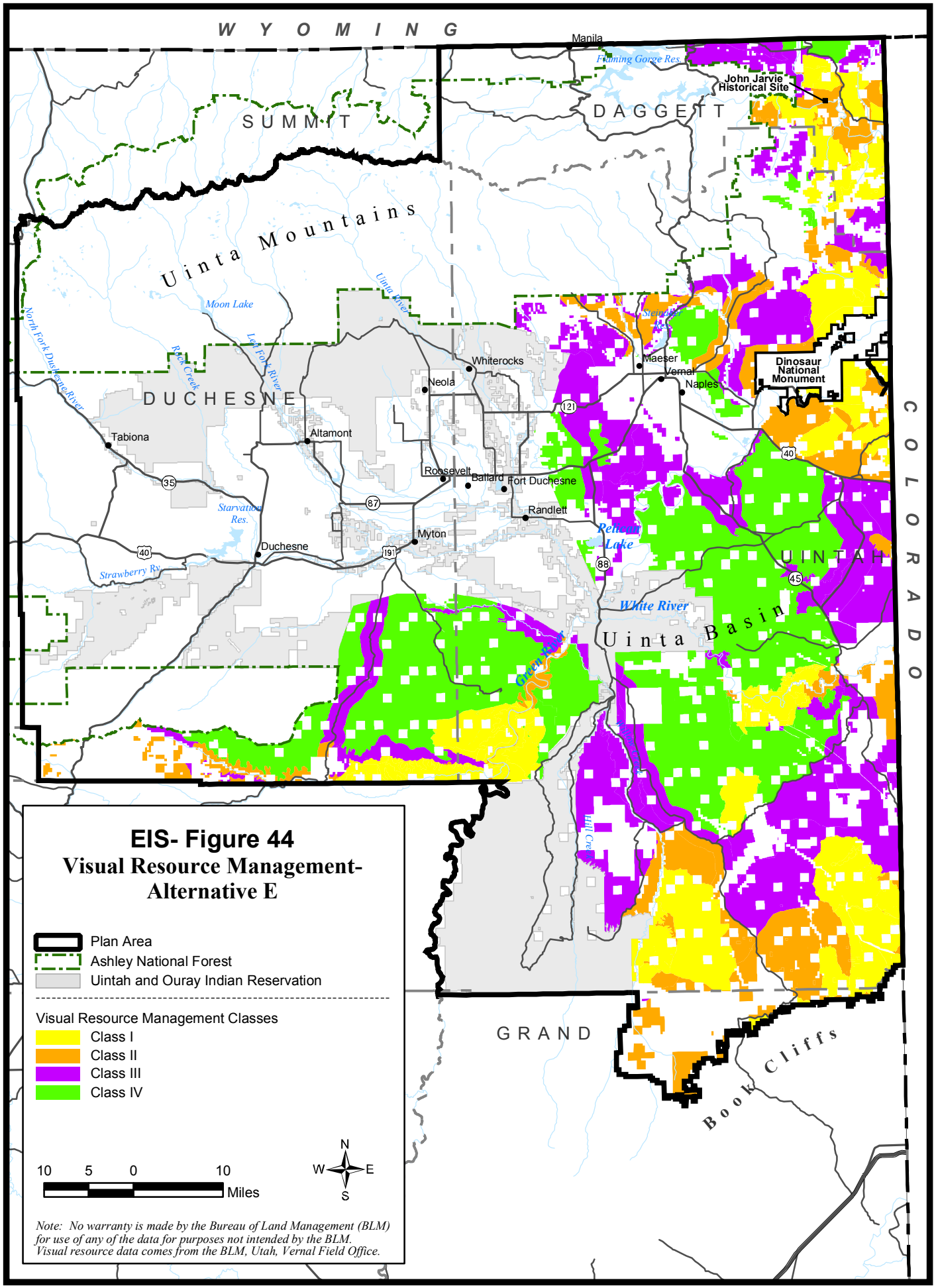
Visual Resource Management Classes
Class I
Class II
Class III
Class IV

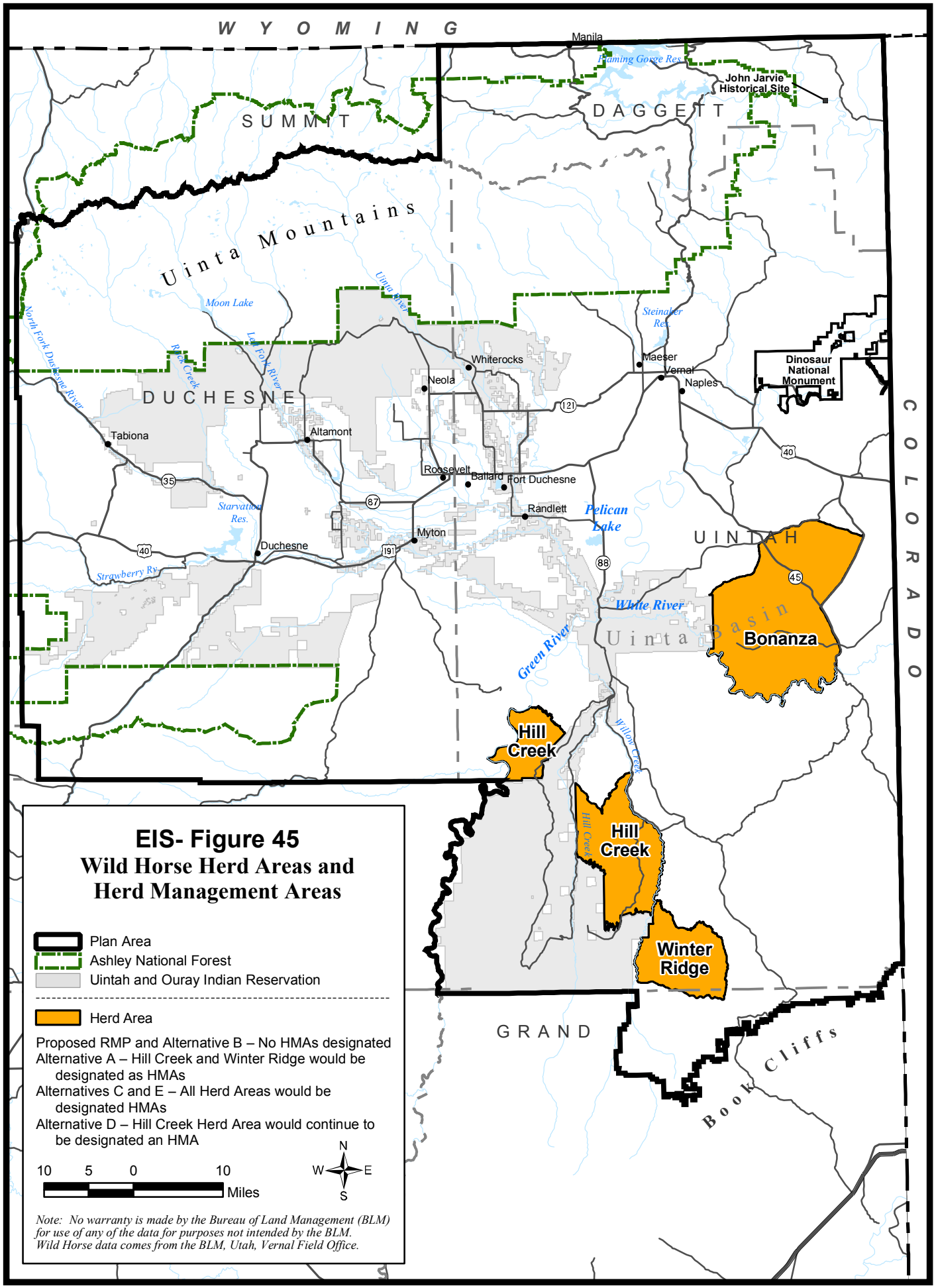
10 5 0 10 Miles

N W E S

Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Visual resource data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Uinta Mountains
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Lake Fork River
Stewart Lake
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
DUCHESNE
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
UINTAH
White River
Uinta Basin
Green River
Hill Creek
COLORADO
GRAND
Book Cliffs
121
40
35
87
191
88
45
EIS- Figure 43
Visual Resource Management-
Alternative D
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Visual Resource Management Classes
Class I
Class II
Class III
Class IV
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Visual resource data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Dinosaur National Monument
Moon Lake
North Fork Duchesne River
Rock Creek
Left Fork River
Uinta River
Whiterocks
Neola
Maeser
Vernal
Naples
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Pelican Lake
White River
Green River
Hill Creek
121
35
87
40
191
88
45
EIS- Figure 44
Visual Resource Management-
Alternative E
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Visual Resource Management Classes
Class I
Class II
Class III
Class IV
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Visual resource data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 45
Wild Horse Herd Areas and Herd Management Areas

Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation

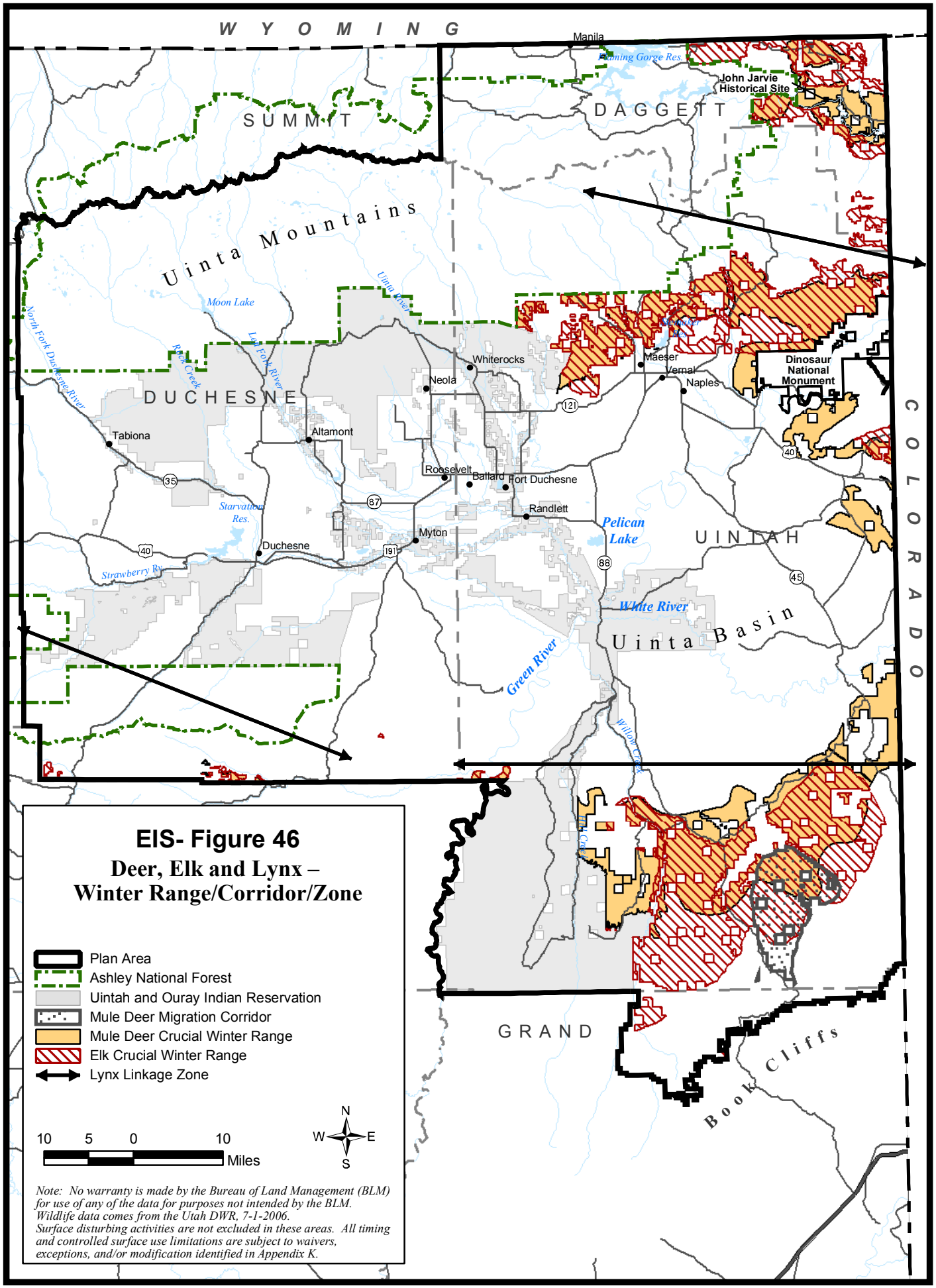
Herd Area

Proposed RMP and Alternative B – No HMAs designated
Alternative A – Hill Creek and Winter Ridge would be designated as HMAs
Alternatives C and E – All Herd Areas would be designated HMAs
Alternative D – Hill Creek Herd Area would continue to be designated an HMA

10 5 0 10 Miles

N W E S

Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Wild Horse data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 46

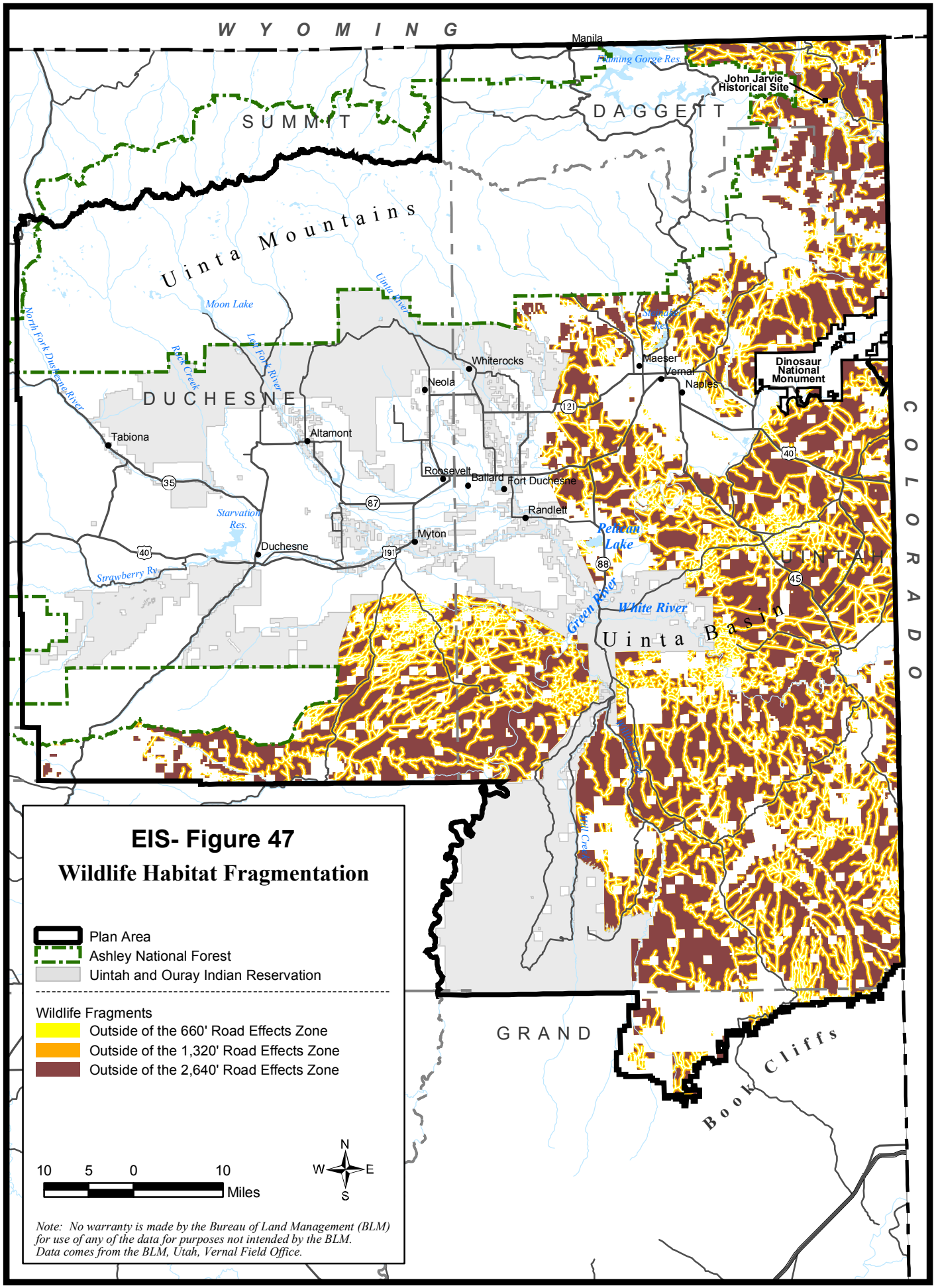
Deer, Elk and Lynx – Winter Range/Corridor/Zone

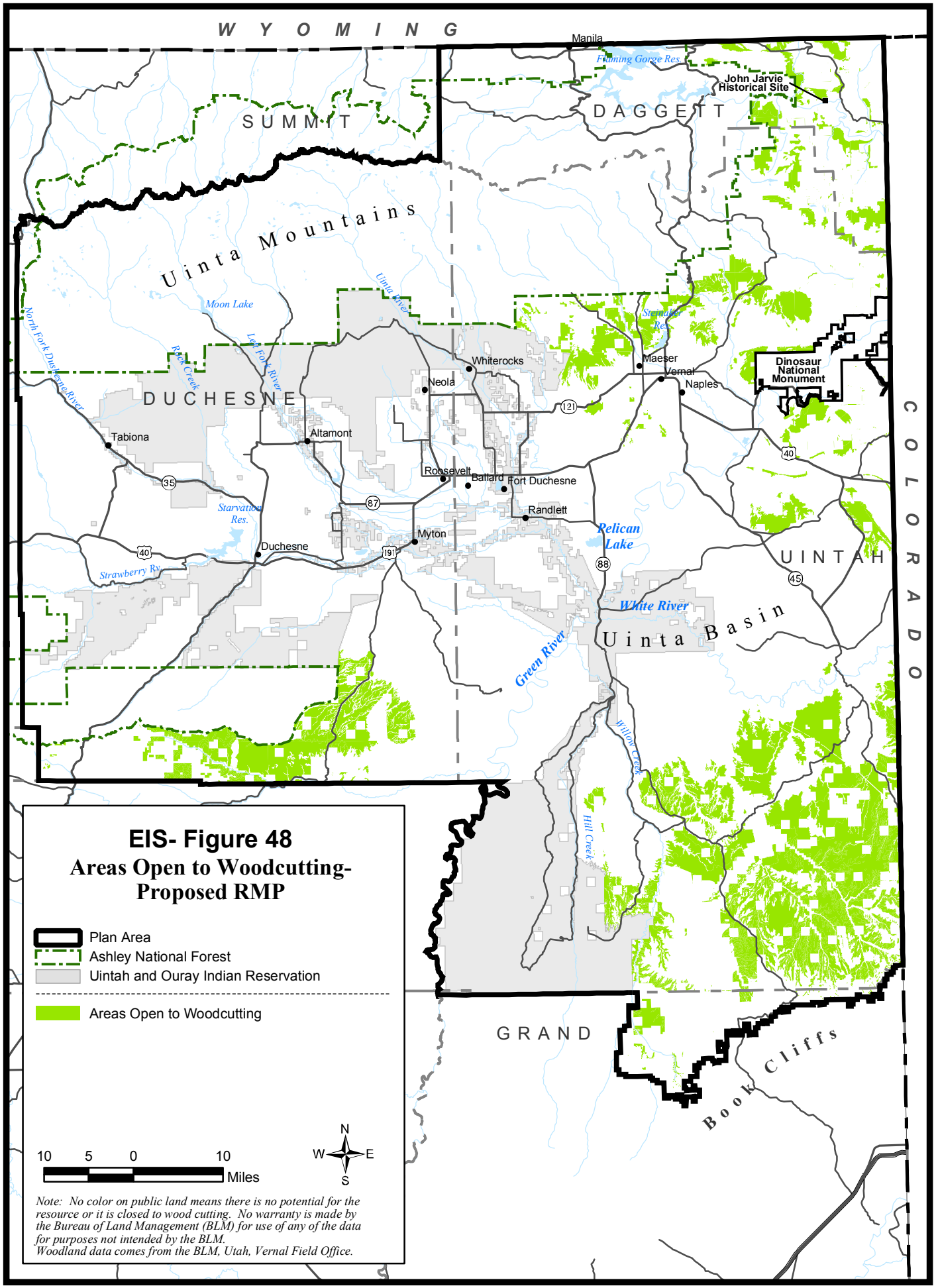
- Plan Area
- Ashley National Forest
- Uintah and Ouray Indian Reservation
- Mule Deer Migration Corridor
- Mule Deer Crucial Winter Range
- Elk Crucial Winter Range
- Lynx Linkage Zone

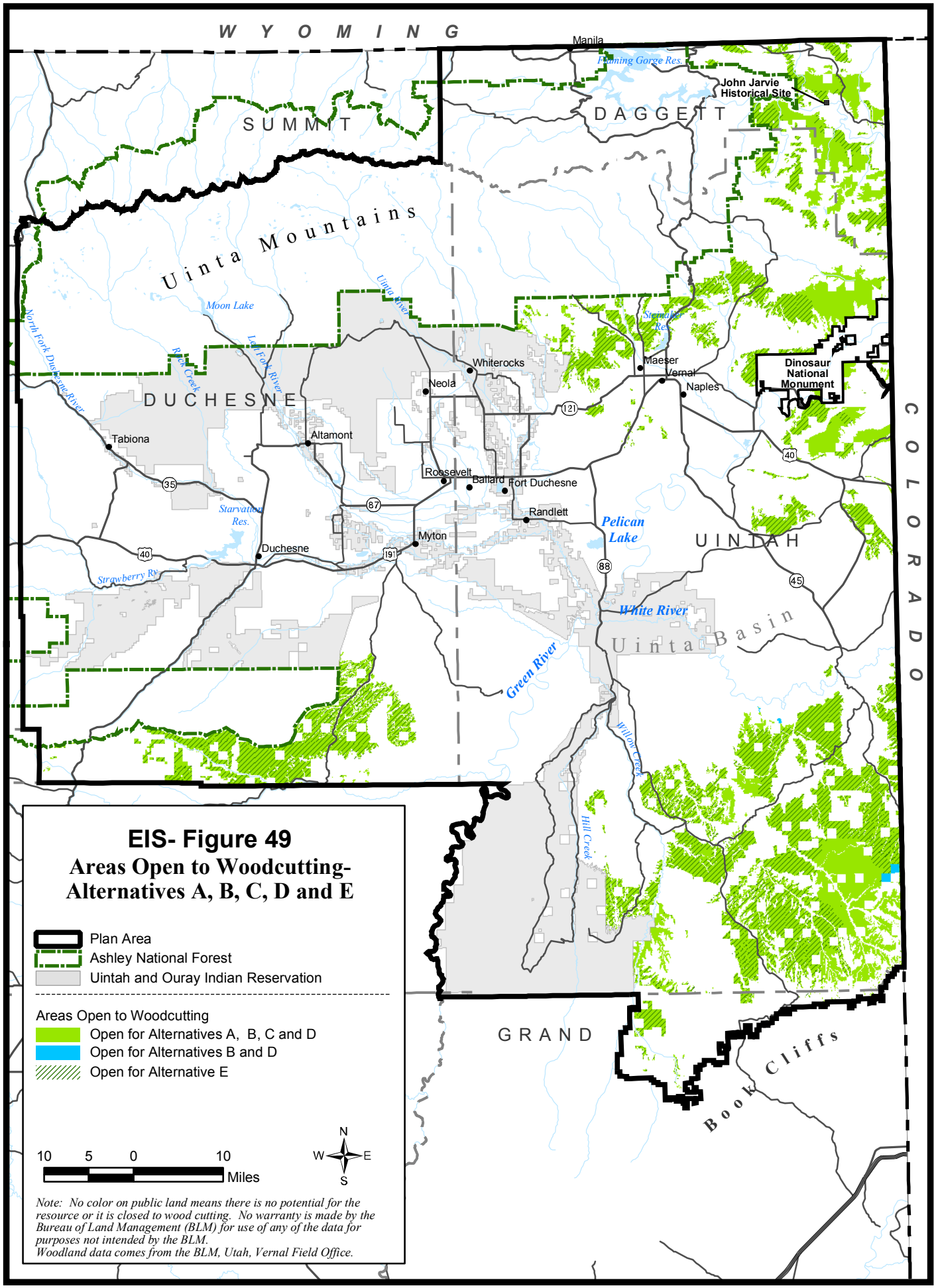
10 5 0 10 Miles

N W E S

Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM. Wildlife data comes from the Utah DWR, 7-1-2006. Surface disturbing activities are not excluded in these areas. All timing and controlled surface use limitations are subject to waivers, exceptions, and/or modification identified in Appendix K.


WYOMING
SUMMIT
DAGGETT
DUCHESNE
UINTAH
GRAND
COLORADO
Uinta Mountains
Uinta Basin
Book Cliffs
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Whiterocks
Neola
Maeser
Vernal
Naples
Dinosaur National Monument
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Rv.
Pelican Lake
Green River
White River
Hill Creek
121
40
35
87
191
88
45
EIS- Figure 47
Wildlife Habitat Fragmentation
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Wildlife Fragments
Outside of the 660' Road Effects Zone
Outside of the 1,320' Road Effects Zone
Outside of the 2,640' Road Effects Zone
10 5 0 10
Miles
N
W
E
S
Note: No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Data comes from the BLM, Utah, Vernal Field Office.


WYOMING
SUMMIT
DAGGETT
Manila
Flaming Gorge Res.
John Jarvie Historical Site
Uinta Mountains
Moon Lake
Uinta River
North Fork Duchesne River
Rock Creek
Left Fork River
Stateline Res.
Whiterocks
Maeser
Vernal
Naples
Dinosaur National Monument
Neola
DUCHESNE
Tabiona
Altamont
Roosevelt
Ballard
Fort Duchesne
Randlett
Starvation Res.
Myton
Duchesne
Strawberry Ry.
Relican Lake
UINTAH
COLORADO
White River
Uinta Basin
Green River
Willow Creek
Hill Creek
GRAND
Book Cliffs
35
87
40
191
121
88
45
EIS- Figure 48
Areas Open to Woodcutting-
Proposed RMP
Plan Area
Ashley National Forest
Uintah and Ouray Indian Reservation
Areas Open to Woodcutting
10 5 0 10
Miles
N
W
E
S
Note: No color on public land means there is no potential for the resource or it is closed to wood cutting. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Woodland data comes from the BLM, Utah, Vernal Field Office.



EIS- Figure 49

Areas Open to Woodcutting-
Alternatives A, B, C, D and E

Note: No color on public land means there is no potential for the resource or it is closed to wood cutting. No warranty is made by the Bureau of Land Management (BLM) for use of any of the data for purposes not intended by the BLM.
Woodland data comes from the BLM, Utah, Vernal Field Office.

APPENDIX A. BEST MANAGEMENT PRACTICES FOR RAPTORS AND THEIR ASSOCIATED HABITATS IN UTAH, AUGUST 2006

I. INTRODUCTION

Raptors, or *Birds of Prey,* are found on public lands throughout Utah. Approximately 31 species of raptors utilize public lands for at least a portion of their life cycle. These include 20 diurnal raptors, including the eagles, hawks, falcons, osprey, turkey vulture and California condor; and 11 mostly nocturnal owl species. At least 16 of the diurnal raptors are known to nest, roost and forage on public lands; while 2 others are probable nesters within the southern part of the state. The California condor is known to utilize public lands for roosting and foraging, but is not currently known to nest within the state. The rough-legged hawk is a winter resident that uses public lands for foraging. All of the owl species nest, roost and forage on public lands in Utah.

Eight of Utah's raptors are considered to be Special Status Species by the BLM, and currently receive enhanced protection, in addition to the regulatory authority provided by the Migratory Bird Treaty Act (MBTA), which covers all raptor species. The bald eagle and Mexican spotted owl are listed as Federally threatened species and are afforded the protection, as well as the Section 7 consultation requirements, of the Endangered Species Act (ESA). The bald eagle is currently being proposed for delisting by the Fish and Wildlife Service. Both the bald eagle and golden eagle are protected by the provisions of the Eagle Protection Act. The California condor is a Federally endangered species, however, the birds found in southern Utah are part of an Experimental Non-essential Population reintroduced to northern Arizona under Section 10(j) of the Endangered Species Act. The BLM is required to treat the condor as a species proposed for listing for Section 7 purposes of the ESA. The northern goshawk is managed by a multi-agency Conservation Agreement. The ferruginous hawk, short-eared owl and burrowing owl are listed as Wildlife Species of Concern by the Utah Division of Wildlife Resources (UDWR, May 12, 2006), and are therefore recognized as BLM state-sensitive species under the Bureau's 6840 Manual. The BLM's 6840 Policy states that "*BLM shall…ensure that actions authorized, funded, or carried out…do not contribute to the need for the species to become listed*".

Future raptor management on BLM lands in Utah will be guided by the use of these Best Management Practices (BMPs), which are BLM-specific recommendations for implementation of the U.S. Fish and Wildlife Service, Utah Field Office's *"Guidelines for Raptor Protection From Human and Land Use Disturbances"* (*"Guidelines"*). The *"Guidelines"* were originally developed by the Fish and Wildlife Service in 1999, and were updated during 2002 to reflect changes brought about by court and policy decisions and to incorporate Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds.* The *"Guidelines"* were provided to BLM and other land-managing agencies in an attempt to provide raptor management consistency, while ensuring project compatibility with the biological requirements of raptors, and encouraging an ecosystem approach to habitat management.

These Best Management Practices, or specific elements of the BMP's which pertain to a proposal, should be attached as Conditions of Approval to all BLM use authorizations which have the potential to adversely affect nesting raptors, or would cause occupied nest sites to become unsuitable for nesting in subsequent years.

Raptor management is a dynamic and evolving science, and consequently, as the science evolves, these BMP's will undergo subsequent revision. As more information becomes available through implementation of these raptor BMP's, and as our knowledge of raptor life cycle requirements increases, findings will be incorporated into future revisions of the BMP document. Additionally, BLM and the Department of Energy are initiating a 3-year Raptor Radii study which will test traditional spatial and seasonal nest buffers during actual oil and gas development activities for a select suite of species. Study results would be incorporated into new BMP revisions as well.

To adequately manage raptors and their habitats, and to reduce the likelihood of a raptor species being listed under the Endangered Species Act (ESA), BLM-authorized or proposed management activities and/or land disturbing actions would be subject to the criteria and processes specified within these BMPs. The implementation of raptor spatial and seasonal buffers under the BMPs would be consistent with Table 2 of the *"Guidelines"*, included here as Attachment 2. As specified in the *"Guidelines"*, modifications of spatial and seasonal buffers for BLM-authorized actions would be permitted, so long as protection of nesting raptors was ensured. State and/or Federally-listed, proposed, and candidate raptor species, as well as BLM state-sensitive raptor species, should be afforded the highest level of protection through this BMP process; however, all raptor species would continue to receive protection under the Migratory Bird Treaty Act. Modification of the buffers for threatened or endangered species would be considered pending results of Section 7 Consultation with USFWS.

As stated in the *"Guidelines"*, spatial and seasonal buffers should be considered as the best available recommendations for protecting nesting raptors under a wide range of activities state-wide. However, they are not necessarily site-specific to proposed projects. Land managers should evaluate the type and duration of the proposed activity, the position of topographic and vegetative features, the sensitivity of the affected species, the habituation of breeding pairs to existing activities in the proposed project area, and the local raptor nesting density, when determining site-specific buffers. The BLM would be encouraged to informally coordinate with UDWR and USFWS anytime a site-specific analysis shows that an action may have an adverse impact on nesting raptors. The coordination would determine if the impact could be avoided or must be mitigated, and if so, to determine appropriate and effective mitigation strategies.

Potential modifications of the spatial and seasonal buffers identified in the *"Guidelines"* may provide a viable management option. Modifications would ensure that nest protection would occur, while allowing various management options which may deviate from the suggested buffers within the *"Guidelines"*, which, if adequately monitored, could provide valuable information for incorporation into future management actions.

Seasonal raptor buffers from Attachment 2 should be reviewed by local raptor nesting authorities who are knowledgeable of raptor nesting chronologies within their local area. For those nesting raptors for which local nesting chronologies remain uncertain, the seasonal buffers provided in Attachment 2 should serve as the default. However, for those raptor species whose known nesting chronologies differ from the seasonal buffers provided in Attachment 2, the local seasonal buffers may be utilized as a modification of the *"Guidelines"*.

Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the *"Guidelines"*, would include the following:

Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1)

Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of the *"Guidelines"* would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised.

Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of DWR and F&WS, BLM could allow the activity to continue while requiring monitoring to determine the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to UDWR for incorporation into the Natural Heritage Program (NHP) raptor database.

In a further effort to provide additional support and expertise to local BLM Field biologists, a network of biologists from various agencies with specific expertise in raptor management has been identified and included as Attachment 3. The personnel identified have extensive backgrounds in raptor management issues and are available, upon request, to assist BLM Field biologists on a case by case basis. Field biologists are encouraged to use this network, via informal conference, with one or more of the individuals identified. This coordination should be clearly distinguished from the consultation process required under Section 7 of the ESA. Individuals on the expert panel should not be expected to provide formal advise, but should serve as a sounding board for discussing potential affects of a proposal, as well as potential mitigation measures on specific projects which may be useful to BLM biologists.

II. HABITAT ENHANCEMENT:

As recommended in the *"Guidelines"*, raptor habitat management and enhancement, both within and outside of buffers, would be an integral part of these BMPs, with the understanding that in order for raptors to maintain high densities and maximum diversity, it is necessary that the habitat upon which they and their prey species depend be managed to promote healthy and productive ecosystems. Habitat loss or fragmentation would be minimized and/or mitigated to the extent practical and may include such measures as; drilling multiple wellheads per pad, limiting access roads and avoiding loop roads to well pads, effective rehabilitation or restoration of plugged and abandoned well locations and access roads that are no longer required, rehabilitation or restoration of wildland fires to prevent domination by non-native invasive annual species, vegetation treatments and riparian restoration projects to achieve Rangeland Health Standards, etc.

In some cases, artificial nesting structures, located in areas where preferred nesting substrates are limited, but where prey base populations are adequate and human disturbances are limited, may enhance some raptor populations, or may serve as mitigation for impacts occurring in other areas.

III. PROTECTION OF NEST SITES AND BUFFER ZONES:

As stated in the *"Guidelines"*, protection of both occupied and unoccupied nests is important since not all raptor pairs breed every year, nor do they always utilize the same nest within a nesting territory. Individual raptor nests left unused for a number of years are frequently reoccupied, if all the nesting attributes which originally attracted a nesting pair to a location are still present. Nest sites are selected by breeding pairs for the preferred habitat attributes provided by that location.

Raptor nest buffer zones are established for planning purposes because the nest serves as the focal point for a nesting pair of raptors. The buffer should serve as a threshold of potential adverse affect to nest initiation and productivity. Actions proposed within these buffer zones are considered potentially impacting and, therefore, trigger the need for consideration of site-specific recommendations.

Seasonal (temporal) buffer zones are conservation measures intended to schedule potentially impacting activities to periods outside of the nesting season for a particular raptor species. These seasonal limitations are particularly applicable to actions proposed within the spatial buffer zone of a nest for short duration activities such as, pipeline or powerline construction, seismic exploration activity, vegetative treatments, fence or reservoir construction, permitted recreational events, etc., where subsequent human activity would not be expected to occur.

Spatial buffer zones are those physical areas around raptor nest sites where seasonal conservation measures, or surface occupancy restrictions may be applied, depending on the type and duration of activity, distance and visibility of the activity from the nest site, adaptability of the raptor species to disturbance, etc. Surface occupancy restrictions should be utilized for actions which would involve human activities within the buffer zone for a long duration (more than one nesting season) and which would cause an occupied nest site to become unsuitable for nesting in subsequent years.

UNOCCUPIED NESTS:

All Activities, including All Mineral Leases: Surface-disturbing activities, occurring outside of the breeding season (seasonal buffer), but within the spatial buffer, would be allowed during a minimum three-year nest monitoring period, as long as the activity would not cause the nest site to become unsuitable for future nesting, as determined by a wildlife biologist. Facilities and other permanent structures would be allowed, if they meet the above criteria.

Some examples of typical surface disturbing actions, occurring outside of the seasonal buffer, which may not be expected to affect nest production or future nesting suitability, would include; pipelines, powerlines, seismographic exploration, communication sites, an oil or gas well with off-site facilities which does not require routine visitation, recreation events, fence or reservoir construction, vegetative treatments, and other actions with discreet starting and ending times, and for which subsequent human activity or heavy equipment operation within the spatial buffer would not be expected to occur, or could be scheduled outside of the seasonal buffer in subsequent years.

Surface disturbing activities that would be expected to potentially affect nest production or nest site suitability, include; oil and gas facilities requiring regular maintenance, sand and gravel operations, road systems, wind energy projects, mining operations, and other actions requiring

continual, random human activity, or heavy equipment operation during subsequent nesting seasons.

A nest site which does not exhibit evidence of use, such as; greenery in the nest, fresh whitewash, obvious nest maintenance or the observed presence of adults or young at the nest, for a period of three consecutive years, (verified through monitoring), would be deemed abandoned and all seasonal and spatial restrictions would cease to apply to that nest. All subsequent authorizations for permanent activities within the spatial buffer of the nest could be permitted. If the nest becomes reoccupied after authorized activities are completed, conservation measures would be considered to reduce potential adverse affects and to comply with the Migratory Bird Treaty Act and the Eagle Protection Act.

The three-year non-use standard varies from the "*Guidelines*" suggested seven-year non-use standard before declaring nest abandonment. This variation is based upon a similar standard which has been applied for over 20 years in two administrative areas within Utah. Empirical evidence would suggest the three-year non-use standard has been effective in conserving raptor species. The three-year standard has been applied without legal challenge or violation of "Take" under the Migratory Bird Treaty Act or the Eagle Protection Act.

Because prey base populations are known to be cyclic, and because raptor nest initiation or nesting success can be affected by drought and other random natural events, care should be taken when applying the 3-year non-activity standard. The 3-year nest occupancy monitoring requirement should be viewed as a minimum time period during those years of optimal raptor nesting conditions. During sub-optimal raptor nesting years, when nesting habitat may be affected by drought, low prey base populations, fire, or other events, the monitoring standard should be increased to allow raptors the opportunity to reoccupy nesting sites when nesting conditions become more favorable.

OCCUPIED NESTS:

All Activities: Land use activities which would have an adverse impact on an occupied raptor nest, would not be allowed within the spatial or seasonal buffer.

IV. CONSIDERATION OF ALTERNATIVES AND MITIGATION MEASURES:

Alternatives, including denial of the proposal, should be identified, considered and analyzed in a NEPA document anytime an action is proposed within the spatial buffer zone of a raptor nest. Selection of a viable alternative that avoids an impact to nesting raptors should be selected over attempting to mitigate those impacts. If unavoidable impacts are identified, mitigation measures should be applied as necessary to mitigate adverse impacts of resource uses and development on nesting raptors. Monitoring of the effectiveness of the mitigation measures should be mandatory and should be included as a Condition of Approval.

V. SPECIFIC STRATEGIES TO BE IMPLEMENTED REGARDING OTHER RESOURCE USES:

The following are management strategies designed to reduce or eliminate potential conflicts between raptors and other resource uses. This is a list of examples and is not intended to be an all-inclusive list. In all cases, when an activity on BLM lands is proposed, and a NEPA

document developed, the site-specific analysis process identified in Attachment 1 may be implemented to identify and either avoid or mitigate impacts to raptors from the proposal. These strategies apply to both BLM and applicant-generated proposals. The strategies are as follows:

A. Cultural Resources

Excavation and studies of cultural resources in caves and around cliff areas should be delayed until a qualified biologist surveys the area to be disturbed or impacted by the activity for the presence of raptors or nest sites. If nesting raptors are present, the project should be rescheduled to occur outside of the seasonal buffer recommended by the *"Guidelines"*.

B. Forestry and Harvest of Woodland Products

Timber harvest would be subject to NEPA analysis and would be conducted in a manner that would avoid impacts to raptor nests. This could also apply to areas identified for wood gathering and firewood sales.

C. Hazardous Fuel Reduction/Habitat Restoration Projects

Hazardous fuels reduction projects and shrubsteppe restoration projects should be reviewed for possible impacts to nesting raptors. Removal of trees containing either stick nests or nesting cavities, through prescribed fire, or mechanical or manual treatments, should be avoided.

It is important to note that certain raptor species are tied to specific habitat types, and that consideration must be made on a site-specific basis when vegetation manipulation projects are proposed, to determine which raptor species may benefit and which may be negatively affected by the vegetation composition post-treatment.

D. Livestock Grazing

Manage rangelands and riparian areas in a manner that promotes healthy, productive rangelands and functional riparian systems. Rangeland Health Assessments should be conducted on each grazing allotment, and rangeland guidelines should be implemented where Rangeland Health Standards are not being met, to promote healthy rangelands.

Locations of sheep camps and other temporary intrusions would be located in areas away from raptor nest sites during the nesting season. Placement of salt and mineral blocks would also be located away from nesting areas.

Season of use, kind of livestock, and target utilization levels of key species affect vegetative community attributes (percent cover, composition, etc.) and influence small mammal and avian species diversity and density. While not all raptor species would be affected in the same way, livestock management practices which maintain or enhance vegetative attributes, will preserve prey species density and diversity which will benefit the raptor resource.

E. OHV Use

Special Recreation Management Areas (SRMAs) that are developed for OHV use would not be located in areas that have important nesting, roosting, or foraging habitat for raptors.

Off highway vehicle use would be limited to designated roads, trails and managed open areas. Lands categorized as "Open" for OHV use should not be in areas important to raptors for nesting, roosting, and foraging

When proposals for OHV events are received, the area to be impacted, would be surveyed by a qualified wildlife biologist to determine if the area is utilized by raptors. Potential conflicts would be identified and either avoided or mitigated prior to the issuance of any permit.

F. Oil and Gas Development

The Code of Federal Regulations (CFR), 43 CFR 3101.1-2, allows for well site location and timing to be modified from that requested by the lessee to mitigate conflicts at the proposed site, and states that the location can be moved up to 200 meters and the timing of the actual drilling can be delayed for up to 60 days to mitigate environmental concerns. The regulation also allows BLM to move a location more than 200 meters, or delay operations more than 60 days to protect sensitive resources, with supporting rationale and where lesser restrictions are ineffective. The Site Specific Analysis (Attachment 1) would provide the supporting rationale. Provisions are also present within Sections 3 and 6 of the Standard Lease Form which require compliance with existing laws and would allow the BLM to impose additional restrictions at the permitting phase, if the restrictions will prevent violation of law, policy or regulation, or avoid undue and unnecessary degradation of lands or resources.

G. Realty

Lands proposed for disposal which includes raptor nesting, roosting, or important foraging areas would be analyzed and evaluated for the relative significance of these resources before a decision is made for disposal or retention.

A priority list of important raptor habitat areas, especially for Federally listed or state sensitive raptor species, on state and private lands should be developed and utilized as lands to be acquired by BLM when opportunities arise to exchange or otherwise acquire lands.

Lands and realty authorizations would include appropriate conservation measures to avoid and/or mitigate impacts to raptors.

H. Recreation

Development of biking trails near raptor nesting areas would be avoided.

Rock climbing activities would be authorized only in areas where there are no conflicts with cliff nesting raptors.

In high recreation use areas where raptor nest sites have been made unsuitable by existing disturbance or habitat alteration, mitigation should be considered to replace nest sites with artificial nest structures in nearby suitable habitat, if it exists, and consider seasonal protection of nest sites through fencing or other restrictions.

Dispersed recreation would be monitored to identify where this use may be impacting nesting success of raptors.

I. WILD HORSE PROGRAM

In areas where wild horse numbers are determined to be in excess of the carrying capacity of the range, removal of horses, as described in the various herd management area plans, would continue, to prevent further damage to rangelands.

VI. INVENTORY AND MONITORING

A) Each Field Office should cooperatively manage a raptor database, with UDWR and USFWS, as part of the BLM Corporate database. Raptor data should be collected and compiled utilizing the Utah Raptor Data Collection Standards developed by the Utah State Office, so that personnel from other agencies can access the data. Appropriate protocols for survey and monitoring should be followed, when available. This database should be updated as new inventory and monitoring data becomes available. The data should also be forwarded to UDWR and the Natural Heritage Program, which has been identified as the central repository for raptor data storage for the State of Utah.

B) Use of Seasonal Employees and volunteers, as well as "Challenge Cost Share" projects, should be utilized to augment the inventory and monitoring of raptor nests within a planning area, with the data entered into the above-mentioned databases at the close of each nesting season. Project proponents, such as energy development interests, would be encouraged to participate and help support an annual raptor nest monitoring effort within their areas of interest.

C) Active nest sites should be monitored during all authorized activities that may have an impact on the behavior or survival of the raptors at the nest site. A qualified biologist would conduct the monitoring and document the impacts of the activity on the species. A final report of the impacts of the project should be placed in the EA file, with a copy submitted to the NHP. The report would be made available for review and should identify what activities may affect raptor-nesting success, and should be used to recommend appropriate buffer zones for various raptor species.

D) As data are gathered, and impact analyses are more accurately documented, "adaptive management" principles should be implemented. Authorization of future activities should take new information into account, better protecting raptors, while potentially allowing more development and fewer restrictions, if data indicates that current restrictions are beyond those necessary to protect nesting raptors, or conversely indicates that current guidance is inadequate for protection of nesting raptors.

ATTACHMENT 1

Site Specific Analysis Data Sheet

Observer(s)_____ **Date**_____

1. Conduct a site visit to the area of the proposed action and complete the raptor nest site data sheet according to BLM data standards.

2. Area of Interest Documentation (**Bold** items require completion, other information is optional)

State **Office** **Management Unit** _____

Project ID#

Location (Description)

Legal T__ , R __, Sec. ___, 1/4, ____ 1/4, ____ or UTM Coordinates

Latitude _____Longitude _____

Photos Taken Y ( ) N ( )

Description of photos:

_____
_____
_____
_____
_____
_____

Raptor Species Confirmed Unconfirmed

Distance From Proposed Disturbance to:

Nest _____
Perch _____
Roost _____

Line of Site Evaluation From:

Nest _____
Perch _____
Roost _____

Extent of Disturbance: Permanent ___ Temporary _____

Distance from Nest/Roost _____ Acreage _____

Length of Time ____ Timing Variations ___ Disturbance Frequency _____

Other Disturbance Factors: Yes No (If yes, explain what and include distances from nest to disturbances)

Approximate Age of Nest: New_____ **Historical**: (Number of Years)_____

Evidence of Use (Describe):

Habitat Values Impacted:

Proportion of Habitat Impacted (Relate in terms of habitat available):

Estimated Noise Levels of Project (db): _____

Available Alternative(s) (e.g., location, season, technology):

Associated Activities:

Cumulative Effects of Proposal and Other Actions in Habitat Not Associated With the Proposal:

_____
_____
_____
_____

Potential for site Rehabilitation: High____ Low_____

Notes/Comments:

_____
_____
_____
_____

Summary of Proposed Modifications:

Possible modifications to the spatial and seasonal buffers within the FWS *"Guidelines"* include the following:

_____
_____
_____
_____

Rationale:

_____
_____
_____
_____

Summary of Proposed Mitigation Measures:

Possible mitigation measures related to the proposal include the following:

_____
_____
_____
_____

Rationale:

_____
_____
_____
_____

Summary of Alternatives Considered:

Possible alternatives to the proposal include the following:

_____
_____
_____
_____

Rationale:

_____
_____
_____
_____

Recommendation to FO Manager Based on Above Findings:

_____
_____
_____
_____
_____
_____
_____

_____ _____
Field Office Wildlife Biologist Date

ATTACHMENT 2

Nesting Periods and Recommended Buffers for Raptors in Utah

Species	Spatial Buffer (miles)	Seasonal Buffer	Incubation, # Days	Brooding # Days Post-Hatch	Fledging, # Days Post-Hatch	Post-fledge Dependency to Nest, # Days[1]
Bald eagle	1.0	1/1-8/31	34-36	21-28	70-80	14-20
Golden eagle	0.5	1/1-8/31	43-45	30-40	66-75	14-20
N. Goshawk	0.5	3/1-8/15	36-38	20-22	34-41	20-22
N. Harrier	0.5	4/1-8/15	32-38	21-28	42	7
Cooper's hawk	0.5	3/15-8/31	32-36	14	27-34	10
Ferruginous hawk	0.5	3/1-8/1	32-33	21	38-48	7-10
Red-tailed hawk	0.5	3/15-8/15	30-35	35	45-46	14-18
Sharp-shinned hawk	0.5	3/15-8/31	32-35	15	24-27	12-16
Swainson's hawk	0.5	3/1-8/31	33-36	20	36-40	14
Turkey vulture	0.5	5/1-8/15	38-41	14	63-88	10-12
California condor	1.0	NN yet	56-58	5-8 weeks	5-6 months	2 months
Peregrine falcon	1.0	2/1-8/31	33-35	14-21	35-49	21
Prairie falcon	0.25	4/1-8/31	29-33	28	35-42	7-14
Merlin	0.5	4/1-8/31	28-32	7	30-35	7-19
American kestrel	NN[2]	4/1-8/15	26-32	8-10	27-30	12
Osprey	0.5	4/1-8/31	37-38	30-35	48-59	45-50
Boreal owl	0.25	2/1-7/31	25-32	20-24	28-36	12-14
Burrowing owl	0.25	3/1-8/31	27-30	20-22	40-45	21-28
Flammulated owl	0.25	4/1-9/30	21-22	12	22-25	7-14
Great horned owl	0.25	2/1-9/31	30-35	21-28	40-50	7-14
Long-eared owl	0.25	2/1-8/15	26-28	20-26	30-40	7-14
N. saw-whet owl	0.25	3/1-8/31	26-28	20-22	27-34	7-14
Short-eared owl	0.25	3/1-8/1	24-29	12-18	24-27	7-14
Mex. Spotted owl	0.5	3/1-8/31	28-32	14-21	34-36	10-12
N. Pygmy owl	0.25	4/1-8/1	27-31	10-14	28-30	7-14
W. Screech owl	0.25	3/1-8/15	21-30	10-14	30-32	7-14
Common Barn-owl	NN[2]	2/1-9/15	30-34	20-22	56-62	7-14

[1] Length of post-fledge dependency period to parents is longer than reported in this table. Reported dependency periods reflect the amount of time the young are still dependent on the nest site; i.e. they return to the nest for feeding. [2] Due to apparent high population densities and ability to adapt to human activity, a spatial buffer is not currently considered necessary for maintenance of American kestrel or Common barn-owl populations. Actions resulting in direct mortality of individual bird or take of known nest sites is unlawful

ATTACHMENT 3

Utah Raptor Management Experts From Various Agencies

The following list of personnel from various agencies in Utah, are recognized experts in the field of raptor ecology or have extensive field experience in managing raptor resources with competing land uses. The list is provided to inform BLM field biologists and managers of this network of specialized expertise that may be able to assist, as time permits, with specific raptor management issues. Individuals in this Utah Raptor Network, also have well established contacts with an informal extended network of highly qualified raptor ecologists outside the state (i.e. USGS, State Wildlife Agencies, and Universities etc.) which could provide an additional regional perspective.

It should be pointed out that this list is not intended to replace or interfere with established lines of communication but rather supplement these lines of communication.

Utah BLM	David Mills	david_mills@blm.gov	435-896-1571
Utah BLM	Steve Madsen	steve_c_madsen@blm.gov	801-539-4058
Utah DWR	Dr. Jim Parrish	jimparrish@utah.gov	801-538-4788
Utah DWR (NERO)	Brian Maxfield	brianmaxfield@utah.gov	435-790-5355
USFWS	Laura Romin	laura_romin@usfws.gov	801-975-3330
USFWS	Diana Whittington	diana_whittington@usfws.gov	801-975-3330
USFS	Chris Colt	ccolt@fs.fed.us	801-896-1062
HawkWatch Intl	Jeff Smith	jsmith@hawkwatch.org	801-484-6808

ATTACHMENT 4

References Cited

Code of Federal Regulations; 43 CFR 3101.1-2, Leasing Regulations.

Endangered Species Act (ESA); 16 U.S.C. 1513-1543

Migratory Bird Treaty Act (MBTA); 16 U.S.C. 703-712

Romin, Laura A. and James A. Muck, 2002, "Utah Field Office Guidelines For Raptor Protection From Human And Land Use Disturbances." U.S. Department of Interior, U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City, Utah.

Standards for Rangeland Health and Guidelines for Grazing Management; 1997. U.S. Department of Interior, Bureau of Land Management.

U.S. Department of the Interior, Bureau of Land Management; 6840 Manual.

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APPENDIX B. HYDRAULIC CONSIDERATIONS FOR PIPELINE CROSSINGS OF STREAM CHANNELS

Pipeline crossings of perennial, intermittent, and ephemeral stream channels should be constructed to withstand floods of extreme magnitude to prevent breakage and subsequent accidental contamination of runoff during high flow events. Surface crossings must be constructed high enough to remain above the highest possible stream flows at each crossing, and subsurface crossings must be buried deep enough to remain undisturbed by scour throughout passage of the peak flow. To avoid repeated maintenance of such crossings, hydraulic analysis should be completed in the design phase to eliminate costly repair and potential environmental degradation associated with pipeline breaks at stream crossings.

SURFACE CROSSINGS

Pipelines that cross stream channels on the surface should be located above all possible flood flows that may occur at the site. At a minimum, pipelines must be located above the 100-year flood elevation, and preferably above the 500-year flood elevation. Procedures for estimating 100-year and 500-year flood magnitudes are described in the U.S. Geological Survey's National Flood Frequency Program (Jennings, et al. 1994). Two sets of relationships for estimating flood frequencies at ungauged sites in Utah are included in the NFF program: Thomas and Lindskov (1983) use drainage basin area and mean basin elevation for flood estimates for six Utah regions stratified by location and basin elevation. Thomas et al (1997) also use drainage area and mean basin elevation to estimate magnitude and frequency of floods throughout the southwestern U.S., including five regions that cover the entire state of Utah. Results from both sets of equations should be examined to estimate the 100- and 500-year floods, since either of the relations may provide questionable results if the stream crossing drains an area near the boundary of a flood region or if the data for the crossing approach or exceed the limits of the data set used to develop the equations.

Estimating the depth of flow, or conversely the elevation of the pipeline at the crossing, may be approached a number of ways. The simplest procedure would be based solely on a field reconnaissance of the site, using basic geomorphic principles. Identification of the bank-full elevation and the active floodplain (i.e., floodplain formed by the present flow regime) provides inadequate conveyance for extreme flood events. Past floodplains/present terraces also must be identified, since these represent extreme floods in the present flow regime, especially in arid and semi-arid environments. Pipeline crossings should be constructed to elevate the pipeline above the level of the highest and outermost terrace at the crossing. This level represents the geomorphic surface likely to be associated with the maximum probable flood. Since this method is entirely based on a geomorphic reconnaissance of the site, no flood-frequency analysis is required and no recurrence interval is assigned to the design elevation. While this is the simplest approach to design of the crossing, it likely will result in the most conservative estimate (i.e., highest elevation) for suspension of the pipeline.

A slightly more intensive approach to crossing design is based on the Physiographic Method described by Thomas and Lindskov (1983) for estimating flood depths at ungauged sites. The procedure utilizes regional regression equations (similar to the flood-frequency equations described above) to estimate depth of flow associated with a specified recurrence-interval flood.

Flood depth is then added to a longitudinal survey of the stream channel in the vicinity of the crossing, resulting in a longitudinal profile of the specified flood. Elevation of the flood profile at the point of pipeline crossing is the elevation above which the pipeline must be suspended. While this procedure requires a field survey and calculation of actual flood depths, it may result in a lower crossing elevation (and possibly lower costs) for the pipeline. Also, since the regional regression equations estimate flood depth for specified recurrence-interval floods, it is possible to place a recurrence interval on the crossing design for risk calculations.

It may be possible to reduce pipeline construction costs associated with channel crossings even further with a water-surface-profile model of flow through the crossing site. The water-surface-profile model requires a detailed survey of both the longitudinal channel profile and several cross sections along the stream. Design flows (e.g., 100-year and 500-year floods) are calculated for the channel at the crossing (with the regional regression equations described above) and routed through the surveyed channel reach utilizing a step-backwater analysis. The step-backwater analysis uses the principles of conservation of mass and conservation of energy to calculate water-surface elevations at each surveyed cross section. Since the computation utilizes a detailed channel survey, it is probably the most accurate method to use; however, it is likely the most expensive method for the same reason. The step-backwater computations require an estimate of the Manning n-value as an indicator of resistance to flow, and assume fairly stable channel boundaries. Estimates of the n-value for ungauged sites are a matter of engineering judgment, but n-values typically are a function of slope, depth of flow, bed-material particle size, and bedforms present during the passage of the flood wave. Guidance is available in many hydraulic references (e.g., Chow 1959). The assumption of fairly stable channel boundaries is not always met with sand-bed channels, and is an issue of considerable importance for designing subsurface pipeline crossings as well (see below).

SUBSURFACE (BURIED) CROSSINGS

Since many of the pipelines are small and most of the channels are ephemeral, it is commonplace to bury the pipelines rather than suspending them above the streams. The practice of burying pipelines at channel crossings likely is both cheaper and easier than suspending them above all flood flows; however, an analysis of channel degradation and scour should be completed to ensure the lines are not exposed and broken during extreme runoff events. Without such an analysis, pipeline crossings should be excavated to bedrock and placed beneath all alluvial material.

Buried pipelines may be exposed by stream bed lowering resulting from channel degradation, channel scour, or a combination of the two. Channel degradation occurs over a long stream reach or larger geographic area, and is generally associated with the overall lowering of the landscape. Degradation also may be associated with changes in upstream watershed or channel conditions impacting the water and sediment yield of the basin. Channel scour is a local phenomenon associated with passage of one or more flood events and/or site-specific hydraulic conditions that may be natural or man-caused in origin. Either process can expose buried pipelines to excessive forces associated with extreme flow events, and an analysis of each is required to ensure integrity of the crossing.

Detection of long-term channel degradation must be attempted, even if there is no indication of local scour. Plotting bed elevations against time permits evaluation of bed-level adjustment and

indicates whether a major phase of channel incision has passed or is ongoing. However, comparative channel survey data are rarely available for the proposed location of a pipeline crossing. In instances where a gauging station is operated at or near the crossing, it's usually possible to determine long-term aggradation or degradation by plotting the change in stage through time for one or more selected discharges. The procedure is called a specific gauge analysis and is described in detail in the Stream Corridor Restoration manual published by the Federal Interagency Stream Restoration Working Group (1998). When there is no gauging station near the proposed pipeline crossing, nearby locations on the same stream or in the same river basin may provide a regional perspective on long-term channel adjustments. However, specific gauge records indicate only the conditions in the vicinity of the particular gauging station and do not necessarily reflect river response farther upstream or downstream of the gauge. Therefore, it is advisable to investigate other data in order to make predictions about potential channel degradation at a site.

Other sources of information include the biannual bridge inspection reports required in all states for bridge maintenance. In most states, these reports include channel cross-sections or bed elevations under the bridge, and a procedure similar to specific gauge analysis may be attempted. Simon (1989, 1992) presents mathematical functions for describing bed level adjustments through time, fitting elevation data at a site to either a power function or an exponential function of time. Successive cross sections from a series of bridges in a basin also may be used to construct a longitudinal profile of the channel network; sequential profiles so constructed may be used to document channel adjustments through time.

In the absence of channel surveys, gauging stations, and bridge inspection reports (or other records of structural repairs along a channel), it may be necessary to investigate channel aggradation and degradation using quantitative techniques described in Richardson et al. (2001) and Lagasse et al. (2001). Techniques for assessing vertical stability of the channel include incipient motion analysis, analysis of armoring potential, equilibrium slope analysis, and sediment continuity analysis. Geomorphic indicators of recent channel incision (e.g., obligate and facultative riparian species on present-day stream terraces elevated above the water table) also may be helpful for diagnosing channel conditions.

In addition to long-term channel degradation at the pipeline crossing, local scour of the crossing must be addressed for pipeline safety. Local scour occurs when sediment transport through a stream reach is greater than the sediment load being supplied from upstream and is usually associated with changes in the channel cross section. Local scour can occur in natural channels wherever a pipeline crosses a constriction in the channel cross section (contraction scour). Equations for calculating contraction scour generally fall into two categories, depending on the inflow of bed-material sediment from upstream. In situations where there is little to no bed-material transport from upstream (generally coarse-bed streams with gravel and larger bed materials), contraction scour should be estimated using clear-water scour equations. In situations where there is considerable bed-material transport into the constricted section (i.e., for most sand-bed streams), contraction scour should be estimated using live-bed scour equations. Live-bed and clear-water scour equations can be found in many hydraulic references (e.g., Richardson and Davis 2001). In either case, estimates of local scour in the vicinity of the pipeline crossing must be added to the assessment of channel degradation for estimating the depth of burial for the crossing.

Even in the absence of contraction scour, local scour will still occur in most sand-bed channels during the passage of major floods. Since sand is easily eroded and transported, interaction between the flow of water and the sand bed results in different configurations of the stream bed with varying conditions of flow. The average height of dune bedforms is roughly one-third to one-half the mean flow depth, and maximum height of dunes may nearly equal the mean flow depth. Thus, if the mean depth of flow in a channel was 5 feet, maximum dune height could also approach 5 feet, half of which would be below the mean elevation of the stream bed (Lagasse et al. 2001). Similarly, Simons, Li and Associates (1982) present equations for antidune height as a function of mean velocity, but limit maximum antidune height to mean flow depth. Consequently, formation of antidunes during high flows not only increases mean water-surface elevation by one-half the wave height, it also reduces the mean bed elevation by one-half the wave height. Richardson and Davis (2001) report maximum local scour of one to two times the average flow depth where two channels come together in a braided stream.

Pipeline crossings that are buried rather than suspended above all major flow events should address all of the components of degradation, scour, and channel-lowering due to bedforms described above. In complex situations or where consequences of pipeline failure are significant, consideration should be given to modeling the mobile-bed hydraulics with a numerical model such as HEC-6 (U.S. Army Corps of Engineers 1993) or BRI-STARS (Molinas 1990). The Federal Interagency Stream Corridor Restoration manual (FISRWG 1998) summarizes the capabilities of these and other models, and provides references for model operation and user guides where available.

APPENDIX C. WILD AND SCENIC RIVERS REVIEW, VERNAL FIELD OFFICE

RESOURCE OVERVIEW

The Wild and Scenic Rivers Act established legislation for a National Wild and Scenic Rivers System (NWSRS) to protect and preserve designated rivers throughout the nation in their free-flowing condition, as well as their immediate environments. It contains policy for managing designated rivers, and created processes for designating additional rivers into the national system. Section 5(d) of the Act directs federal agencies to consider the potential for national wild, scenic and recreational river areas in all planning, for the use and development of water and related land resources. A "Wild and Scenic River (WSR)" review is being conducted as part of the Vernal Resource Management Plan Revision.

The first phase of the review is to inventory all potentially eligible rivers within the planning area, to determine which of those rivers are eligible for designation into the NWSRS. In order to be eligible, a river must be "free-flowing," and possess at least one "outstandingly remarkable value." The inventory to determine eligibility is part of the "analysis of the management situation."

Next, all eligible rivers are taken through the land use planning process to determine their suitability for Congressional designation into the NWSRS. One planning alternative would manage all eligible rivers as suitable, another alternative would manage no eligible rivers as suitable, and other alternatives would manage some rivers or river segments as suitable and other rivers or river segments as not suitable. Actual "suitability" determinations will be made in the Record of Decision (ROD) for the land use plan.

There is also a reporting phase where "suitability" determinations are reported to Congress. There is no specific time requirement for completion of this phase; however, it is assumed that reporting will be done some time following completion of the land use plan. Only the Congress or the Secretary of Interior, upon an official request by a state, can designate a river into the NWSRS.

CURRENT GUIDANCE

- Wild and Scenic Rivers Act of 1968
- Wild and Scenic River Reference Guide,
- Interagency Wild and Scenic Rivers Coordination Council
- Wild and Scenic Rivers - Policy and Program Direction for
- Identification, Evaluation, and Management; BLM Manual 8351
- Wild and Scenic River Review in the State of Utah,
- "Process and Criteria" for Interagency Use, July 1996

IDENTIFICATION OF ELIGIBLE RIVERS

To determine eligibility, the Vernal Field Office (VFO) conducted an inventory of "all potentially eligible rivers." This included all rivers nominated during the "scoping" process or that appeared on local or national river lists. These rivers were automatically identified and

considered as potentially eligible. In addition, all rivers within the planning area were mapped and reviewed by agency and non-agency subject matter specialists and members of the interested public to identify any additional rivers that could be potentially eligible. All rivers determined to be eligible are considered further for suitability in the planning process.

To be eligible, a river must be free flowing. The WSR Act defines “free-flowing” as any river or section of river, existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping. However, minor structures existing at the time any river is proposed for inclusion in the NWSRS will not automatically bar its consideration from such inclusion, provided that it will not be construed to authorize, intend, or encourage future construction of such structures within components of the NWSRS

Another screening criterion to determine if a river segment may be eligible for inclusion in the NWSRS is that the river must possess one or more “outstandingly remarkable” scenic, recreational, geological, fish, wildlife, historical, cultural, or other similar values including ecological value(s).

The size of a river is NOT a criterion of eligibility. To be eligible, rivers do not have to be outstanding white-water or boatable. Flow must simply be sufficient to sustain the outstandingly remarkable value that makes a river or river segment eligible for consideration.

A “tentative classification” of wild, scenic or recreational is determined for any eligible river. Tentative classifications are based on the evidence of man’s activities and the condition of the river and the adjacent lands at the time of the inventory.

A “wild” river is “free of impoundments,” with shorelines or watersheds essentially primitive, and unpolluted waters. A “scenic” river may have some development, and may be accessible in places by roads or railroads. A “recreational” river is considered as a river or section of river accessible by road or railroad, may have more extensive development along its shoreline, and may have undergone some impoundment or diversion in the past. (Refer to Table 1).

Table 1. Classification Criteria for Wild, Scenic, and Recreational River Areas.

Attribute	Wild	Scenic	Recreational
Water Resource Development	Free of impoundment.	Free of impoundment.	Some existing impoundment or diversion. The existence of low dams, diversions or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable.	Some development. Substantial evidence of human activity The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been

Table 1. Classification Criteria for Wild, Scenic, and Recreational River Areas.

Attribute	Wild	Scenic	Recreational
	acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	The presence of grazing, hay production or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility	Generally inaccessible except by trail. No roads, railroads or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.
Water Quality	Meets or exceeds Federal criteria or federally approved State standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming) except where exceeded by natural conditions.	No criteria prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States be made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State laws.	

DOCUMENTATION PROCESS

DATA SOURCES

- Maps of Vernal Planning Area at 1:100,000 scale
- National Rivers Inventory (NPS 1995)
- American Rivers Listing (Huntington and Echevarria 1991)
- “A Citizen’s Proposal to Protect the Wild Rivers of Utah”
- Rivers or river segments identified by Federal Agencies, State, Indian Tribes, other local governments
- Rivers or river segments identified in the public scoping process

WSR SYSTEM ID TEAM

The Vernal Field Office used a team of interdisciplinary specialists to review all potentially eligible rivers. The VFO coordinated with the Price and Richfield Field Offices, as well as the Ashley National Forest and the BLM in Colorado regarding river segments that crossed boundaries. Opportunities to provide input on river eligibility were provided to State, tribal and local governments, and to interested members of the public. Considerations involved the following:

All rivers that were nominated during RMP scoping or that were on national or local rivers lists were considered to be potentially eligible and were inventoried. In addition, the interdisciplinary team reviewed a 1:100,000 scale map of all rivers and associated reaches (tributaries) in the Vernal Planning Area to assure that no potentially eligible rivers were missed.

The team identified the regions of comparison to include the following sub-units of the Colorado Region Plateau: Uintah Mountain Section, Uintah Basin Section, Tavaputs Plateau Section, and Northern Canyon lands Section.

The team reviewed all potentially eligible river segments and noted any “free-flowing” and “outstandingly remarkable values.”

In order to identify outstandingly remarkable values, rivers within the planning area were compared with other rivers in the regions of comparison.

Tentative classifications of wild, recreational, or scenic were made for all rivers that were “free-flowing” with at least one “outstandingly remarkable value

“Preliminary” findings of eligibility were provided to State, tribal and local governments for additional input. They were asked to identify any differences of opinion regarding the findings and if there were any additional potentially eligible rivers that should be considered.

“Preliminary” findings were also made available to the interested public through an RMP planning bulletin (#3). They were asked to identify any differences of opinion regarding the findings and if there were any additional potentially eligible rivers that should be considered.

SUMMARY OF THE ELIGIBILITY REVIEW

 # There were 89 river segments identified as potentially eligible and inventoried. Refer to the list below.

 # There were 9 river segments determined to be eligible (free-flowing with at least one outstandingly remarkable value.) Refer to Tables 2, 3, and 4.

The following list identifies all rivers potentially eligible and considered through the wild and scenic river review. It includes all rivers listed, nominated, or identified by VFO specialists (WSR System ID Team) or identified by others including State, tribal or local governments, or interested members of the public.

1.	**Allen Draw**	**5.**	**Beaver Creek**	**9.**	**Big Brush Creek**
2.	**Anderson Hollow**	**6.**	**Bender Draw**	**10.**	**Birch Creek**
3.	**Argyle Creek**	**7.**	**Big Draw**	**11.**	**Bitter Creek**
4.	**Ashley Creek**	**8.**	**Big Springs**	**12.**	**Blair Draw**

13. **Bowery Draw**
14. **Castle Peak Creek**
15. **Clay Basin Creek**
16. **Collier Hole Creek**
17. **Cow Creek**
18. **Crouse Creek**
19. **Crow Creek**
20. **Crumb Canyon**
21. **Cub Creek**
22. **Deep Creek**
23. **Diamond Gulch**
24. **Dry Fork Creek**
25. **Duchesne**
26. **Dutch John Canyon**
27. **East Cottonwood Canyon**
28. **Eight Mile Flat Creek**
29. **Evacuation Creek**
30. **Ford Creek**
31. **Four Mile Creek**
32. **Galloway Creek**
33. **Garden Creek**
34. **Gorge Creek**
35. **Goslin Creek**
36. **Green River**
37. **Grindstone Wash**
38. **Halfway Hollow Creek**
39. **Jack Canyon**
40. **Jackson Creek**
41. **Jesse Ewing Canyon**
42. **Jones Hole Creek**
43. **Jones Hollow**
44. **Kettle Creek**
45. **Lake Creek**
46. **Lambson Draw**
47. **Little Davenport Creek**
48. **Little Brush Creek**
49. **Logge Canyon**
50. **Lower Water Hollow**
51. **Marshall Draw**
52. **Martin Draw**
53. **Milk Creek**
54. **Mill Canyon**
55. **Minnie Maud Creek**
56. **Mosby Creek**
57. **Mine Mile Creek**
58. **O-WI-Yu-Kuts Creek**
59. **Pariette Draw**
60. **Pigeon Creek**
61. **Pinnacle Canyon**
62. **Pot Creek**
63. **Eat Hole**
64. **Red Creek**
65. **Rock Creek**
66. **Sage Creek**
67. **Sand Wash Creek**
68. **Sears Creek**
69. **Sheep Wash Creek**
70. **Simons Creek**
71. **Smelter Creek**
72. **South Branch Diamond Gulch**
73. **Spring Creek**
74. **Steinaker Creek**
75. **Sweet Water Creek**
76. **Ten Mile Creek**
77. **Tolivers Creek**
78. **Twelve Mile Wash Creek**
79. **Uintah**
80. **Upper Water Hollow**
81. **Water Canyon**
82. **Wells Draw Creek**
83. **West Fork Willow Creek**
84. **White River**
85. **White Rocks**
86. **Willow Spring Draw**
87. **Willow Creek (Brown's Park)**
88. **Willow Creek (Indian Canyon)**
89. **Yellowstone**

Table 2. Eligible Rivers - Free-flowing Determination

Segment Name	Reason for Consideration*	Segment Description	Free-flowing Yes/No	Reason for Free-flowing Determination
Argyle Creek	E, F	Head waters to Carbon County line	Yes	Natural flow
Bitter Creek	F	From the Utah State line to where Bitter Creek enters private property	Yes	Natural flow
Evacuation Creek	F	From the Utah State line to its confluence with the White River	Yes	Natural flow
Upper Green River	A, B, E	Between Little Hole and the Utah State line	Yes	Natural flow
Middle Green River	A, B, E	Between Dinosaur National Monument and the public land boundary north of Ouray	Yes	Natural flow
Lower Green River	A, B, E	Between the public land boundary south of Ouray and the Carbon County line	Yes	Natural flow
Nine Mile Creek, Segment A	E, F	Within Duchesne County between the Carbon County line and the confluence with Gate Canyon	Yes	Natural flow
Nine Mile Creek, Segment B	E, F	Within Duchesne County between the Green River and the Carbon County line	Yes	Natural flow
White River, Segment A	A, B, E, F	Between the Colorado State line and its confluence with Asphalt Wash.	Yes	Natural flow
White River, Segment B	A, B, E, F	Between Asphalt Wash to where the river leaves Section 18, T. 10 S., R. 23 E., SLBM.	Yes	Natural Flow
White River, Segment C	A, B, E, F	From where the river leaves Section 18, T. 10 S., R. 23 E., SLBM to the Indian Trust Land boundary.	Yes	Natural Flow

* Reasons for Consideration

A - Nationwide Rivers Inventory List

B - American Rivers Outstanding Rivers List

C - 1970 USDA/USDI List

D - Published Guidebooks (i.e. American Whitewater Affiliation List)

E - Statewide Comprehensive Outdoor Recreation Plans

F - Officially identified by Federal Agencies, State, Indian tribes, other local governments

G - Identified in public scoping during the RMP Process

Table 3 Eligible Rivers – Tentative Classification

Eligible River Segment	Tentative Classification	Description of Classified Segment	Reason for Classification
Argyle Creek	Recreational	All BLM-managed portions of Argyle Creek from the Head waters to Carbon County line	The entire segment is paralleled by a county road. The high percentage of private land adjacent to the stream has resulted in the construction of numerous ranch houses and summer homes in the corridor. A power line parallels the stream for approximately 7 miles.
Bitter Creek	Scenic	All BLM-managed portions of Bitter Creek between the Utah State line and where it enters private property.	A two track road parallels the creek for much of its length, however, it is hidden from view much of the way and does not attract attention. Other than the road there are few other improvements within the corridor.
Evacuation Creek	Recreational	All BLM-managed portions of Evacuation Creek between the Utah State line and its confluence with the White River.	An improved dirt road parallels the creek much of its length. Two bridges and a suspended pipeline cross the creek An old railroad grade follows the corridor through the southern part of the segment. However, there are sections along the northern part of the segment that appear wild with no man made intrusions evident.
Upper Green River	Scenic	All BLM-managed portions of the Green River between Little Hole and the Utah State line.	An improved dirt road parallels the river for a short distance near the John Jarvie Historic Site and BLM's Bridge Hollow and Indian Crossing Campgrounds. A bridge crosses the river at this point. All four of these improvements can readily be seen from the river. There are other improvements within the corridor such as the Allan Ranch and improvements associated with the Utah Division of Wildlife Resources Browns Park Waterfowl Refuge. However, much of the corridor is free from intrusions and is wild in appearance.
Middle Green River	Recreational	All BLM managed portions of the Green River between the boundary of Dinosaur National Monument and the public land boundary north of Ouray.	There are many intrusions along the river corridor. Irrigated fields, homes, corrals, fences, roads, a gravel pit and numerous oil and gas wells.

Table 3 Eligible Rivers – Tentative Classification

Eligible River Segment	Tentative Classification	Description of Classified Segment	Reason for Classification
Lower Green River	Scenic	All BLM managed portions of the Green River between the public land boundary south of Ouray and the Carbon County line.	Very few intrusions are visible from the river. Oil and gas wells can be seen near Parget Draw. Roads access the river corridor at Parget Draw, near Willow Creek, Moon Bottom, Four Mile Draw, Nine Mile Creek, and both sides of the river at Sand Wash. BLM has a ranger station, campground and boat ramp at Sand Wash. A buried pipeline crosses the river near Four Mile Draw.
Nine Mile Creek, Segment A	Recreational	The segment within Duchesne County between the Carbon County line and the confluence with Gate Canyon	Intrusions exist along the river corridor; irrigated fields, homes, corrals, fences, roads, and a buried natural gas pipeline parallels the corridor
Nine Mile Creek, Segment B	Scenic	The segment that lies within Duchesne County between the Green River and Gate Canyon	Irrigated fields and a road parallel the stream for three miles on the western end of the corridor. A road crosses the stream near the Green River.
White River, Segment A	Scenic	Between the Colorado State line and its confluence with Asphalt Wash.	Access and roads exists in places along this segment. A bridge crosses private land.
White River, Segment B	Wild	Between Asphalt Wash to where the river leaves Section 18, T. 10 S., R. 23 E., SLBM.	The shoreline is essentially undeveloped; points of primitive road access
White River, Segment C	Scenic	From where the river leaves Section 18, T. 10 S., R. 23 E., SLBM to the Indian Trust Land boundary.	Access and roads exists in places along this segment. There is a pipeline across the river

Table 4. Eligible Rivers - Outstandingly Remarkable Values

Segment Name and Description	Description of Values Present
Argyle Creek Head waters to Carbon County line.	Scenic values were identified as an outstandingly remarkable river-related value for Argyle Creek. Scenic; Much of the corridor is Visual Resource Management (VRM) Class II. The area is characterized by steep wooded side canyons, high canyon walls, and vertical cliff faces.
Bitter Creek From the Utah State line to where Bitter Creek enters private property.	Fish, Wildlife/Habitat, Cultural, Historic and Recreation were identified as outstanding remarkable river related values for Bitter Creek. Fish: This stream segment supports a population of brook trout. Wildlife/Habitat: The corridor along this segment of Bitter Creek

Table 4. Eligible Rivers - Outstandingly Remarkable Values

Segment Name and Description	Description of Values Present
	supports a large population of deer and elk. It is also an important area for black bear, cougar coyote, beaver, muskrat, porcupine, bobcat, gray fox and red fox. Cultural: This area was known formerly and presently to Tribal people as highly significant culturally and spiritually. Historic: The Book Cliff area has a colorful past of Indians, mountain men, traders, cattlemen, cowboys, and outlaws. A number of historic sites still exist along Bitter Creek and add interest to a visit: These include ranch buildings and homesteads. Recreational: the presence of numerous waterfowl and wildlife species provide good opportunities for fishing, hunting, waterfowl viewing, and camping.
Evacuation Creek From the Utah State line to its confluence with the White River.	Historic values were identified as an outstanding remarkable river related value for Evacuation Creek. Historic: The southern one half of the segment parallels the abandoned narrow gauge railroad grade that ran between Mack Colorado and Watson, Utah. The town site of Watson is on Evacuation Creek. Around the turn of the century Watson was a busy railroad town. Trains stopped here before going on to the Gilsonite mining camp of Rainbow. In the spring each year wool and lambs from several thousand head of sheep were shipped to market along this route.
Upper Green River Between Little Hole and the Utah State line.	Scenic, Recreational, Fish, Wildlife/Habitat and Cultural values were identified as outstanding remarkable river values for the Green River. Scenic: The upper portion of the segment presents striking, abrupt contrasts, sometimes flowing through a deep, narrow gorge, sometimes between low, rolling hills, and sometimes across an almost flat-bottomed valley. Most of the segment winds placidly through pine and shrub covered canyons. In places reddish rock walls rise or stair step away from the river. The river is an appealing clear green color with deep holes and small rapids or riffles. Recreational: The slow moving river and the presence of numerous waterfowl and wildlife species provide good opportunities for fishing, hunting, waterfowl viewing, floating and camping. Fish: The upper half of the segment contains prime trout habitat and is a continuation of the blue ribbon trout fishery that begins directly below Flaming Gorge Dam. Wildlife/Habitat: A large portion of the segment is managed to provide high quality nesting and migration habitat for Canada geese, ducks and other migratory birds. A variety of shore and songbirds is also seen. The area also provides crucial winter habit for both deer and elk. Cultural: Browns Park has a colorful past of Indians, mountain men, traders, cattlemen, cowboys, and outlaws. A number of historic sites still exist in Browns Park, and add interest to a visit: these include ranch buildings, homesteads, and the remains of several outlaw cabins. Several sites have been nominated for inclusion on the National Register of Historic Places.
Middle Green River Between Dinosaur National	Fish were identified as an outstanding remarkable river value for the Green River.

Table 4. Eligible Rivers - Outstandingly Remarkable Values

Segment Name and Description	Description of Values Present
Monument and the public land boundary north of Ouray.	Fish: Two endangered fish are found in this segment of the Green River. They are the humpback chub and the Colorado squaw fish
Lower Green River Between the public land boundary south of Ouray and the Carbon County line.	Recreational and Fish values were identified as outstanding remarkable river values for the Green River. Recreational: The slow moving river and the presence of numerous waterfowl and wildlife species provide good opportunities for fishing, hunting, waterfowl viewing, floating and camping. This segment also provides fine canoeing in an attractive pastoral setting. Fish: Two endangered fish are found in this segment of the Green River. They are the humpback chub and the Colorado squawfish.
Nine Mile Creek, Segment A Within Duchesne County between the Carbon County line and the confluence with Gate Canyon.	Scenic and Cultural values were identified as outstanding remarkable river values for Nine Mile Creek. Scenic: Nine Mile Canyon consists of steep walls combined with alluvial bottomlands, farmed with irrigation from the creek. Scenery varies from the aspen groves to the desert environment and vertical brown, tan and gray cliffs. A perennial stream, balanced rocks and small window arches can be seen from the canyons' road. Cultural: Archaeologically the area of Nine Mile Canyon is significant internationally, nationally and locally. Its prehistoric rock art is world renowned. The remains of the Fremont culture are probably more visible in Nine Mile Canyon than anywhere else. Over 1000 sites have been recorded in the canyon over the last 100 years. Nine Mile Canyon has been proposed for an archeological district on the National Register of Historic Places.
Nine Mile Creek, Segment B Within Duchesne County between the Green River and Gate Canyon	Same as Segment A.
White River, Segment A Between the Colorado state line and its confluence with Asphalt Wash.	Recreational, Scenic (Geologic), Fish, Wildlife/Habitat and Historic values were identified as outstanding remarkable river values for the White River. Recreational: The White River is a favorite canoeing destination for people from all over the state and beyond. The river's Class II rapids are exciting enough to attract advanced kayakers, yet gentle enough to bring novice canoers and families to float through remarkable solitude. Scenic (Geologic): Towering 800 foot sandstone cliffs line the White River. Broad sloping terraces, sandstone walls, butte's, pinnacles and eroded towers create fascinating shapes and textures. The rivers fossil beds display a unique variety of ancient life forms. Fish: The White River provides critical habitat for the endangered Colorado River squaw fish. Other threatened, endangered, or sensitive fish species in the river include razorback sucker, flannel mouth sucker and the bony tail chub. Wildlife/Habitat: Threatened, endangered, or sensitive animal species in the river corridor include the Yellow-billed Cuckoo, Peregrine Falcon and the Bald Eagle. Other wildlife that can be found in the corridor include mule deer, pronghorn antelope, cougar, beaver, muskrat,

Table 4. Eligible Rivers - Outstandingly Remarkable Values

Segment Name and Description	Description of Values Present
	porcupine, bobcat, coyote, gray fox, red fox, and resident and migratory birds such as Golden Eagle, Canadian Goose, Mallard Duck and Flycatchers. Historic: Many pivotal historic events occurred in the White River. Canyon. Chronicles of early explorers such as Friar Velez de Escalante, John Wesley Powell, Frederick Dellenbaugh, and Kit Carson described the unique topography of the White River.
White River, Segment B Between Asphalt Wash to where the river leaves Section 18, T. 10 S., R. 23 E., SLBM.	Same as Segment A.
White River, Segment C From where the river leaves Section 18, T. 10 S., R. 23 E., SLBM to the Indian Trust Land boundary.	Same as Segment A.

WILD AND SCENIC RIVER SUITABILITY

DETERMINATION OF SUITABILITY

Rivers determined to be eligible for inclusion into the National Wild and Scenic Rivers System (NWSRS) are further evaluated to determine their suitability for inclusion into the national system.

The purpose of the suitability step of the study process is to determine whether eligible rivers would be appropriate additions to the NWSRS. By considering tradeoffs between corridor development and river protection, it is designed to help the manager determine the best approach for managing the river corridor.

This resource management plan evaluates impacts that would result if the eligible rivers were determined suitable and managed to protect their free-flowing nature, tentative classification, outstandingly remarkable values, and water quality. It also addresses impacts that would result if the eligible rivers are not determined suitable, and those values are not managed for. Alternatives considered include no action, which does not address suitability and leaves rivers eligible; an alternative where all eligible rivers would be determined suitable; an alternative where no eligible rivers would be determined suitable; and an alternative where portions of eligible rivers would be determined suitable.

In addition to the impact analysis addressed by the Proposed RMP and alternatives, suitability considerations listed below are applied to each eligible river in Table 5. These considerations go beyond BLM management actions addressed in the Proposed RMP and action alternatives, and consider implications of actual congressional designation on each eligible river segment. General

effects of congressional designation are also addressed in the cumulative impacts section of the Proposed RMP/Final EIS.

Characteristics that would or would not make it a worthy addition to the NWSRS include:

- Land ownership and current use
- Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated
- Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including administration and cost sharing
- Manageability of the river if designated, and other means of protecting values
- The estimated costs of administering the river area, including costs for acquiring lands
- The extent to which administration costs would be shared by local and state governments

Public comment received on the Draft RMP/DEIS has been used to improve the documentation of impacts that would result from the Proposed RMP and various alternatives, as well as the documentation of the suitability considerations presented in this appendix. The actual determination of whether or not each eligible segment is suitable is a decision to be made in the Record of Decision for the Vernal RMP.

SUITABILITY CONSIDERATIONS BY ELIGIBLE RIVER SEGMENT

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
Argyle Creek	
Characteristics which would or would not make it a worthy addition to the NWSRS	Scenic values were identified as an outstandingly remarkable river-related value for Argyle Creek. This scenic area is characterized by steep wooded side canyons, high canyon walls, and vertical cliff faces.
Land ownership and current use	Of the 22 miles of shoreline in this segment, 4 miles are BLM, 1.7 are state and 16.7 are private. Within the river corridor, 32% of the land is federal (BLM), 8% is State, and 60% is private. Livestock grazing occurs along its banks. The entire segment is paralleled by a county road. The high percentage of private land adjacent to the stream has resulted in the construction of numerous ranch houses and summer homes in the corridor. A power line parallels the stream for approximately 7 miles.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of Argyle Creek into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its outstandingly remarkable scenic values. Failure to include of Argyle Creek in the NWSRS could result in deterioration of these values, especially if mineral development occurs. Inclusion of a river into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values (high quality scenery) or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures may be

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	allowed with the Congressional classification of "recreational", but only if it is determined that they would not negatively affect the scenic quality of the area. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, depending upon the management prescriptions selected through this planning effort. However, even if ACEC or VRM Class II designations are made, such prescriptions are temporary and could be changed through plan amendment or plan revision.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including administration and cost sharing	State and local governments are unsupportive of congressional designation of this stream. Local and State agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of Argyle Creek if designated would be constrained due to the low percentage of public lands within the stream corridor. Any development of State or private lands within the corridor would diminish the overall scenic qualities of the area, but would probably not exceed standards for the recreational tentative classification. In addition, the free-flowing nature of this stream could be at risk due to the high percentage and possible development of State and private lands within the corridor. Other means of protection of federal lands within the corridor considered through this planning process include possible ACEC designation and/or the adoption of VRM Class II management prescriptions. However, such management prescriptions are subject to change with revised land use plans. Therefore, the protection they afford the river values is subject to change.
The estimated costs of administering the river, including costs for acquiring lands	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands within the river corridor (8% of the segment) could be identified for possible acquisition

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	through exchange, so no funding would be needed for that. However, 60% of the corridor of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing to sell. The high percentage of private lands would make acquisition prohibitive.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing the river
Bitter Creek	
Characteristics which would or would not make it a worthy addition to the NWSRS	The fish and wildlife habitat, cultural, historic and recreational values are outstandingly remarkable and make this a worthy addition to the NWSRS. This stream segment supports brook trout, and the river corridor supports a large population of deer and elk, and is also an important area for black bear, cougar coyote, beaver, muskrat, porcupine, bobcat, gray fox and red fox. This area was known formerly and presently to Tribal people as highly significant culturally and spiritually due to the river. The Book Cliffs area has a colorful past of Indians, mountain men, traders, cattlemen, cowboys, and outlaws. A number of historic sites still exist along Bitter Creek and add interest to a visit: These include ranch buildings and homesteads. In addition to the recreation opportunities related to the historical sites, the presence of numerous waterfowl and wildlife species supported by the creek provide good opportunities for fishing, hunting, and waterfowl viewing.
Land ownership and current use	Of the 20.4 miles of shoreline in this segment, 7.3 miles are BLM, 0.3 are State, 7.9 are Tribal, 4.6 are UDWR, and 0.3 are private. Within the river corridor, 65% of the land is BLM, 6% is State, 14% is UDWR, 14% is Tribal, and 1% is private. This river is used extensively for recreation, including, floating, fishing, hunting, wildlife and waterfowl viewing, and for exploring historical sties. Livestock grazing occurs along its banks. A two-track road parallels Bitter Creek for much of its length; however, it is mostly hidden from view and does not attract attention. Other than the road there are few other developments within the corridor.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of Bitter Creek into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its outstandingly remarkable scenic values. Failure to include of Bitter Creek in the NWSRS could result in deterioration of these values, especially if mineral development occurs. Inclusion of a river into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values (fish and wildlife habitat, cultural, historic and recreational values) or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	be allowed if it is determined that they would not negatively affect the outstandingly remarkable values or scenic tentative classification. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, depending upon the management prescriptions selected through this planning effort. However, even if ACEC or VRM Class I or II designations are made, such prescriptions are temporary and could be changed through plan amendment or plan revision.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State, local and Tribal governments are unsupportive of congressional designation of this stream. Local and State agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of Bitter Creek if designated would be constrained due to the percentage of public lands within the stream corridor. Any development of State, private, UDWR, Tribal or private lands within the corridor would diminish the overall qualities of the area, and could exceed standards for the scenic tentative classification. In addition, the free-flowing nature of this stream could be at risk due to the high percentage and possible development of State, private and Tribal lands within the corridor. Other means of protection of federal lands within the corridor that have been considered through this planning process include possible ACEC designation and/or the adoption of VRM Class I or II management prescriptions. However, even if adopted, such management prescriptions are subject to change with revised land use plans. Therefore, the protection they afford the river values is subject to change.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands (6% of the segment) could be identified for possible acquisition through exchange,

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	so no funding would be needed for that. However, 1% of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing to sell.
The extent to which administration costs would be shared by local and state governments	State, local and Tribal governments would not share costs of managing the river
Evacuation Creek	
Characteristics which would or would not make it a worthy addition to the NWSRS	The creek's outstandingly remarkable historic values make it a worthy addition to the NWSRS. The southern one half of the segment parallels the abandoned narrow gauge railroad grade that ran between Mack Colorado and Watson, Utah. The town site of Watson is on Evacuation Creek. Around the turn of the century Watson was a busy railroad town. Trains stopped here before going on to the Gilsonite mining camp of Rainbow. In the spring each year wool and lambs from several thousand head of sheep were shipped to market along this route.
Land ownership and current use	Of the 25.4 miles of river in this segment, 7.1 miles are BLM, 1.3 are state and 17.0 are private. Within the river corridor, 32% of the land is federal (BLM), 6% is State, and 62% is private. This river is used by recreationists for exploring historical sties. Livestock grazing occurs along its banks. An improved dirt road parallels Evacuation Creek for much of its length. Two bridges and a suspended pipeline cross the Creek An old railroad grade is within the corridor of the southern part of the segment.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of Evacuation Creek into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its outstandingly remarkable historic values. Failure to include Evacuation Creek in the NWSRS could result in deterioration or loss of these values, especially if mineral development occurs. Other than where it intersects with the White River, only minimal means of protection of federal lands within the corridor are being considered in the Vernal RMP/EIS. Inclusion of a river into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable historic values or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures may be allowed with the Congressional classification of "recreational", but only if it is determined that they would not negatively affect the historic values of the area. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed.

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State and local governments are unsupportive of congressional designation of this stream. Local and State agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of Evacuation Creek if designated would be constrained due to the low percentage of public lands within the stream corridor. Any development of State or private lands within the corridor would diminish the overall qualities of the area, but would probably not exceed standards for the recreational tentative classification. In addition, the free-flowing nature of this stream could be at risk due to the high percentage and possible development of State and private lands within the corridor. Other than where it intersects with the White River, only minimal means of protection of federal lands within the corridor are being considered in the Proposed RMP/FEIS.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands within the river corridor (6% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, 62% of the corridor of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing sell. The high percentage of private lands would make acquisition prohibitive.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing the river.
Upper Green River	
Characteristics which would or would not make it a worthy addition to the NWSRS	The river's scenic, recreational, fish wildlife/habitat and cultural/historic values are outstanding remarkable and make it a worthy addition to the NWSRS. The upper portion of the segment presents striking, abrupt contrasts, sometimes

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	flowing through a deep, narrow gorge, sometimes between low, rolling hills, and sometimes across an almost flat-bottomed valley. In places red rock walls rise or stair step away from the river. The river is an appealing clear green color with deep holes and small rapids or riffles. The presence of numerous waterfowl and wildlife species provide good opportunities for fishing, hunting, waterfowl viewing, and floating. The segment contains prime trout habitat and is a continuation of the blue ribbon trout fishery that begins directly below Flaming Gorge Dam. The segment provides high quality nesting and migration habitat for Canada geese, ducks and other migratory birds, and helps to provide crucial winter habit for both deer and elk. This segment has supported a colorful past of Indians, mountain men, traders, cattlemen, cowboys, and outlaws. A number of historic sites still exist in along the river within Browns Park, and are an attraction to recreation users. These include ranch buildings, homesteads, and the remains of several outlaw cabins. Several sites have been nominated for inclusion on the National Register of Historic Places. These values are not only regional in importance, but are clearly of national significance.
Land ownership and current use	Of the 22.0 miles of shoreline in this segment, 12.0 miles are BLM, 3.7 are UDWR, 5.2 are USFS, 0.8 are state and 0.3 are private. Within the river corridor, 67% of the land is federal (BLM), 16% is UDWR, 12% is USFS, 3% is State, and 2% is private. This river is used extensively for recreation, including, floating, fishing, hunting, wildlife and waterfowl viewing, and for exploring historical sites. Livestock grazing occurs along its banks. An improved dirt road parallels the river for a short distance near the John Jarvie Historic Site and BLM's Bridge Hollow and Indian Crossing Campgrounds. A bridge crosses the river at this point. All four of these improvements can readily be seen from the river. There are other developments within the corridor such as the Allan Ranch and developments associated with the Utah Division of Wildlife Resources Browns Park Waterfowl Refuge.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated.	Congressional designation would provide permanent protection specifically of free-flowing condition of the river, its water quality and outstandingly remarkable values. Inclusion of a river into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the scenic, fish and wildlife habitat, cultural, historic and recreational values of the area, and are in keeping with the Congressional classification of "scenic". Of course, this is subject to valid existing rights. Water-related projects proposed outside the

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Local municipalities, industries and other water users have expressed concerns that existing water rights could be affected and that opportunities for future water development could be foreclosed, not only within the designated river segments but also upstream or downstream of these segments. However, for the reasons discussed below, congressional designation of the Green River into the NWSRS would be expected to have no effect on water use, allocation, or flow regimes. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Under normal operations, reservoir releases through Flaming Gorge power plant, the primary influence of river flows outside of spring run-off flows, range from 800 to 4,600 cubic feet per second (cfs). These flows adhere to the interim operating criteria for Flaming Gorge Dam established by the Bureau of Reclamation in September 1974. Under these criteria, the Bureau of Reclamation agreed to provide (1) a minimum flow of 400 cfs at all times; (2) flows of 800 cfs under normal circumstances and for the foreseeable future; and (3) flows exceeding 800 cfs when compatible with other Colorado River Storage Project reservoir operations. These minimum flows are maintained to enhance the use of the river for fishing, fish spawning, and boating. Currently, however, the Bureau of Reclamation is evaluating recommendations by the Upper Colorado River Endangered Fish Recovery Program, a cooperative effort between the States of Colorado, Utah, and Wyoming, several federal agencies, and environmental, energy and water user organizations, to modify releases to better facilitate recovery of endangered fish (identified as components of the outstandingly remarkable fish value for the Green River). These recommendations, if implemented, would honor the minimum flow requirements while providing water releases of sufficient magnitude and, with the proper timing and duration, to assist in the recovery of the endangered fishes and their designated critical habitat. The BLM supports these recommendations and recognizes that the proposed minimum flow release from Flaming Gorge dam would be sufficient to maintain and/or enhance the values for which the river is eligible. Because this minimum flow release would be adequate to maintain the outstandingly remarkable values, BLM sees no need for and would not pursue a federal reserved water right in any recommendation that is forwarded to Congress. Failure of Congress to include the Upper Green River in the NWSRS could result in degradation of the values for which the

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	river was determined eligible, depending upon the management prescriptions selected through this planning effort. However, even if ACEC or VRM Class II designations are made and no surface occupancy stipulations applied to mineral leasing, such prescriptions are temporary and could be changed through plan amendment or plan revision.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	There has been some State and local government support for designation of this segment in the past, and bills have been introduced into Congress for the purpose of such designation. However, there is currently no county support for designation. Local agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. However, there is no current or foreseen water use of the Upper Green River that would in fact be affected. There is strong support from the environmental community for congressional designation. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services. The Forest Service supports designation of their portion of the river segment and would share in its administration. The State of Utah has also expressed concerns regarding the designation of the Green River. They are supportive of designating portions of the Green River only if the Department of Interior does not seek to acquire a federal reserved water right to ensure a minimal instream flow for the river. The State recognizes that the proposed minimum flow releases from Flaming Gorge Dam would be sufficient to maintain and/or enhance the river values which make the river eligible for designation and that no change in water use or allocation would be necessary.
Manageability of the river if designated, and other means of protecting values	The BLM would be capable of managing this river segment if it were designated, particularly with adequate funding. Congressional designation of the Green River into the NWSRS would Utah BLM's ability to compete for agency dollars, and with increased funding and focused management, the agency's ability to deal with recreational and other management of the area would improve. Designation would promote national and public recognition of the values associated with this river and further the goals and policy established by Congress in the Wild and Scenic Rivers Act. On the other hand, the free-flowing nature of this river segment is not currently at risk, and the identified outstandingly remarkable values could be effectively managed without congressional designation with the protective land use prescriptions being considered in the Proposed RMP/FEIS, including closure or no surface occupancy for oil and gas leasing, ACEC designation, and VRM Class I or II. However, such management prescriptions are subject to change through plan amendment or revision. Therefore, the protection they would afford the river values is subject to change.
The estimated costs of administering the	The initial costs of administration for the first three years would

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
river, including costs for acquiring lands and interests	involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands within the river corridor (3% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, 2% of the corridor of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing sell.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing this river segment.
Middle Green River	
Characteristics which would or would not do or do not make it a worthy addition to the NWSRS	The existence of two endangered fish within this segment of the Green River make it a worthy addition to the NWSRS. They are the humpback chub and the Colorado squaw fish
Land ownership and current use	Of the 47.5 miles of shoreline in this segment, 20.3 are BLM, 1.6 are state and 25.6 are private. Within the river corridor, 31% of the land is BLM, 30% is State, and 32% is private. This river segment is used for recreation, including, floating, fishing, hunting, wildlife and waterfowl viewing. Livestock grazing occurs along its banks. There are many intrusions along the river corridor including irrigated fields, homes, corrals, fences, roads, a gravel pit and numerous oil and gas wells.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation would provide permanent protection specifically of free-flowing condition of the river, its water quality and outstandingly remarkable values. Inclusion the Middle Green River into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively impact the fish outstandingly remarkable values of the area, and are in keeping with the Congressional classification of “recreational”. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Local municipalities, industries and other water users have expressed concerns that existing water rights could be affected and that opportunities for future water development could be foreclosed, not only within the designated river segments but also upstream or downstream of these segments. However, for the reasons discussed below, congressional designation of this portion of the Green River into the NWSRS would be expected to have no effect on water

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	use, allocation, or flow regimes. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Under normal operations, reservoir releases through Flaming Gorge power plant, the primary influence of river flows outside of spring run-off flows, range from 800 to 4,600 cubic feet per second (cfs). These flows adhere to the interim operating criteria for Flaming Gorge Dam established by the Bureau of Reclamation in September 1974. Under these criteria, the Bureau of Reclamation agreed to provide (1) a minimum flow of 400 cfs at all times; (2) flows of 800 cfs under normal circumstances and for the foreseeable future; and (3) flows exceeding 800 cfs when compatible with other Colorado River Storage Project reservoir operations. These minimum flows are maintained to enhance the use of the river for fishing, fish spawning, and boating. Currently, however, the Bureau of Reclamation is evaluating recommendations by the Upper Colorado River Endangered Fish Recovery Program, a cooperative effort between the States of Colorado, Utah, and Wyoming, several federal agencies, and environmental, energy and water user organizations, to modify releases to better facilitate recovery of endangered fish (identified as components of the outstandingly remarkable fish value for the Green River). These recommendations, if implemented, would honor the minimum flow requirements while providing water releases of sufficient magnitude and, with the proper timing and duration, to assist in the recovery of the endangered fishes and their designated critical habitat. The BLM supports these recommendations and recognizes that the proposed minimum flow release from Flaming Gorge dam would be sufficient to maintain and/or enhance the outstandingly remarkable fish values for which the river is eligible. Because this minimum flow release would be adequate to maintain the outstandingly remarkable fish values, BLM sees no need for and would not pursue a federal reserved water right in any recommendation that is forwarded to Congress. Failure of Congress to include the Middle Green River in the NWSRS would have little effect on the outstandingly remarkable fish values, as they would continue to be protected by the Endangered Species Act.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	The county, local agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. The State of Utah has also expressed concerns regarding the designation of the Green River. It is supportive of designating portions of the Green River only if the Department of Interior does not seek to acquire a federal reserved water right to ensure a minimal instream flow for the

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	river. The State recognizes that the proposed minimum flow releases from Flaming Gorge Dam would be sufficient to maintain and/or enhance the river values which make the river eligible for designation and that no change in water use or allocation would be necessary. The National Park Service manages a contiguous segment to the north, and may share administrative costs. Some private citizens and regional and national conservation groups have promoted the suitability of this river segment for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of the Middle Green River if designated would be constrained due to the low percentage of public lands within the stream corridor. Any development of State or private lands within the corridor would diminish the overall scenic qualities of the area, but scenery is not an outstandingly remarkable value for this segment. Such development would probably not exceed standards for the segment's recreational classification. If this segment is not designated into the NWSRS, its free-flowing nature could be at some risk due to the high percentage and possible development of State and private lands within the corridor. However, the outstandingly remarkable fish values would be protected by the Endangered Species Act, probably involving a required minimum flow. Another means of protection of some of the federal lands within the corridor is a no surface occupancy stipulation for oil and gas leasing. However, even if adopted, this management prescription is subject to change with revised land use plans. Therefore, the protection it affords is subject to change.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands within the river corridor (30% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, 32% of the corridor of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing sell. The high percentage of private lands would make acquisition prohibitive.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing this river segment.
Lower Green River	
Characteristics which do or do would or would not make it a worthy addition to the NWSRS	Recreational and fish values were identified as outstandingly remarkable on this segment of the Green River, and make it a worthy addition to the NWSRS. The river and the presence of numerous waterfowl and wildlife species provide good opportunities for fishing, hunting, waterfowl viewing, camping, rafting and canoeing in an attractive pastoral setting. The two endangered fish species found in this segment of the Green

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	River are the humpback chub and the Colorado squawfish.
Land ownership and current use	Of the 29.6 miles of shoreline in this segment, 26.8 are BLM, and 2.8 are private. Within the river corridor, 77% of the land is BLM, 20% is State, and 3% is private. This river is used extensively for recreation, including canoeing, floating, fishing, hunting, wildlife and waterfowl viewing, and for exploring historical sites. Livestock grazing occurs along its banks. Very few intrusions are visible from the river. Oil and gas wells can be seen near Parget Draw. Roads access the river corridor at Parget Draw, near Willow Creek, Moon Bottom, Four Mile Draw, Nine Mile Creek, and both sides of the river at Sand Wash. BLM has a Ranger Station, Campground and Boat Ramp at Sand Wash. A buried pipeline crosses the river near Four Mile Draw.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated.	Congressional designation would provide permanent protection specifically of free-flowing condition of the river, its water quality and outstandingly remarkable values. Inclusion of a river into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the outstandingly remarkable fish and recreational values of the area, and are in keeping with the Congressional classification of “scenic”. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Local municipalities, industries and other water users have expressed concerns that existing water rights could be affected and that opportunities for future water development could be foreclosed, not only within the designated river segments but also upstream or downstream of these segments. However, for the reasons discussed below, congressional designation of the Lower Green River into the NWSRS would be expected to have no effect on water use, allocation, or flow regimes. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Under normal operations, reservoir releases through Flaming Gorge power plant, the primary influence of river flows outside of spring run-off flows, range from 800 to 4,600 cubic feet per second (cfs). These flows adhere to the interim operating criteria for Flaming Gorge Dam established by the Bureau of

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	Reclamation in September 1974. Under these criteria, the Bureau of Reclamation agreed to provide (1) a minimum flow of 400 cfs at all times; (2) flows of 800 cfs under normal circumstances and for the foreseeable future; and (3) flows exceeding 800 cfs when compatible with other Colorado River Storage Project reservoir operations. These minimum flows are maintained to enhance the use of the river for fishing, fish spawning, and boating. Currently, however, the Bureau of Reclamation is evaluating recommendations by the Upper Colorado River Endangered Fish Recovery Program, a cooperative effort between the States of Colorado, Utah, and Wyoming, several federal agencies, and environmental, energy and water user organizations, to modify releases to better facilitate recovery of endangered fish (identified as components of the outstandingly remarkable fish value for the Green River). These recommendations, if implemented, would honor the minimum flow requirements while providing water releases of sufficient magnitude and, with the proper timing and duration, to assist in the recovery of the endangered fishes and their designated critical habitat. The BLM supports these recommendations and recognizes that the proposed minimum flow release from Flaming Gorge dam would be sufficient to maintain and/or enhance the values for which the river is eligible. Because this minimum flow release would be adequate to maintain the outstandingly remarkable values, BLM sees no need for and would not pursue a federal reserved water right in any recommendation that is forwarded to Congress. Failure of Congress to include the Lower Green River in the NWSRS could result in degradation of the recreational values for which the river was determined eligible, depending upon the management prescriptions selected through this planning effort. However, even if ACEC and VRM Class II designations are made and no surface occupancy stipulations applied to mineral leasing, such prescriptions are temporary and could be changed through plan amendment or plan revision. Failure of Congress to include the Lower Green River in the NWSRS would have little effect on the outstandingly remarkable fish values, as they would continue to be protected by the Endangered Species Act.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	The county, local agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. The State of Utah has also expressed concerns regarding the designation of the Green River. They are supportive of designating portions of the Green River only if the Department of Interior does not seek to acquire a federal reserved water right to ensure a minimal instream flow for the river. The State recognizes that the proposed minimum flow releases from Flaming Gorge Dam would be sufficient to maintain and/or enhance the river values which make the river eligible for designation and that no change in water use or allocation

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	would be necessary. Members of the Uintah and Ouray Indian Reservation Ute Tribal Council have expressed concerns pertaining to the effects of designation on potential use of Tribal lands. The environmental community is strongly supportive of designation of this segment of the Green River. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services. The Price Field Office supports designation of a contiguous segment of the Green River and would share administration of the river.
Manageability of the river if designated, and other means of protecting values	The BLM would be capable of managing this river segment if it were designated, particularly with adequate funding. Congressional designation of the Green River into the NWSRS would Utah BLM's ability to compete for agency dollars, and with increased funding and focused management, the agency's ability to deal with recreational and other management of the area would improve. Designation would promote national and public recognition of the values associated with this river and further the goals and policy established by Congress in the Wild and Scenic Rivers Act. On the other hand, the free-flowing nature of this river segment is not currently at risk, and the recreational outstandingly remarkable values could be effectively managed without congressional designation with the protective land use prescriptions being considered in the Proposed RMP/FEIS, including no surface occupancy for oil and gas leasing, ACEC designation, and VRM Class II. However, such management prescriptions are subject to change through plan amendment or revision. Therefore, the protection they would afford the river values is subject to change. Failure of Congress to include the Lower Green River in the NWSRS would have little effect on the outstandingly remarkable fish values, as they would continue to be protected by the Endangered Species Act.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. Approximately 3% of the corridor of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing sell.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing the river.
Nine Mile Creek, Segment A	
Characteristics which would or would not do or do not make it a worthy addition to the NWSRS	Scenic and cultural values were identified as outstandingly remarkable, and make this segment a worthy addition to the NWSRS. The steep, brown, tan and gray walls of Nine Creek

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	Canyon were created over time by the perennial creek, and frame the excellent, varied scenery from aspen groves to desert flora. Balanced rocks and small window arches can be seen. The alluvial bottomlands were historically farmed with irrigation from the creek. Nine Mile Canyon is significant internationally, nationally, and locally. Its prehistoric rock art is world renowned. The remains of the Fremont culture are properly more visible in Nine Mile canyon than anywhere else. Over 1000 sites have been recorded in the canyon over the last 100 years. Nine Mile Canyon has been proposed for an archeological district on the National register of Historic Places.
Land ownership and current use	Of the 16.4 miles of shoreline in this segment, 11.3 are BLM, 2.3 are State and 2.8 are private. Within the river corridor, 66% of the land is BLM, 18% is State, and 16% is private. This creek is integral to this world-class cultural area, which is a destination area for visitors exploring cultural sites. Livestock grazing occurs along its banks, and there is some oil and gas exploration activity in the area. Intrusions exist along the river corridor; irrigated fields, homes, corrals, fences, roads, and a buried natural gas pipeline parallels the corridor
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of Nine Mile Creek, Segment A into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its outstandingly remarkable scenic and cultural values. Failure to include this river segment in the NWSRS could result in deterioration of these values, especially if mineral development occurs. Inclusion of this stream into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values (scenic and cultural) or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the outstandingly remarkable values or recreational tentative classification. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, especially scenic values,

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	depending upon the management prescriptions selected through this planning effort. However, even if ACEC or VRM Class II designations are made or portions of the corridor are closed to leasing, such prescriptions are temporary and could be changed through plan amendment or plan revision. Cultural values are protected to some degree by various laws and regulations.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State and local governments are unsupportive of congressional designation of this stream. Local and State agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of Nine Mile Creek Segment A, if designated, would be constrained due to the percentage of public lands within the stream corridor. Any development of State or private lands within the corridor would diminish the overall scenic qualities of the area. Such development would probably not exceed standards for the segment's recreational classification. If this segment is not designated into the NWSRS, its free-flowing nature and scenic outstandingly remarkable values could be at some risk due to the high percentage and possible development of State and private lands within the corridor. However, the outstandingly remarkable cultural values would be protected to some degree by cultural laws and regulations. Other means of protecting relevant and important values within the corridor that are being considered in this plan revision effort include designating the corridor as VRM Class II and closing it oil and gas leasing. However, even if adopted, these management prescriptions are subject to change with revised land use plans. Therefore, the protection they afford is subject to change.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands (18% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, 16% of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing to sell.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing the river.
Nine Mile Creek, Segment B	

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
Characteristics which do or do would or would not make it a worthy addition to the NWSRS	Scenic and cultural values were identified as outstandingly remarkable, and make this segment a worthy addition to the NWSRS. The steep, brown, tan and gray walls of Nine Creek Canyon were created over time by the perennial creek, and frame the excellent, varied scenery from aspen groves to desert flora. Balanced rocks and small window arches can be seen. The alluvial bottomlands were historically farmed with irrigation from the creek. Nine Mile Canyon is significant internationally, nationally, and locally. Its prehistoric rock art is world renowned. The remains of the Fremont culture are properly more visible in Nine Mile canyon than anywhere else. Over 1000 sites have been recorded in the canyon over the last 100 years. Nine Mile Canyon has been proposed for an archeological district on the National register of Historic Places.
Land ownership and current use	Of the 6.5 miles of shoreline in this segment, 0 are BLM, 0.5 are State and 6.0 are private. Within the river corridor, 19% of the land is BLM, 16% is State, and 65% is private. This creek is integral to this world-class cultural area, which is a destination area for visitors exploring cultural sites. Livestock grazing occurs along its banks, and there is some oil and gas exploration activity in the area. Irrigated fields and a road parallel the stream for three miles on the western end of the corridor. A road crosses the stream near the Green River.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of Nine Mile Creek, Segment B into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its outstandingly remarkable scenic and cultural values. Failure to include this river segment in the NWSRS could result in deterioration of these values, especially if mineral development occurs. Inclusion of this stream into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values (scenic and cultural) or free-flowing condition. None are currently proposed. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the outstandingly remarkable values or recreational tentative classification. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights.

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, especially scenic values, depending upon the management prescriptions selected through this planning effort. However, even if ACEC or VRM Class II designations are made or portions of the corridor are no surface occupancy for leasing, such prescriptions are temporary and could be changed through plan amendment or plan revision. Cultural values are protected to some degree by various laws and regulations.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State and local governments are unsupportive of congressional designation of this stream. Local and State agencies, water users, and municipalities oppose designation primarily due to their concerns that current and potential water use of this or any eligible stream could be affected. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of Nine Mile Creek Segment B, if designated, would be constrained due to the low percentage of public lands within the stream corridor. Any development of State or private lands within the corridor would diminish the overall scenic qualities of the area. Such development would probably not exceed standards for the segment's recreational classification. If this segment is not designated into the NWSRS, its free-flowing nature and scenic outstandingly remarkable values could be at some risk due to the high percentage and possible development of State and private lands within the corridor. However, the outstandingly remarkable cultural values would be protected to some degree by cultural laws and regulations. Other means of protecting relevant and important values within the corridor that are being considered in this plan revision effort include designating portions of the corridor as VRM Class II, ACECs, and closing it oil and gas leasing. However, even if adopted, these management prescriptions are subject to change with revised land use plans. Therefore, the protection they afford is subject to change
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands (16% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, 65% of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing to sell. Because of the very large percentage of private lands, costs of acquisition would be prohibitive.

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing the river.
White River, Segment A	
Characteristics which would or would not make it a worthy addition to the NWSRS	Recreational, scenic/geologic, fish and wildlife/habitat and historic values were identified as outstandingly remarkable, and make the White River a worthy addition to the NWSRS. The White River is a favorite canoeing destination for people from all over the State and beyond. The river's Class II rapids are exciting enough to attract advanced kayakers, yet gentle enough to bring novice canoers and families to float through remarkable solitude. Towering 800-foot sandstone cliffs were cut by the White River. Broad sloping terraces, sandstone walls, butte's, pinnacles and eroded towers create fascinating shapes and textures. Fossil beds exposed by the river display a unique variety of ancient life forms. The White River provides critical habitat for the endangered Colorado River squaw fish. Other threatened, endangered, or sensitive fish species in the river include razorback sucker, flannel mouth sucker and the bony tail chub. Threatened, endangered, or sensitive animal species in the river corridor include the Yellow-Billed Cuckoo, Peregrine Falcon, and the Bald Eagle. Other wildlife that can be found in the corridor and utilize the river include mule deer, pronghorn antelope, cougar, beaver, muskrat, porcupine, bobcat, coyote, gray fox, red fox, and resident and migratory birds such as Golden Eagle, Canadian Goose, Mallard Duck and Flycatchers. Many pivotal historic events occurred in the White River. Canyon. Chronicles of early explorers such as Friar Velez de Escalante, John Wesley Powell, Frederick Dellenbaugh, and Kit Carson described the unique topography of the White River.
Land ownership and current use	Of the 24 miles of shoreline in this segment, 8 are BLM, 1 is State, 5 are Tribal, and 10 are private. Within the river corridor, 41% of the land is BLM, 8% is Indian Trust, 10% is State, and 41% is private. This river segment is used extensively for recreation, including canoeing, floating, fishing, hunting, wildlife and waterfowl viewing, and for exploring historical sties. Livestock grazing occurs along its banks, and there is some oil and gas exploration activity in the area. Access and roads exist in places along this segment. A bridge crosses private land.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of the White River, Segment A into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its recreational, scenic, geologic, fish and wildlife/habitat, and historic outstandingly remarkable values. Failure to include this river segment in the NWSRS could result in deterioration of these values, especially if mineral development or dam development occurs. Inclusion of this river segment into the NWSRS could preclude dams or other water-related projects if they would occur within

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	the designated segment and have direct and/or adverse effects on the outstandingly remarkable values or free-flowing condition. No dam construction would be allowed on the currently permitted dam site on this segment. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the outstandingly remarkable values or scenic tentative classification. Because scenery is one of the outstandingly remarkable values, it is unlikely that such developments would be allowed. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. None are currently proposed. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, especially the free-flowing nature (due to the potential damming of the river segment), and the scenic values, depending upon the management prescriptions selected through this planning effort. However, even if ACEC, VRM Class II, and no surface occupancy for leasing designations are made, such prescriptions are temporary and could be changed through plan amendment or plan revision. Fish values would continue to be protected by the Endangered Species Act under any circumstances.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State and local governments, and the Ute Tribe are unsupportive of congressional designation of this river segment. Opposition to designation is primarily due to concerns that current and potential water use of this or any eligible stream could be affected. There is strong support for designation from the environmental community. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	The BLM would be capable of managing this river segment if it were designated, particularly with adequate funding. Congressional designation of the White River into the NWSRS would improve Utah BLM's ability to compete for agency dollars, and with increased funding and focused management, the agency's ability to deal with recreational and other management of the area would improve. Designation would promote national and public recognition of the values associated with this river and further the goals and policy

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	established by Congress in the Wild and Scenic Rivers Act. Without congressional designation, the free-flowing nature of this river segment would be at risk from potential development of a dam. However, because adequate flow must be allowed to maintain the endangered fish species, there could be enough flow to maintain recreational values as well. Other outstandingly remarkable values could be effectively protected without congressional designation with the protective land use prescriptions being considered in the Vernal RMP/EIS, including no surface occupancy for oil and gas leasing, ACEC and VRM Class II designation. However, such management prescriptions are subject to change through plan amendment or revision. Therefore, the protection they would provide is also subject to change. Outstandingly remarkable fish values would be largely protected by the Endangered Species Act under any circumstances.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands (10% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, 41% of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing to sell.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing this river segment.
White River Segment B	
Characteristics which would or would not make it a worthy addition to the NWSRS	Recreational, scenic/geologic, fish and wildlife/habitat and historic values were identified as outstandingly remarkable, and make the White River a worthy addition to the NWSRS. The White River is a favorite canoeing destination for people from all over the State and beyond. The river's Class II rapids are exciting enough to attract advanced kayakers, yet gentle enough to bring novice canoers and families to float through remarkable solitude. Towering 800-foot sandstone cliffs were cut by the White River. Broad sloping terraces, sandstone walls, butte's, pinnacles and eroded towers create fascinating shapes and textures. Fossil beds exposed by the river display a unique variety of ancient life forms. The White River provides critical habitat for the endangered Colorado River squaw fish. Other threatened, endangered, or sensitive fish species in the river include razorback sucker, flannel mouth sucker and the bony tail chub. Threatened, endangered, or sensitive animal species in the river corridor include the Yellow-Billed Cuckoo, Peregrine Falcon and the Bald Eagle. Other wildlife that can be found in the corridor and utilize the river include mule deer, pronghorn antelope, cougar, beaver, muskrat, porcupine, bobcat, coyote, gray fox, red fox, and resident and migratory birds such as Golden Eagle, Canadian Goose, Mallard Duck

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	and Flycatchers. Many pivotal historic events occurred in the White River Canyon. Chronicles of early explorers such as Friar Velez de Escalante, John Wesley Powell, Frederick Dellenbaugh, and Kit Carson described the unique topography of the White River.
Land ownership and current use	All 10 shoreline miles in this segment are managed by BLM. Within the river corridor, 99.6% of the land is BLM and 0.4% is State. This river segment is used extensively for recreation, including canoeing, floating, fishing, hunting, wildlife and waterfowl viewing, and for exploring historical sties. Livestock grazing occurs along its banks, and there is substantial oil and gas exploration activity on the table lands above the river canyon. This segment of the river appears primitive in nature with few human developments.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of the White River, Segment B into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its recreational, scenic, geologic, fish and wildlife/habitat, and historic outstandingly remarkable values. Failure to include this river segment in the NWSRS could result in deterioration of these values, especially if mineral development or dam development upstream in Segment A occurs. Inclusion of this river segment into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values or free-flowing condition. There is no dam development proposed on this segment. Other projects on federal lands within the designated river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the outstandingly remarkable values or wild tentative classification. Because scenery is one of the outstandingly remarkable values, it is unlikely that such developments would be allowed. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. Development of a dam upstream (currently proposed within Segment A) would be allowed only if those parameters could be met. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, especially the free-flowing nature (due to the potential damming of a portion of an upstream segment), and the scenic values, depending upon the management prescriptions selected through this planning

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	effort. However, even if the river corridor was designated as an ACEC with VRM Class II management, and was closed to mineral leasing, such prescriptions are temporary and could be changed through plan amendment or plan revision. Some fish and wildlife values would continue to be protected by the Endangered Species Act under any circumstances.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State and local governments, and the Ute Tribe are unsupportive of congressional designation of this river segment. Opposition to designation is primarily due to concerns that current and potential water use of this or any eligible stream could be affected. There is strong support for designation from the environmental community. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	The BLM would be capable of managing this river segment if it were designated, particularly with adequate funding. Congressional designation of the White River into the NWSRS would improve Utah BLM's ability to compete for agency dollars, and with increased funding and focused management, the agency's ability to deal with recreational and other management of the area would improve. Designation would promote national and public recognition of the values associated with this river and further the goals and policy established by Congress in the Wild and Scenic Rivers Act. Without congressional designation, the free-flowing nature of this river segment is somewhat at risk from potential development of a dam upstream in Segment A. However, because adequate flow must be allowed to maintain the endangered fish species, there could be enough flow to maintain recreational values as well. Other outstandingly remarkable values could be effectively managed without congressional designation with the protective land use prescriptions being considered in this planning effort, such as no surface occupancy for oil and gas leasing, ACEC and VRM Class I or II designation. However, such management prescriptions are subject to change through plan amendment or revision. Therefore, the protection they would provide is also subject to change. Fish values would be protected by the Endangered Species Act in any case.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands (0.4% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that.
The extent to which administration costs would be shared by local and state	State and local governments would not share costs of managing the river segment.

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
governments	
White River Segment C	
Characteristics which would or would not make it a worthy addition to the NWSRS	Recreational, scenic/geologic, fish and wildlife/habitat and historic values were identified as outstandingly remarkable, and make the White River a worthy addition to the NWSRS. The White River is a favorite canoeing destination for people from all over the state and beyond. The rivers Class II rapids are exciting enough to attract advanced kayakers, yet gentle enough to bring novice canoers and families to float through remarkable solitude. Towering 800-foot sandstone cliffs were cut by the White River. Broad sloping terraces, sandstone walls, butte's, pinnacles and eroded towers create fascinating shapes and textures. Fossil beds exposed by the river display a unique variety of ancient life forms. The White River provides critical habitat for the endangered Colorado River squaw fish. Other threatened, endangered, or sensitive fish species in the river include razorback sucker, flannel mouth sucker and the bony tail chub. Threatened, endangered, or sensitive animal species in the river corridor include the Yellow-Billed Cuckoo, Peregrine Falcon and the Bald Eagle. Other wildlife that can be found in the corridor and utilize the river include mule deer, pronghorn antelope, cougar, beaver, muskrat, porcupine, bobcat, coyote, gray fox, red fox, and resident and migratory birds such as Golden Eagle, Canadian Goose, Mallard Duck and Flycatchers. Many pivotal historic events occurred in the White River. Canyon. Chronicles of early explorers such as Friar Velez de Escalante, John Wesley Powell, Frederick Dellenbaugh, and Kit Carson described the unique topography of the White River.
Land ownership and current use	Of the 10 miles of shoreline in this segment, 6 are BLM, 4 are State, and <1 are Tribal. Within the river corridor, 56% of the land is BLM, 43% is State, 1% is Tribal, and <1% is private. This river segment is used extensively for recreation, including canoeing, floating, fishing, hunting, wildlife and waterfowl viewing, and for exploring historical sties. Livestock grazing occurs along its banks, and there is some oil and gas exploration activity in the area. Access and roads exist in places along this segment.
Uses, including reasonably foreseeable uses, that would be enhanced or curtailed if designated; and values that would be diminished if not designated	Congressional designation of the White River, Segment C into the NWSRS would provide permanent protection specifically of free-flowing condition of the river, its water quality and its recreational, scenic, geologic, fish and wildlife/habitat and historic outstandingly remarkable values. Failure to include this river segment in the NWSRS could result in deterioration of these values, especially if mineral development or dam development upstream in Segment A occurs. Inclusion of this river segment into the NWSRS could preclude dams or other water-related projects if they would occur within the designated segment and have direct and/or adverse effects on the outstandingly remarkable values or free-flowing condition. There is no dam development proposed on this segment. Other projects on federal lands within the designated

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	river area such as construction of roads, pipelines or other structures would only be allowed if it is determined that they would not negatively affect the outstandingly remarkable values or scenic tentative classification. Because scenery is one of the outstandingly remarkable values, it is unlikely that such developments would be allowed. Of course, this is subject to valid existing rights. Water-related projects proposed outside the segment would be precluded only if they would invade or unreasonably diminish scenic, recreational, fish or wildlife values within the designated segment. Development of a dam upstream (currently proposed within Segment A) would be allowed only if those parameters could be met. Although the Wild and Scenic Rivers Act infers a federal reserved water right upon designation, rather than establishing an amount, it actually imposes a limit, expressing that any such right is to be the minimum necessary for the purposes of the Act. Such a right would have to be adjudicated through the State and would be junior to any existing rights. Failure of Congress to include this river segment in the NWSRS could result in degradation of the values for which the river was determined eligible, especially the free-flowing nature (due to the potential damming of a portion of an upstream segment), and the scenic values, depending upon the management prescriptions selected through this planning effort. However, even if the river corridor was designated as an ACEC with VRM Class II management, and was closed to mineral leasing, such prescriptions are temporary and could be changed through plan amendment or plan revision. Some fish and wildlife values would continue to be protected by the Endangered Species Act under any circumstances.
Interest of federal, public, state, tribal, local, or other public entity in designation or non-designation, including sharing of administration of the river	State and local governments, and the Ute Tribe are unsupportive of congressional designation of this river segment. Opposition to designation is primarily due to concerns that current and potential water use of this or any eligible stream could be affected. There is strong support for designation from the environmental community. There are no contiguous National Park Service or Forest Service segments, so there would be no federal partners to manage the river. Some private citizens and regional and national conservation groups have promoted the suitability of this stream for congressional designation, and may be willing to volunteer their services.
Manageability of the river if designated, and other means of protecting values	Manageability of White River Segment C, if designated, would be constrained due to the high percentage of non-public lands within the stream corridor. Any development of State, Tribal, or private lands within the corridor would diminish the overall scenic qualities of the area. Such development could exceed standards for the segment's scenic classification. Without congressional designation, the free-flowing nature of this river segment is somewhat at risk from potential development of a dam upstream in Segment A. However, because adequate flow must be allowed to maintain the

Table 5. Suitability Considerations by Eligible River Segment.

Suitability Considerations	Consideration Applied to Eligible River
	endangered fish species, there could be enough flow to maintain recreational values as well. Possible ACEC designation is also being considered for this area in the land use planning process, and if designated could have some protective value for the outstandingly remarkable values. However, such management prescriptions are subject to change through plan amendment or revision. Therefore, the protection they would provide is also subject to change. Most outstandingly remarkable fish values would be protected by the Endangered Species Act in any event.
The estimated costs of administering the river, including costs for acquiring lands and interests	The initial costs of administration for the first three years would involve management plan preparation. Yearly administration costs thereafter would involve plan implementation, and may include additional studies and monitoring as well as additional BLM presence in the area. State lands (43% of the segment) could be identified for possible acquisition through exchange, so no funding would be needed for that. However, <1% of the segment is private, and funding would be necessary for purchase if the management plan were to identify acquiring the lands as a need and the private landowners were willing to sell. Because of the high percentage of private lands, costs could be prohibitive.
The extent to which administration costs would be shared by local and state governments	State and local governments would not share costs of managing the river segment.

APPENDIX D. NATIONAL REGISTRY SITES AND DISTRICTS

PROPOSED National Register Sites & Districts: VFO Land Use Plan

SITE #	Description	County	Notes
No site number	Little Hole National Register District.	Dagget	Proposed.
No site number	Rainbow town site.	Uintah	One of the Gilsonite towns. Also a train stop. Other Gilsonite towns may be included (i.e. Bonanza, Ignatio, Little Bonanza, Rector, and Watson) as well as Gilsonite mining camps (i.e. Harrison and China Wall).
42UN1801	Uintah Railway.	Uintah	Colorado portion is currently listed.
42UN1802	Dragon town site.	Uintah	One of the Gilsonite towns. Also a train stop.
42UN251; 42UN252; 42UN479	Blue Mountain Petroglyph National Register District.	Uintah	Archaic Period horizontal petroglyphs, unique to district.
42UN419; 42UN420; 42UN422	Archaic period/Fremont period pictograph/petroglyph sites.	Uintah	Steinaker area.
42DC539-543	Castle Peak Traditional Properties.	Duchesne	
42UN967	Ute/Fremont petroglyph site along the Green River.	Uintah	Displays several periods of Ute occupation in the central basin.
42UN1076	Rock shelter.	Uintah	This shelter has not been vandalized to date. May provide a cultural and environmental chronology for the Book Cliffs.
42UN1017	Ute Petroglyph Site, known as the “Augusi Panel.”	Uintah	Special site in 19th century Ute lore.
42UN1619	Large (40+ acre) Fremont village site.	Uintah	
42UN2558	White River Stage Stop.	Uintah	A stop along the stage route from Dragon to Vernal.

Note: The Gilsonite towns, mining camps, and railroad would also be eligible as a Cultural Landscape Theme nomination, probably as one nomination.

Note: Ute-affiliated sites will need to be closely coordinated with the Ute Tribe’s various bands.

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APPENDIX E. WITHDRAWAL AND CLASSIFICATIONS IDENTIFIED IN THE DIAMOND MOUNTAIN AND BOOK CLIFFS RMPS

Withdrawal Type/ Serial Number	Acreage	Segregative Effect
Reclamation		
U-011167	957	
U-026185	80	
U-1361	220	Public Land and Mining Laws
U-18619	70	
U-42905	80	
U-42919	6,161	
Public Water Reserves		
U-41597 (#107)	40	
U-41628 (#107)	40	
U-41659 (#107)	171	Public Land Laws & Nonmetalliferous Mining Location
U-41660 (#107)	200	
U-52455 (#107)	960	
U-63972 (#107)	182	
(U-0144914)		
U-63973 (#107)		
U-63974 (#107)	80	
(U-0143422)		
U-63975 (#16)	280	Public Land Laws & Nonmetalliferous Mining Location
(U-41551C)		
U-41556 (#152)	263	
U-0141806 (#107)	40	
Water Power (Powersite Classifications)		
U-42950 (#42)	3,346	
U-42951 (#107)	48	
U-42984 (CL #93)	9,218	Public Land Laws
U-42995 (#411)	277	
U-42948 (#107)	750	
Book Cliffs	6,633	
Watershed Protection		Public Land Laws, Mining Laws, and the Mineral Leasing Laws
U-42874	750	

Withdrawal Type/ Serial Number	Acreage	Segregative Effect
Recreation/Administrative Site Classifications		
U-5338	307	
U-060709	112	Public Land Laws
U-041339	40	Public Land Laws
None Identified in Book Cliffs		
National Science Foundation		Public Land Laws, Mining laws, and Mineral Leasing Laws
U-11462	2,312	
Oil Shale	Total Acres Unknown	
U-2036 & U-49399		Public Land and Mining Laws

APPENDIX F. STANDARDS AND GUIDELINES FOR GRAZING MANAGEMENT

BLM has developed the following Fundamentals of Rangeland Health and their companion rules-Standards for Rangeland Health and Guidelines for Grazing Management for BLM in Utah ([BLM-UT-GI-97-001-4000] U.S. DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT, UTAH STATE OFFICE 1997).

FUNDAMENTALS OF RANGELAND HEALTH

As provided by regulations, developed by the Secretary of the Interior on February 22, 1995, the following conditions must exist on BLM lands:

1. Watersheds are in, or making significant progress toward, properly functioning physical condition, including their upland, riparian –wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, and timing and duration of flow.

2. Ecological processes, including the hydrologic cycle nutrient cycle, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

3. Water quality complies with State water quality standards and achieves, or is making significant progress towards achieving established BLM management objectives such as meeting wildlife needs.

4. Habitats; are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered Species, Federal proposed, Category 1 and 2 Federal candidate and other special status Species.

In 1997, the BLM in Utah developed rules to carry out the Fundamentals of Rangeland health. These are called Standards for Rangeland health and Guidelines for grazing management.

Standards spell out conditions to be achieved on BLM Lands in Utah, and **Guidelines** describe practices that will be applied in order to achieve the Standards.

STANDARDS FOR RANGELAND HEALTH

Standard 1. Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform.

As indicated by:

1. Sufficient cover and litter to protect the soil surface from excessive water and

2. wind erosion, promote infiltration, detain surface flow, and retard soil moisture loss by evaporation.

3. The absence of indicators of excessive erosion such as rills, soil pedestals. and actively eroding gullies.

4. The appropriate amount, type, and distribution Of vegetation reflecting the presence of (1) the Desired Plant Community IDPCI, where identified in a land use plan, or (2) where the PVC is not identified, a community that equally sustains the desired level of productivity and properly functioning ecological conditions.

Standard 2. Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform.

As indicated by:

1. Stream bank vegetation consisting of or showing a trend toward species with root masses capable of withstanding high stream flow events. Vegetative cover adequate to protect stream banks and dissipate stream flow energy associated with high-water flows. protect against accelerated erosion. capture sediment. and provide for groundwater recharge.

2. Vegetation reflecting: Desired Plant Community. maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition. high vigor. large woody debris when site potential allows. and providing food. cover and other habitat needs for dependent animal species.

3. Revegetating point bars: lateral stream movement associated with natural sinuosity: channel width. depth, pool frequency and roughness appropriate to landscape position.

4. Active floodplain.

Standard 3. Desired species, including native, threatened.

As indicated by:

1. Frequency, diversity, density, age classes, and productivity of desired native species necessary to ensure reproductive capability and survival.

2. Habitats connected at a level to enhance species survival.

3. Native species reoccupy habitat niches and voids caused by disturbances unless management objectives call for introduction or maintenance of nonnative species.

4. Appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community DPC, where identified in a land use plan conforming to these Standards, or (2) where the DPC is identified a community that equally sustains the desired level of productivity and properly functioning ecologic processes.

Standard 4. BLM will apply and comply with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM lands will fully support the designated beneficial uses described in the Utah Water Quality Standards {R.317-2) for surface and groundwater.

As indicated by:

1. Measurement of nutrient loads, total dissolved solids, chemical constituents, fecal coliform, water temperature and other water quality parameters.

2. Macro-invertebrate communities that indicate water quality meets aquatic objectives.

Because BLM Lands provide forage for grazing of wildlife, wild horses and burros, and domestic livestock, the following rules have been developed to assure that such grazing is consistent with the Standards listed here.

1. BLM will continue to coordinate monitoring water quality activities with other Federal, State and technical agencies.

GUIDELINES FOR GRAZING MANAGEMENT

1. Grazing management practices will be implemented that:

- Maintain sufficient residual vegetation and litter on both upland and riparian sites to protect the soil from wind and water erosion and support ecological functions;
- Promote attainment or maintenance of proper functioning condition riparian/wetland areas, appropriate stream channel morphology, desired soil permeability and permeability and infiltration, and appropriate soil conditions and kinds and amounts of plants and animals to support the hydrologic cycle, nutrient cycle, and energy flow.
- Meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow;
- Maintain viable and diverse populations of plants and animals appropriate for the site,
- Provide or improve within the limits of site potentials, habitat for Threatened or Endangered Species;
- Avoid grazing management conflicts with other species that have the potential of becoming protected or special status species;
- Encourage innovation, experimentation and the ultimate development of alternatives to improve rangeland management practices;

- Give priority to rangeland improvement projects and land treatments that offer the best opportunity for achieving the Standards.

2. Any spring or seep developments will he designed and constructed to protect ecological process and functions and improve livestock, wild horse and wildlife distribution.

3. New rangeland projects for grazing will be constructed in a manner consistent with the Standards. Considering economic circumstances and site limitations, existing rangeland projects and facilities that conflict with the achievement or maintenance of the Standards will be relocated and/or modified.

4. Livestock salt blocks and other nutritional supplements will be located away from riparian/wetland areas or other permanently located, or other natural water sources. It is recommended that the locations of these supplements be moved every year.

5. The use and perpetuation of native species will be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands nonintrusive, nonnative plant species are appropriate for use where native species (a) are not available, (b) are not economically feasible, (c) can not achieve ecological objectives as well as nonnative species, and/or (d) cannot compete with already established native species

6. When rangeland manipulations are necessary, the best management practices, including biological processes, fire and intensive grazing, will be utilized prior to the use of chemical or mechanical manipulations.

7. When establishing grazing practices and rangeland improvements, the quality of the outdoor recreation experience is to be considered. Aesthetic and scenic values, water, campsites and opportunities for solitude are among those considerations.

8. Feeding of hay and other harvested forage (which does not refer to miscellaneous salt, protein, and other supplements) for the purpose of substituting for inadequate natural forage will not be conducted on BLM lands other than in (a) emergency situations where no other resource exists and animal survival is in jeopardy, or (b) situations where the Authorized Officer determines such a practice will assist in meeting a Standard or attaining a management objective.

9. In order to eliminate, minimize, or limit the spread of noxious weeds, (a) only hay cubes, hay pellets, or certified weed-free hay will be fed on BLM lands, and (b) reasonable adjustments in grazing methods, methods of transport, and animal husbandry practices will be applied.

10. To avoid contamination of water sources and in advertent damage to non-target species, aerial application of pesticides will not be allowed within 100 feet of a riparian wetland area unless the product is registered for such use by the EPA.

11. On rangelands where a standard is not being met, and conditions are moving toward meeting the standard, grazing may be allowed to continue. On lands where a standard is

not being met, conditions are not improving toward meeting the standard or other management objectives, and livestock grazing is deemed responsible, administrative action with regard to livestock will be taken by the Authorized Officer pursuant to CUR 4180.2(c).

12. Where it can he determined that more than one kind of grazing animal is responsible for failure to achieve a Standard, and adjustments in management are required. those adjustments will be made to each kind of animal, based on interagency cooperation as needed. in proportion to their degree of responsibility.

13. Rangelands that have been burned, reseeded or otherwise treated to alter vegetative composition will be closed to livestock grazing as follows: (I) burned rangelands, whether by wildfire or prescribed burning, will be ungrazed for a minimum of one complete growing season following the burn; and (2) rangelands that have been reseeded or otherwise chemically or mechanically treated will be ungrazed for a minimum of two complete growing seasons.

14. Conversions in kind of livestock (such as from sheep to cattle) will be analyzed in light of Rangeland Health Standards. Where such conversions are not adverse to achieving a Standard, or they are not in conflict with BLM land use plans, the conversion will be allowed.

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APPENDIX G. ACEC EVALUATIONS FOR THE VERNAL RESOURCE MANAGEMENT PLAN

INTRODUCTION

Section 202 (c) (3) of the Federal Land Policy and Management Act (FLPMA) requires that priority be given to the designation and protection of areas of critical environmental concern (ACECs). FLPMA Section 103 (a) defines ACECs as public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

The BLM requested nominations for areas that the public believed met ACEC criteria in the Federal Register, Vol. 66, No. 48, March 12, 2001, Notice of Intent, Environmental Impact Statement, Vernal Resource Management Plan, Utah.

Nominations for ACECs were reviewed by an interdisciplinary team of BLM specialists to see if they meet mandatory relevance and importance criteria.

RELEVANCE AND IMPORTANCE CRITERIA

To be considered for designation as an ACEC, an area must meet the requirements of relevance and importance as described in the Code of Federal Regulations (43 CFR 1610.7.2). The definitions for relevance and importance are as follows:

RELEVANCE

An area is considered relevant if it contains one or more of the following:

1. A significant historic, cultural or scenic value (for example: rare or sensitive archaeological resources and religious or cultural resources important to Native American Indians).
2. A fish and wildlife resource (for example: habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity).
3. A natural process or system (for example: endangered, sensitive, or threatened plant species; rare, endemic, or relict plants or plant communities ; rare geologic features).
4. A natural hazard (for example: areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of the natural process.

IMPORTANCE

The value, resource, system, process, or hazard described above must have substantial significance to satisfy the importance criteria. This generally means it is characterized by one or more of the following:

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
2. Have qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of the Federal Land Policy and Management Act.
4. Have qualities that warrant highlighting in order to satisfy public or management concerns about safety and public welfare.
5. Poses a significant threat to human life and safety or to property.

CURRENTLY DESIGNATED ACECS

The Diamond Mountain RMP/ROD designated seven ACECs totaling 165,944 acres. These are: Browns Park, Lears Canyon, Red Mountain-Dry Fork, Pariette Wetlands, Red Creek Watershed, Lower Green River, and Nine Mile Canyon. These will all be carried forward as ACECs in the Vernal RMP.

POTENTIAL ACECS BEING CONSIDERED IN THE VERNAL RMP

External nominations were received as part of the RMP scoping process. BLM's interdisciplinary team completed the relevance and importance review of all nominated ACECs. Seven areas totaling 476,679 acres were determined to have relevance and importance and were identified as potential ACECs. In some cases the interdisciplinary team review resulted in additional resource concerns and different boundary configurations for some potential ACECs from what was identified in the nominations.

On December 17, 2001, the Southern Utah Wilderness Alliance (SUWA) submitted ACEC nominations for Bitter Creek, Cliff Creek, Cliff Ridge, Coyote Basin, and the Lower Green River. Of these, Coyote Basin, Bitter Creek, and the Lower Green River were determined to meet the mandatory criteria and are considered as potential ACECs in this planning effort. Some of these potential ACECs were modified by BLM resource specialists to better meet resource needs.

On February 10, 2003, SUWA submitted proposals for Main Canyon, Lower Bitter Creek, White River, Sweetwater Watershed, Dragon/Atchee/Davis Canyons and Nine Mile Canyon. White River and Main Canyon were determined to meet the mandatory criteria. Sweetwater Watershed was integrated into a previous BLM proposal and became the Bitter Creek potential ACEC. SUWA's nomination for Nine Mile Canyon resulted in a potential ACEC for Nine Mile Canyon that is an expansion of the existing Nine Mile Canyon ACEC.

On January 21, 2003, the Center for Native Ecosystems submitted proposals to protect the white-tailed prairie dog and its associated ecosystem in Coyote Basin, Kennedy Wash, Myton Bench, Shiner, and Snake John. These nominations were integrated into a previous BLM proposal and became the potential Coyote Basin Complex Research Natural Area/ACEC.

The seven potential ACECs and the two potential expansion ACECs are discussed below:

BITTER CREEK AND BITTER CREEK-P.R. SPRINGS

Relevance Criteria: The area has relevance due to the existence of an old growth forest, significant cultural and historic resources, important watershed, and critical ecosystem for wildlife and migratory birds.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique.

The ancient pinyon forest is over 1200 years old, and includes the Utah champion pinyon, which is irreplaceable. Within the unit is the ancestral home of the Northern Ute Tribe when they were relocated from Colorado in the late 1800s. Many features, including graves, are within the potential ACEC, but specific locations are not known. Also in the potential ACEC is the most extensive wetland in the multi-state Book Cliffs. It exists because of a uniquely perched water table. This wetland and surrounding watershed is unique as a critical ecosystem for migratory birds and a wide variety of wildlife.

WHITE RIVER

Relevance Criteria: The area has relevance due to the existence of unique geological formations, high value scenery, significant historical events, and riparian ecosystem.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. An area of unique, spectacular rock spires, named "Goblin City" by the John Wesley Powell 1869 expedition is a major destination point for White River boaters. A cottonwood grove campsite, now used by boaters, is the place where Powell Expedition members camped and explored the nearby fragile geological formations. The river and adjacent landscape provide spectacular scenery viewed by increasing numbers of visitors from several states. The lush riparian vegetation is rare in this desert ecosystem.

MIDDLE GREEN RIVER

Relevance Criteria: This area has relevance due to the existence of an important riparian ecosystem and high value scenery.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. The river and adjacent landscape provide spectacular scenery viewed by increasing numbers of visitors from many states and countries. The lush riparian vegetation is rare in this desert ecosystem.

COYOTE BASIN

Relevance Criteria: This area has relevance due to the existence of an important white-tailed prairie dog complex.

Importance Criteria: This area is a critical ecosystem for the white-tailed prairie dog, and is one of 25 white-tailed prairie dog complexes nominated for ACEC status in the Western states. It has substantial significance due to qualities that make it fragile, sensitive, rare, irreplaceable, exemplary, and unique. This species occupies only an estimated eight percent of the area it once occupied, and most of this is on BLM administered lands. The white-tailed prairie dog is

particularly vulnerable to adverse change from a variety of current causes. The U.S. Fish and Wildlife Service is currently being petitioned to list this species.

FOUR MILE WASH

Relevance Criteria: This area has relevance due to the existence of high value scenery, important riparian ecosystem, and special status fish.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable, exemplary, and unique. This exemplary canyon and adjacent landscape provides spectacular scenery viewed by increasing numbers of visitors from many states and countries. The lush riparian vegetation is rare in this desert ecosystem.

Critical habitat for four endangered fish is located within the potential ACEC: These include the Colorado pikeminnow (Ptychochelius lucius), Bonytail (Gila elegans), Humpbacked chub (Gila cypha), and the Razorback sucker (Xyrauchen texanus).

MAIN CANYON

Relevance Criteria: This area has relevance due to the existence of important cultural and historic resources, and natural systems.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable, exemplary, and unique. Within the area there are numerous sites associated with the historic Northern Ute migration route along Main Canyon. In addition, there is a recently discovered historic inscription from the early French fur trade era. This area has been the focus of several past proposals to manage it in a way that would accentuate its exemplary natural systems. It is a part of a larger area that was first proposed as a Book Cliffs National Conservation Area, and then became the focus of a 1998 cooperative project of the BLM and the Utah Division of Wildlife Resources (UDWR) known as the Book Cliffs Conservation Initiative. Most of the potential ACEC is within the Winter Ridge Wilderness Study Area.

NINE MILE CANYON EXPANSION

Relevance Criteria: This area has relevance due to the existence of significant cultural resources, special status plant species, and high quality scenery.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable, exemplary, and unique. This area is an extension of the currently designated Nine Mile Canyon ACEC, where the significance of these important resources has been recognized.

LOWER GREEN RIVER EXPANSION

Relevance Criteria: This area has relevance due to the existence of significant riparian habitat and outstanding scenic values.

Importance Criteria: The relevant values described above have substantial significance due to qualities that make them fragile, sensitive, rare, irreplaceable, exemplary, and unique. This area

is an extension of the currently designated Lower Green River Corridor ACEC, where the significance of these important resources has been recognized.

RELEVANCE AND IMPORTANCE SUMMARY - ALL AREAS

Currently designated ACECs and nominated areas that were evaluated by BLM resource specialists for relevance and importance are listed in the table below, along with determinations and rationale. Those nominated areas that do not meet both relevance and importance criteria are not considered as potential ACECs in the Vernal RMP/EIS.

Table 1. Relevance and Importance Summary – All Areas

Nominator	Nominated Area or Currently Designated ACEC	Determination and Rationale
SUWA (Southern Utah Wilderness Alliance)	Dragon/Atchee/Davis Canyons (nominated area)	Scenic, cultural resources and natural systems have relevance, but do not qualify under the importance criteria because they do not have substantial significance
SUWA	Cliff Creek (nominated area)	Cultural resources and natural systems have relevance, but do not qualify under the importance criteria because they do not have substantial significance.
SUWA	Cliff Ridge (nominated area)	Scenic values and natural systems have relevance, but do not qualify under the importance criteria because they do not have substantial significance.
SUWA	Main Canyon (nominated area)	Cultural, historic resources and natural systems meet relevance and importance criteria.
SUWA	Lower Bitter Creek (nominated area)	The natural system has relevance, but does not quality under the importance criteria because it does not have substantial significance.
BLM	Browns Park (currently designated ACEC)	High value scenery, wildlife habitat, cultural, and historic resources meet relevance and importance criteria.
BLM	Lears Canyon (currently designated ACEC)	Relict plant communities meet relevance and importance criteria.

Table 1. Relevance and Importance Summary – All Areas

Nominator	Nominated Area or Currently Designated ACEC	Determination and Rationale
TNC (The Nature Conservancy)	Red Mountain-Dry Fork (currently designated ACEC)	Relict plant communities, high value archaeological and paleontological sites, watershed, and crucial deer and elk habitat meet relevance and importance criteria
BLM	Pariette Wetlands (currently designated ACEC)	Special status bird and plant habitat, wetlands ecosystem meet relevance and importance criteria.
BLM	Red Creek Watershed (currently designated ACEC)	Regionally significant critical watershed meets relevance and importance criteria.
BLM/SUWA	Lower Green River (currently designated ACEC and nominated area)	Significant riparian habitat and outstanding scenic values meet relevance and importance criteria.
BLM/SUWA	Nine Mile Canyon (currently designated ACEC and nominated area)	Nationally significant Fremont, Ute, Archaic rock art and structures, and special status plant habitat meet relevance and importance criteria.
BLM/SUWA	Bitter Creek (nominated area)	State significant old growth forest, cultural and historic resources, watershed, critical ecosystems for migratory birds meet relevance and importance criteria.
SUWA	White River (nominated area)	Unique geologic formations, high value scenic vistas, and riparian ecosystem meet relevance and importance criteria.
BLM	Middle Green River (nominated area)	High value riparian ecosystem meets relevance and importance criteria.
CNE (Center for Native Ecosystems)/SUWA	Coyote Basin-Myton Bench (nominated area)	Critical ecosystem for white-tailed prairie dog meets relevance and importance criteria.
BLM	Four Mile Wash (nominated area)	High value scenery, riparian ecosystem, special status fish meets relevance and importance criteria.

APPENDIX H. DISTURBANCES AND FRAGMENTATION OF WILDLIFE HABITAT

Table 1. Mineral Development Land Categorization Proposed in Mule Deer Overall Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	824,429 (44%)	1,081,950 (58%)	1,223,754 (66%)	919,844 (49%)	917,636 (54%)	782,971 (42%)
Timing and Controlled Surface Use	777,539 (42%)	664,264 (36%)	555,025 (30%)	677,370 (36%)	582,623 (35%)	664,542 (36%)
No Surface Occupancy	83,416 (4%)	46,353 (2%)	31,654 (2%)	37,706 (2%)	135,302 (8%)	46,777 (3%)
No Leasing	177,376 (10%)	70,413 (4%)	52,547 (3%)	228,060 (12%)	52,547 (3%)	366,511 (20%)
Other Minerals (Open)						
Mineral Material	389,668 (87%)	424,810 (94%)	434,727 (97%)	390,473 (87%)	422,877 (94%)	344,561 (77%)
Phosphate	75,466 (83%)	86,981 (96%)	86,982 (96%)	62,829 (69%)	83,856 (93%)	51,321 (56%)
Gilsonite	1,666 (98%)	838 (100%)	840 (99%)	834 (98%)	817 (100%)	789 (93%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 2. Mineral Development Land Categorization Proposed In Mule Deer Crucial Winter Range Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	28 (0.01%)	0 (0%)	0 (0%)	0 (0%)	169,394 (50%)	0 (0%)
Timing and Controlled Surface Use	305,867 (82%)	344,153 (93%)	346,085 (93%)	312,705 (84%)	127,612 (37%)	270,021 (72%)
No Surface Occupancy	10,272 (3%)	8,374 (2%)	9,217 (2%)	6,395 (2%)	28,477 (8%)	6,272 (2%)
No Leasing	54,814 (15%)	19,148 (5%)	16,373 (4%)	52,575 (14%)	16,368 (5%)	94,775 (26%)
Other Minerals (Open)						
Mineral Material	117,184 (85%)	132,201 (95%)	132,328 (95%)	121,481 (87%)	132,152 (95%)	105,962 (76%)
Phosphate	58,384 (87%)	64,307 (95%)	64,309 (95%)	41,192 (61%)	62,299 (92%)	35,276 (52%)
Gilsonite	258 (100%)	129 (100%)	129 (100%)	129 (100%)	129 (100%)	129 (100%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 3. Mineral Development Land Categorization Proposed in Mule Deer Migration Corridor Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	0 (0%)	0 (0%)	0 (0%)	0 (0%)	4,668 (10%)	0 (0%)
Timing and Controlled Surface Use	47,091 (100%)	47,090 (100%)	47,090 (100%)	42,869 (91%)	40,945 (87%)	42,868 (91%)
No Surface Occupancy	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1,477 (3%)	0 (0%)
No Leasing	0 (0%)	0 (0%)	0 (0%)	4,221 (9%)	0 (0%)	4,225 (9%)
Other Minerals (Open)						
Mineral Material	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Phosphate	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 4. Mineral Development Land Categorization Proposed In Rocky Mountain Elk Overall Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	321,433 (28%)	448,471 (40%)	574,923 (51%)	390,428 (34%)	463,704 (46%)	317,256 (28%)
Timing and Controlled Surface Use	586,641 (52%)	606,289 (54%)	494,851 (44%)	520,524 (46%)	414,245 (41%)	484,097 (43%)
No Surface Occupancy	48,284 (4%)	16,727 (1%)	12,337 (1%)	10,711 (1%)	74,971 (7%)	14,729 (1%)
No Leasing	178,614 (16%)	61,383 (5%)	50,760 (4%)	211,208 (19%)	50,750 (5%)	316,055 (28%)
Other Minerals (Open)						
Mineral Material	224,303 (84%)	255,461 (96%)	259,570 (97%)	222,187 (83%)	233,229 (87%)	186,244 (70%)
Phosphate	73,530 (85%)	83,177 (96%)	83,553 (96%)	60,656 (70%)	80,052 (93%)	50,642 (59%)
Gilsonite	558 (98%)	297 (100%)	297 (99%)	293 (98%)	295 (98%)	288 (95%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 5. Mineral Development Land Categorization Proposed In Rocky Mountain Elk Crucial Winter Range Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	185 (0.1%)	67,688 (19%)	67,688 (19%)	67,688 (19%)	129,926 (45%)	3 (0%)
Timing and Controlled Surface Use	269,022 (74%)	250,181 (68%)	252,886 (69%)	193,400 (53%)	97,291 (34%)	241,237 (66%)
No Surface Occupancy	14,384 (4%)	3,150 (1%)	3,905 (1%)	976 (<1%)	18,071 (6%)	861 (<1%)
No Leasing	82,042 (22%)	44,514 (12%)	41,055 (11%)	103,470 (28%)	41,061 (14%)	123,703 (34%)
Other Minerals (Open)						
Mineral Material	56,094 (86%)	62,322 (96%)	62,367 (96%)	53,663 (82%)	58,926 (91%)	48,177 (74%)
Phosphate	26,706 (91%)	27,403 (33%)	27,779 (33%)	11,333 (19%)	25,088 (31%)	10,263 (35%)
Gilsonite	97 (100%)	49 (100%)	49 (100%)	49 (100%)	49 (100%)	48 (100%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 6. Mineral Development Land Categorization Proposed In Pronghorn Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	530,979 (69%)	649,626 (85%)	663,164 (86%)	546,664 (71%)	400,846 (55%)	498,336 (65%)
Timing and Controlled Surface Use	195,420 25%)	95,327 (12%)	85,534 (11%)	185,579 (24%)	284,341 (39%)	193,690 (25%)
No Surface Occupancy	20,207 (3%)	18,994 (2%)	18,753 (2%)	19,047 (2%)	44,178 (6%)	22,247 (3%)
No Leasing	21,923 (3%)	4,531 (1%)	1,027 (<1%)	17,188 (2%)	4,392 (1%)	53,087 (7%)
Other Minerals (Open)						
Mineral Material	168,851 (92%)	174,474 (95%)	174,723 (95%)	171,584 (94%)	174,473 (95%)	162,619 (89%)
Phosphate	27,910 (87%)	31,554 (98%)	31,554 (98%)	31,539 (98%)	30,710 (96%)	27,902 (87%)
Gilsonite	642 (97%)	321 (100%)	332 (97%)	332 (97%)	332 (95%)	317 (95%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 7. Mineral Development Land Categorization Proposed In Bighorn Sheep Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	93,023 (21%)	180,612 (42%)	252,009 (58%)	160,509 (37%)	192,076 (55%)	108,882 (25%)
Timing and Controlled Surface Use	228,616 (53%)	197,498 (46%)	155,057 (36%)	147,311 (34%)	78,464 (23%)	171,397 (39%)
No Surface Occupancy	32,740 (8%)	14,997 (3%)	2,996 (1%)	10,970 (3%)	52,445 (15%)	7,407 (2%)
No Leasing	80,663 (19%)	39,947 (9%)	22,993 (5%)	114,263 (26%)	24,971 (7%)	145,148 (34%)
Other Minerals (Open)						
Mineral Material	55.563 (85%)	57,475 (86%)	65,535 (99%)	45,161 (68%)	57,475 (86%)	42,672 (54%)
Phosphate	10,574 (79%)	13,288 (99%)	13,288 (99%)	8,272 (62%)	11,775 (88%)	5,561 (42%)
Gilsonite	504 (98%)	254 (100%)	256 (100%)	250 (97%)	239 (93%)	225 (88%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres)

Table 8. Mineral Development Land Categorization Proposed In Moose Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	46,365 (41%)	48,246 (42%)	73,223 (64%)	39,131 (34%)	45,992 (40%)	34,088 (30%)
Timing and Controlled Surface Use	29,070 (25%)	53,405 (47%)	35,057 (31%)	59,747 (52%)	41,324 (36%)	38,587 (34%)
No Surface Occupancy	3,328 (3%)	3,328 (3%)	3,393 (3%)	3,300 (3%)	22,420 (20%)	3,300 (3%)
No Leasing	35,261 (31%)	8,961 (8%)	2,267 (2%)	11,762 (10%)	4,204 (4%)	37,963 (33%)
Other Minerals (Open)						
Mineral Material	24,715 (80%)	28,615 (93%)	28,702 (93%)	28,425 (93%)	28,614 (93%)	24,526 (80%)
Phosphate	12,802 (90%)	14,101 (99%)	14,101 (99%)	12,905 (90%)	12,976 (91%)	11,606 (81%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 9. Mineral Development Land Categorization Proposed In Black Bear Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	60,254 (24%)	105,186 (42%)	172,813 (70%)	98,456 (40%)	83,403 (42%)	80,544 (33%)
Timing and Controlled Surface Use	128,388 (52%)	135,115 (55%)	70,795 (29%)	87,354 (35%)	93,337 (47%)	84,625 (34%)
No Surface Occupancy	11,429 (5%)	2,798 (1%)	2,798 (1%)	2,680 (1%)	19,902 (10%)	2,680 (1%)
No Leasing	47,815 (19%)	4,648 (2%)	1,341 (1%)	59,256 (24%)	1,340 (1%)	79,876 (32%)
Other Minerals (Open)						
Mineral Material	24,287 (83%)	28,104 (96%)	28,190 (96%)	27,425 (94%)	21,573 (74%)	24,167 (82%)
Phosphate	4,972 (99.5%)	4,972 (100%)	4,972 (100%)	2,680 (54%)	4,586 (92%)	2,680 (54%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 10. Mineral Development Land Categorization Proposed In Ring-necked Pheasant Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	26,251 (48%)	33,987 (62%)	33,900 (61%)	31,444 (57%)	10,515 (22%)	25,030 (46%)
Timing and Controlled Surface Use	11,996 (22%)	4,573 (8%)	10,256 (19%)	6,463 (12%)	16,565 (34%)	11,882 (22%)
No Surface Occupancy	16,116 (29%)	12,876 (23%)	10,704 (19%)	12,877 (23%)	21,536 (44%)	12,219 (22%)
No Leasing	624 (1%)	3,700 (7%)	275 (<1%)	4,352 (8%)	271 (1%)	5,818 (10%)
Other Minerals (Open)						
Mineral Material	16,381 (66%)	16,565 (67%)	19,197 (78%)	16,321 (66%)	12,439 (50%)	0 (0%)
Phosphate	887 (100%)	887 (100%)	887 (100%)	887 (100%)	821 (93%)	276 (31%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 11. Mineral Development Land Categorization Proposed In Rio Grande Turkey Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	88,683 (56%)	104,743 (66%)	106,247 (67%)	93,098 (59%)	70,461 (48%)	81,894 (51%)
Timing and Controlled Surface Use	37,991 (24%)	25,620 (16%)	24,115 (15%)	37,252 (23%)	45,765 (31%)	42,415 (27%)
No Surface Occupancy	9,625 (6%)	7,140 (4%)	7,139 (4%)	7,150 (4%)	10,202 (7%)	12,395 (8%)
No Leasing	22,538 (14%)	21,571 (14%)	21,571 (14%)	21,572 (14%)	21,573 (15%)	22,370 (14%)
Other Minerals (Open)						
Mineral Material	33,249 (87%)	34,194 (89%)	34,195 (89%)	34,183 (89%)	33,368 (87%)	31,386 (82%)
Phosphate	65 (12%)	533 (100%)	533 (100%)	533 (100%)	533 (100%)	65 (12%)
Gilsonite	167 (100%)	84 (100%)	84 (100%)	84 (100%)	84 (100%)	84 (100%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 12. Mineral Development Land Categorization Proposed In Blue Grouse Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	16,686 (7%)	80,282 (35%)	145,218 (63%)	72,786 (32%)	54,131 (33%)	50,010 (22%)
Timing and Controlled Surface Use	158,930 (69%)	135,586 (59%)	72,863 (32%)	97,427 (42%)	91,480 (55%)	96,557 (42%)
No Surface Occupancy	6,130 (3%)	2,572 (1%)	2,572 (1%)	2,522 (1%)	8,204 (5%)	3,251 (1%)
No Leasing	49,400 (21%)	12,551 (5%)	10,338 (4%)	58,258 (25%)	12,542 (8%)	81,161 (35%)
Other Minerals (Open)						
Mineral Material	4.977 (74%)	5,980 (89%)	5,980 (89%)	5,837 (87%)	6,153 (92%)	4,330 (64%)
Phosphate	16,490 (72%)	21,598 (95%)	21,598 (95%)	21,591 (95%)	20,600 (90%)	16,484 (72%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 13. Mineral Development Land Categorization Proposed In Chukar Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	23,267 (17%)	42,956 (32%)	64,330 (47%)	27,199 (20%)	28,955 (23%)	19,577 (15%)
Timing and Controlled Surface Use	43,147 (31%)	73,361 (54%)	59,147 (44%)	77,585 (57%)	59,862 (47%)	46,388 (34%)
No Surface Occupancy	17,146 (12%)	8,576 (6%)	9,066 (7%)	7,254 (5%)	31,867 (25%)	12,289 (9%)
No Leasing	55,981 (40%)	10,652 (8%)	3,003 (2%)	23,508 (17%)	5,789 (5%)	57,312 (42%)
Other Minerals (Open)						
Mineral Material	22,498 (64%)	30,177 (85%)	30,408 (86%)	24,449 (69%)	22,612 (64%)	15,932 (45%)
Phosphate	23,388 (65%)	34,695 (96%)	34,695 (96%)	33,737 (93%)	33,636 (93%)	22,436 (62%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 14. Mineral Development Land Categorization Proposed In Greater Sage-Grouse Wintering Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	98,067 (41%)	146,696 (62%)	165,220 (70%)	96,844 (41%)	143,220 (61%)	96,032 (41%)
Timing and Controlled Surface Use	98,679 (42%)	81,510 (34%)	63,445 (27%)	121,534 (51%)	80,390 (34%)	90,094 (38%)
No Surface Occupancy	4,832 (2%)	5,245 (2%)	5,343 (2%)	5,343 (2%)	10,398 (4%)	5,725 (2%)
No Leasing	35,095 (15%)	3,125 (1%)	2,568 (1%)	12,855 (5%)	2,568 (1%)	44,724 (19%)
Other Minerals (Open)						
Mineral Material	71,668 (87%)	79,027 (96%)	79,121 (96%)	77,223 (93%)	75,971 (96%)	69,494 (84%)
Phosphate	16,100 (64%)	5,790 (23%)	23,962 (96%)	14,359 (57%)	23,419 (94%)	6,498 (26%)
Gilsonite	148 (100%)	74 (100%)	74 (100%)	74 (100%)	72 (100%)	74 (100%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 15. Mineral Development Land Categorization Proposed In Greater Sage-grouse Brooding Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	288,942 (36%)	456,122 (56%)	490,288 (60%)	348,154 (43%)	346,050 (48%)	286,941 (35%)
Timing and Controlled Surface Use	412,653 (51%)	324,955 (40%)	291,468 (36%)	399,432 (49%)	319,379 (44%)	386,075 (48%)
No Surface Occupancy	21,092 (3%)	10,988 (1%)	11,181 (1%)	11,101 (1%)	29,982 (4%)	11,313 (1%)
No Leasing	91,085 (11%)	22,755 (3%)	21,883 (3%)	56,133 (7%)	22,720 (3%)	129,772 (16%)
Other Minerals (Open)						
Mineral Material	183,838 (88%)	203,209 (97%)	203,201 (97%)	198,885 (95%)	203,208 (97%)	177,359 (85%)
Phosphate	50,184 (81%)	36,942 (59%)	61,413 (97%)	49,324 (79%)	59,553 (96%)	39,059 (63%)
Gilsonite	456 (100%)	228 (100%)	228 (100%)	228 (99%)	223 (97%)	228 (100%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 16. Mineral Development Land Categorization Proposed In White-tailed Prairie Dog/Black-footed Ferret Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	104,308 (84%)	112,274 (90%)	114,783 (92%)	95,528 (77%)	69,283 (56%)	95,522 (77%)
Timing and Controlled Surface Use	18,753 (15%)	10,805 (9%)	8,296 (7%)	27,537 (22%)	48,241 (39%)	23,292 (19%)
No Surface Occupancy	1,083 (1%)	1,083 (1%)	1,083 (1%)	1,097 (1%)	6,638 (5%)	5,328 (4%)
No Leasing	13 (0.01%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	13 (<1%)
Other Minerals (Open)						
Mineral Material	48,195 (99%)	48,204 (99%)	48,204 (99%)	48,197 (99%)	48,204 (93%)	46,360 (95%)
Phosphate	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Gilsonite	93 (97%)	46 (100%)	93 (100%)	46 (97%)	46 (97%)	46 (100%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 17. Mineral Development Land Categorization Proposed In Mexican Spotted Owl (Canyon) Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	1,234 (11%)	5,443 (52%)	7,136 (68%)	5,256 (50%)	1,667 (28%)	1,069 (10%)
Timing and Controlled Surface Use	2,335 (22%)	3,833 (37%)	2,802 (27%)	2,722 (26%)	2,886 (49%)	5,932 (57%)
No Surface Occupancy	1,286 (12%)	63 (1%)	175 (2%)	62 (1%)	1,007 (17%)	62 (1%)
No Leasing	6,002 (55%)	1,129 (11%)	355 (3%)	2,428 (23%)	355 (6%)	3,405 (32%)
Other Minerals (Open)						
Mineral Material	97 (81%)	112 (95%)	113 (95%)	75 (64%)	112 (95%)	62 (52%)
Phosphate	225 (68%)	321 (97%)	321 (97%)	227 (69%)	271 (82%)	131 (40%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 18. Mineral Development Land Categorization Proposed In Mexican Spotted Owl (Forest) Habitat

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	15,449 (39%)	17,947 (46%)	28,207 (72%)	14,390 (37%)	17,724 (50%)	12,164 (31%)
Timing and Controlled Surface Use	10,944 (28%)	18,458 (47%)	9,830 (25%)	18,532 (47%)	13,289 (37%)	11,980 (31%)
No Surface Occupancy	624 (2%)	903 (2%)	903 (2%)	836 (2%)	4,267 (12%)	836 (2%)
No Leasing	12,410 (31%)	1,979 (5%)	347 (1%)	5,529 (14%)	347 (1%)	14,302 (36%)
Other Minerals (Open)						
Mineral Material	4,634 (81%)	5,722 (100%)	5,722 (100%)	5,649 (98%)	5,722 (100%)	4,561 (79%)
Phosphate	568 (88%)	642 (100%)	642 (100%)	518 (81%)	562 (87%)	443 (69%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 19. Mineral Development Land Categorization Proposed In Ferruginous Hawk Nesting Habitat[1]

Oil and Gas Development						
	Proposed RMP	**Alternative A***	**Alternative B***	**Alternative C***	**Alternative D (No Action Alternative)**	**Alternative E***
Standard Stipulation	39,225 (77%)	46,906 (92%)	47,067 (93%)	38,342 (75%)	40,387 (82%)	37.040 (73%)
Timing and Controlled Surface Use	11,037 (22%)	3,398 (7%)	3,237 (6%)	11,952 (24%)	7,860 (16%)	13,188 (26%)
No Surface Occupancy	524 (1%)	524 (1%)	524 (1%)	534 (1%)	1,279 (3%)	534 (1%)
No Leasing	42 (0.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	42 (<1%)
Other Minerals (Open)						
Mineral Material	15,862 (98%)	15,874 (98%)	15,874 (98%)	15,866 (98%)	15,975 (99%)	15,855 (98%)
Phosphate	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Gilsonite	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

[1] These calculations are to show an approximation of land management in the habitat type used by nesting ferruginous hawks. Calculations are based on areas associated within the ½ mile buffer around known active and inactive ferruginous hawk nests in the VPA. However, the areas within the ½ mile buffer zone for active and inactive ferruginous hawk nests will actually be managed under the special stipulations for raptors outlined in Chapter 4.

*Includes land categorization for the Hill Creek Extension (Standard Stipulation: 160,998 acres, Timing & Controlled Surface Use: 29,832 acres).

Table 20. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Vpa And Road Effects Zones Associated With These Fragments

Vernal Planning Area								
Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	4,485	383	99.6	PRMP: 86.6 Alt A: 93.3 Alt B: 95.2 Alt C: 84.6 Alt D: 89.1 Alt E: 76.0	736	2,194	93.6	PRMP: 85.6 Alt A: 92.9 Alt B: 95.0 Alt C: 83.9 Alt D: 88.4 Alt E: 74.5
Fragments outside the 660-foot road effects zone	2,849	492	81.2	PRMP: 85.4 Alt A: 92.8 Alt B: 95.0 Alt C: 83.6 Alt D: 87.6 Alt E: 75.0	696	1,891	76.3	PRMP:84.2 Alt A: 92.3 Alt B: 94.8 Alt C: 82.8 Alt D: 86.5 Alt E: 73.6
Fragments outside the 1,320-foot road effects zone	2,394	477	66.1	PRMP:84.1 Alt A: 92.3 Alt B: 94.8 Alt C: 82.6 Alt D: 87.6 Alt E: 73.2	593	1,803	62.0	PRMP:82.7 Alt A: 91.7 Alt B: 94.4 Alt C: 81.6 Alt D: 86.5 Alt E: 71.6
Fragments outside the 2,640-foot road effects zone	1,510	505	44.2	PRMP:81.3 Alt A: 90.9 Alt B: 94.1 Alt C: 80.3 Alt D: 85.5 Alt E: 69.6	413	1,728	41.4	PRMP:79.6 Alt A: 90.2 Alt B: 93.7 Alt C: 79.0 Alt D: 84.3 Alt E: 67.9

Table 21. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Manila-Clay Basin RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	234	225	99.6	PRMP:70.2 Alt A: 91.4 Alt B: 91.4 Alt C: 91.4 Alt D: 80.6 Alt E: 70.2	26	1,807	89.1	PRMP:66.8 Alt A: 90.7 Alt B: 90.7 Alt C: 90.7 Alt D: 79.3 Alt: E: 59.7
Fragments outside the 660-foot road effects zone	104	117	82.2	PRMP:66.7 Alt A: 90.5 Alt B: 90.5 Alt C: 90.5 Alt D: 77.3 Alt E: 90.5	24	1,662	75.6	PRMP:63.0 Alt A: 89.7 Alt B: 89.7 Alt C: 89.7 Alt D: 75.8 Alt E: 89.7
Fragments outside the 1,320-foot road effects zone	90	401	68.5	PRMP:63.3 Alt A: 89.4 Alt B: 89.4 Alt C: 89.4 Alt D: 75.3 Alt E: 89.4	25	1,359	64.4	PRMP:60.9 Alt A: 88.7 Alt B: 88.7 Alt C: 88.7 Alt D: 73.7 Alt E: 88.7
Fragments outside the 2,640-foot road effects zone	55	459	47.8	PRMP:56.9 Alt A: 87.1 Alt B: 87.1 Alt C: 87.1 Alt D: 68.2 Alt E: 87.1	18	1,287	43.9	PRMP:52.6 Alt A: 85.1 Alt B: 85.1 Alt C: 85.1 Alt D: 63.1 Alt E: 85.1

Table 22. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Manila-Clay Basin RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Road and Pipeline Densities (mi/mi^2)	1.48	1.47	1.47	1.45	1.53	1.41
Percent outside a Functional Habitat Loss-660' zone	86%	86%	86%	86%	82%	87%
Percent outside a Functional Habitat Loss-1,320' zone	75%	75%	75%	75%	68%	76%
Percent outside a Functional Habitat Loss-2,640' zone	57	57%	57%	58%	48%	60%

Table 23. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Tabiona-Ashley Valley RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	1,233	297	99.7	PRMP:70.8 Alt A: 92.0 Alt B: 94.5 Alt C: 84.0 Alt D: 86.5 Alt E: 59.7	165	2,044	91.8	PRMP:68.2 Alt A: 91.8 Alt B: 94.5 Alt C: 83.9 Alt D: 85.6 Alt E: 53.2
Fragments outside the 660-foot road effects zone	715	431	83.9	PRMP:69.1 Alt A: 92.0 Alt B: 94.9 Alt C: 84.3 Alt D: 84.4 Alt E: 58.5	155	1,864	78.6	PRMP:66.8 Alt A: 96.1 Alt B: 94.6 Alt C: 84.0 Alt D: 83.2 Alt E: 56.2
Fragments outside the 1,320-foot road effects zone	559	467	71.0	PRMP:67.5 Alt A: 91.9 Alt B: 95.1 Alt C: 84.51 Alt D: 85.9 Alt E: 57.4	136	1,797	66.5	PRMP:69.4 Alt A: 91.4 Alt B: 94.8 Alt C: 84.4 Alt D: 84.4 Alt E: 55.3
Fragments outside the 2,640-foot road effects zone	370	506	50.9	PRMP:64.3 Alt A: 91.3 Alt B: 95.3 Alt C: 84.6 Alt D: 84.6 Alt E: 55.2	102	1,714	47.6	PRMP:61.6 Alt A: 90.7 Alt B: 94.9 Alt C: 84.1 Alt D: 83.5 Alt E: 53.0

Table 24. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Tabiona-Ashley Valley RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Road and Pipeline Densities (mi/mi^2)	1.48	1.21	1.20	1.11	1.34	1.06
Percent outside a Functional Habitat Loss-660' zone	88%	88%	88%	89%	84%	90%
Percent outside a Functional Habitat Loss-1,320' zone	79	79%	79%	80%	71%	81%
Percent outside a Functional Habitat Loss-2,640' zone	63	63%	63%	66%	51%	67%

Tabiona-Ashley Valley RFD Area (367,419 acres)

Table 25. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Altamont-Bluebell RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	64	224	99.7	PRMP:98.7 Alt A: 98.7 Alt B: 98.7 Alt C: 98.7 Alt D: 97.2 Alt E: 98.7	10	1,280	89.0	PRMP:96.7 Alt A: 96.7 Alt B: 96.7 Alt C: 96.7 Alt D: 96.8 Alt E: 97.4
Fragments outside the 660-foot road effects zone	45	266	83.4	PRMP:98.9 Alt A: 98.9 Alt B: 98.9 Alt C: 98.9 Alt D: 96.1 Alt E: 98.9	9	1,172	73.3	PRMP:98.7 Alt A: 98.7 Alt B: 98.7 Alt C: 98.7 Alt D: 93.8 Alt E: 98.7
Fragments outside the 1,320-foot road effects zone	35	287	69.8	PRMP:99.3 Alt A: 99.3 Alt B: 99.3 Alt C: 99.3 Alt D: 97.6 Alt E: 99.3	9	1,003	62.8	PRMP:99.1 Alt A: 99.1 Alt B: 99.1 Alt C: 99.1 Alt D: 95.8 Alt E: 99.1
Fragments outside the 2,640-foot road effects zone	32	218	48.5	PRMP:100 Alt A: 100 Alt B: 100 Alt C: 100 Alt D: 98.7 Alt E: 100	8	805	44.8	PRMP:100 Alt A: 100 Alt B: 100 Alt C: 100 Alt D: 100 Alt E: 100

Table 26. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Altamont-Bluebell RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Road and Pipeline Densities (mi/mi^2)	1.34	1.33	1.33	1.33	1.45	1.33
Percent outside a Functional Habitat Loss-660' zone	85%	85%	85%	85%	83%	85%
Percent outside a Functional Habitat Loss-1,320' zone	72%	72%	72%	72%	70%	72%
Percent outside a Functional Habitat Loss-2,640' zone	51%	51%	51%	51%	49%	51%

Altamont-Bluebell RFD Area (14,375 acres)

Table 27. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Monument Butte-Redwash RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	2,071	306	99.5	PRMP:94.9 Alt A: 95.0 Alt B: 98.1 Alt C: 94.2 Alt D: 92.6 Alt E: 92.4	359	1,624	91.6	PRMP:94.6 Alt A: 94.7 Alt B: 98.2 Alt C: 93.9 Alt D: 91.9 Alt E: 84.5
Fragments outside the 660-foot road effects zone	1,234	396	76.8	PRMP:94.5 Alt A: 94.6 Alt B: 98.4 Alt C: 93.6 Alt D: 91.4 Alt E: 91.5	298	1,508	70.6	PRMP:94.0 Alt A: 94.3 Alt B: 98.8 Alt C: 93.2 Alt D: 90.7 Alt E: 90.9
Fragments outside the 1,320-foot road effects zone	1,052	357	60.0	PRMP:94.1 Alt A: 94.1 Alt B: 98.7 Alt C: 92.9 Alt D: 91.8 Alt E: 90.5	227	1,510	53.9	PRMP:93.3 Alt A: 93.4 Alt B: 98.7 Alt C: 92.0 Alt D: 90.9 Alt E: 89.4
Fragments outside the 2,640-foot road effects zone	604	376	35.7	PRMP:92.7 Alt A: 92.8 Alt B: 99.1 Alt C: 91.0 Alt D: 90.5 Alt E: 87.9	144	1,429	32.3	PRMP:91.8 Alt A: 91.9 Alt B: 99.2 Alt C: 90.0 Alt D: 89.6 Alt E: 86.7

Table 28. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Monument Butte-Redwash RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Road and Pipeline Densities (mi/mi^2)	2.45	2.42	2.42	2.40	2.00	2.40
Percent outside a Functional Habitat Loss-660' zone	78%	78%	78%	79%	77%	79%
Percent outside a Functional Habitat Loss-1,320' zone	61%	62%	62%	62%	59%	62%
Percent outside a Functional Habitat Loss-2,640' zone	39%	39%	39%	40%	36%	40%

Monument Butte-Redwash RFD Area (636,185 acres)

Table 29. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The West Tavaputs Plateau RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	213	845	99.7	PRMP:87.5 Alt A: 98.2 Alt B: 99.0 Alt C: 86.5 Alt D: 86.5 Alt E: 74.9	59	2,987	97.7	PRMP:86.4 Alt A: 98.1 Alt B: 98.9 Alt C: 85.9 Alt D: 86.1 Alt E: 72.4
Fragments outside the 660-foot road effects zone	189	815	85.3	PRMP:87.0 Alt A: 98.2 Alt B: 99.0 Alt C: 85.6 Alt D: 85.6 Alt E: 73.9	61	2,435	82.3	PRMP:85.6 Alt A: 98.2 Alt B: 99.0 Alt C: 85.2 Alt D: 84.8 Alt E:73.3
Fragments outside the 1,320-foot road effects zone	172	763	72.7	PRMP: Alt A: 71.4 Alt B: 72.0 Alt C: 61.6 Alt D: 61.6 Alt E: 53.0	56	2,251	69.9	PRMP: Alt A: 62.7 Alt B: 63.3 Alt C: 54.3 Alt D: 54.1 Alt E: 46.9
Fragments outside the 2,640-foot road effects zone	135	693	51.9	PRMP: Alt A: 50.8 Alt B: 51.3 Alt C: 42.6 Alt D: 42.5 Alt E: 36.6	47	1,902	49.5	PRMP: Alt A: 43.3 Alt B: 43.7 Alt C: 36.3 Alt D: 36.2 Alt E: 31.3

Table 30. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The West Tavaputs Plateau RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Road and Pipeline Densities (mi/mi^2)	1.27	0.88	0.88	0.82	1.23	0.76
Percent outside a Functional Habitat Loss-660' zone	86%	90%	90%	91%	85%	91%
Percent outside a Functional Habitat Loss-1,320' zone	74%	81%	81%	82%	73%	84%
Percent outside a Functional Habitat Loss-2,640' zone	53%	65%	65%	68%	52%	70%

West Tavaputs Plateau RFD Area (180,467 acres)

Table 31. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The East Tavaputs Plateau RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	867	545	99.7	PRMP:89.0 Alt A: 90.2 Alt B: 90.6 Alt C: 70.4 Alt D: 88.3 Alt E: 67.2	167	2,714	95.6	PRMP:88.2 Alt A: 89.5 Alt B: 90.0 Alt C: 69.1 Alt D: 87.4 Alt E: 63.2
Fragments outside the 660-foot road effects zone	562	702	83.1	PRMP:88.0 Alt A: 89.2 Alt B: 89.7 Alt C: 68.8 Alt D: 86.9 Alt E: 65.4	149	2,543	80.0	PRMP:87.0 Alt A: 88.3 Alt B: 88.9 Alt C: 67.3 Alt D: 85.8 Alt E: 64.0
Fragments outside the 1,320-foot road effects zone	486	673	70.0	PRMP:86.9 Alt A: 88.2 Alt B: 88.8 Alt C: 67.0 Alt D: 86.4 Alt E: 63.6	140	2,235	66.0	PRMP:86.1 Alt A: 87.6 Alt B: 88.1 Alt C: 65.5 Alt D: 85.5 Alt E: 62.1
Fragments outside the 2,640-foot road effects zone	387	577	47.0	PRMP:84.4 Alt A: 85.9 Alt B: 86.6 Alt C: 63.5 Alt D: 84.2 Alt E: 59.7	119	1,780	44.7	PRMP:83.7 Alt A: 85.2 Alt B: 85.8 Alt C: 61.7 Alt D: 83.0 Alt E: 58.2

Table 32. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The East Tavaputs Plateau RFD Area

	Proposed RMP	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Road and Pipeline Densities (mi/mi^2)	85.0	0.83	0.83	0.76	1.45	0.74
Percent outside a Functional Habitat Loss-660' zone	90%	91%	91%	91%	83%	92%
Percent outside a Functional Habitat Loss-1,320' zone	82%	82%	82%	84%	69%	84%
Percent outside a Functional Habitat Loss-2,640' zone	66%	67%	67%	70%	47%	71%

East Tavaputs Plateau RFD Area (474,288 acres)

WILDLIFE

Table 33. Migratory Birds Species On The USFWS Species Of Concern List, State Of Utah Special Status Species List, And The Partners In Flight High-Priority Bird Species List

Common Name	Scientific Name	USFWS Species of Concern	State of Utah Special Status Species	Partners in Flight High-Priority Bird Species	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat
American Avocet	*Recurvirostra americana*	X		X	Wetland	Playa	Migrant
American White Pelican	*Pelecanus erythrorhynchos*		X	X	Water	Wetland	Migrant
Black-Chinned Sparrow	*Spizella atrogularis*	X			Low Desert Scrub	High Desert Scrub	Migrant
Black-necked Stilt	*Himantopus mexicanus*			X	Wetland	Playa	Migrant
Black-throated Gray Warbler	*Dendroica nigrescens*	X		X	Pinyon-Juniper	Mountain Shrub	Migrant
Bobolink	*Dolichonyx oryzivorus*		X	X	Wet Meadow	Agriculture	Migrant
Brewer's Sparrow	*Spizella breweri*	X		X	Shrub-steppe	High Desert Scrub	Migrant
Broad-tailed Hummingbird	*Selasphorus platycercus*			X	Lowland riparian	Mountain Riparian	Migrant
Ferruginous Hawk	*Buteo regalis*	X	X	X	Pinyon-Juniper	Shrub-steppe	Grassland
Flammulated Owl	*Otus flammeolus*	X			Ponderosa Pine	Sub-Alpine Conifer	Migrant
Gambel's Quail	*Callipepla gambelii*			X	Low Desert Scrub	Lowland riparian	Low Desert Scrub
Golden Eagle	*Aquila chrysaetos*	X			Cliff	High Desert Scrub	High Desert Scrub
Grey Vireo	*Vireo vicinior*	X		X	Pinyon-Juniper	Northern Oak	Migrant
Greater sage-Grouse	*Centrocercus urophasianus*	X	X	X	Shrub-steppe	Shrub-steppe	Shrub-steppe
Lewis' Woodpecker	*Melanerpes lewis*	X	X	X	Ponderosa Pine	Lowland riparian	Northern Oak

Table 33. Migratory Birds Species On The USFWS Species Of Concern List, State Of Utah Special Status Species List, And The Partners In Flight High-Priority Bird Species List

Common Name	Scientific Name	USFWS Species of Concern	State of Utah Special Status Species	Partners in Flight High-Priority Bird Species	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat
Loggerhead Shrike	*Lanius ludovicianus*	X			High Desert Scrub	Pinyon-Juniper	High Desert Scrub
Long-billed Curlew	*Numenius americanus*	X	X	X	Grassland	Agriculture	Migrant
Mountain Plover	*Charadrius montanus*	X		X	High Desert Scrub	High Desert Scrub	Migrant
Northern Harrier	*Circus cyaneus*	X			Wet Meadow	High Desert Scrub	Agriculture
Peregrine Falcon	*Falco peregrinus*	X			Cliff	Lowland riparian	Wetland
Pinyon Jay	*Gymnorhinus cyanocephalus*	X			Pinyon-Juniper	Ponderosa Pine	Pinyon-Juniper
Prairie Falcon	*Falco mexicanus*	X			Cliff	High Desert Scrub	Agriculture
Pygmy Nuthatch	*Sitta pygmaea*	X			Ponderosa Pine	Aspen	Ponderosa Pine
Red-naped Sapsucker	*Sphyrapicus nuchalis*	X			Aspen	Mixed Conifer	Mountain Riparian
Sage Sparrow	*Amphispiza belli*	X		X	Shrub-steppe	High Desert Scrub	Low Desert Scrub
Snowy plover	*Charadrius alexandrinus*	X			Playa	Playa	Migrant
Swainson's Hawk	*Buteo swainsoni*	X			Agriculture	Aspen	Migrant
Three-toed Woodpecker	*Picoides tridactylus*		X	X	Sub-Alpine Conifer	Lodgepole Pine	Sub-Alpine Conifer
Virginia's Warbler	*Vermivora virginiae*	X		X	Northern Oak	Pinyon-Juniper	Migrant
Williamson Sapsucker	*Sphyrapicus thyroideus*	X			Sub-Alpine Conifer	Aspen	Migrant
Wilson's Phalarope	*Phalaropus tricolor*	X			Wetland	Water	Migrant

Table 33. Migratory Birds Species On The USFWS Species Of Concern List, State Of Utah Special Status Species List, And The Partners In Flight High-Priority Bird Species List

Common Name	Scientific Name	USFWS Species of Concern	State of Utah Special Status Species	Partners in Flight High-Priority Bird Species	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat
Yellow-billed Cuckoo	*Coccyzus americanus*	X	X	X	Lowland riparian	Agriculture	Migrant

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APPENDIX I. VISUAL RESOURCE MANAGEMENT (VRM) CLASS OBJECTIVES

Class I – The objective of Class I is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activities. The level of change to the characteristic landscape should be very low and should not attract attention.

Class II – The objective of this class is to retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III – The Class III objective is to partially retain the existing character of the landscape. The level of change to the landscape should be moderate. Management activities may attract the attention of the casual observer, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV – The objective Class IV is to provide for management activities that require major modifications to the existing character of the landscape. The level of change to the landscape can be high. The management activities may dominate the view and may be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of the basic visual elements of form, line, color, and texture.

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ALLOTMENT NAME	ALLOTMENT NUMBER	* ALLOTMENT MANAGEMENT CATEGORY	PERMITTED USE (AUMS)		PERIOD OF USE		10 YEAR AVERAGE ACTUAL USE		CURRENT GRAZING SYSTEM			% FEDERAL RANGE	KIND OF LIVESTOCK	* FORAGE ALLOCATED TO OTHER SPECIES / USES						ALLOTMENT ACRES					* RIPARIAN INVENTORY (MILES/ACRES)		* ECOLOGICAL CONDITION / SUCCESSION							* RANGELAND HEALTH STANDARDS						RANGELAND PROBLEMS/CONFLICTS
					BEGINNING	ENDING	(AUMS)																				1985 BOOKCLIFFS RMP				1994 DIAMOND MOUNTAIN RMP					MEETING STANDARDS				1-Riparian Areas Unsatisfactory Condition; 2-Infestation of Unwanted Species; 3-Livestock Control; 4-Season of Use; 5-Excessive Soil Erosion; 6-Vegation Diversity; 7-Insufficient Forage; 8-Excessive Slope; 9-Insufficient Water; 10-Recreation Conflicts; 11-Oil & Gas Conflicts; 12-Rock Outcrop/Badlands; 13-Low % Public Land; 14- Excessive Use Areas Due to Poor Distribution; 15-Tresspass concerns;
		M-Management I-Improve C-Custodial	ACTIVE	SUSPENDED			ACTUAL USE	NON-USE	CONTINUOUS	DEFERRED	REST ROTATION		C-cattle S-sheep H-horses	DEER	ANTELOPE	ELK	BH SHEEP	MOOSE	WILD HORSES	FEDERAL	STATE	PRIVATE	TRIBAL	OTHER	* LENTIC	* LOTIC	(FEDERAL ACRES) EXCELLENT	GOOD	FAIR	POOR	(% PUBLIC ACRES) AS OF 1994 EARLY	MID	LATE	YEAR ASSESSMENT SCHEDULED	YEAR ASSESSMENT COMPLETED	STD 1	STD 2	STD 3	STD 4	
ANTELOPE DRAW	15854	I	7198		11/16	4/27	1381	2298	X			93	S	155	87					56928	4597			6			3970	19466	28818	0				2002	2002					2,4,10
ANTELOPE POWERS	15879	M	3091	1372	11/20	4/20	1046	2150	X			100	C/S	100	201	106				35697	4221							410	4516	615				2010						4,11
ARGYLE RIDGE 7	04873	I	339	80	6/1	11/15	144	152	X			20	C	350		377		50		9081	1171	8294				3					2	47	51	2004						2,3,4,7,8,10
ASPHALT DRAW	08817	I	4343	1034	11/1	6/15	2340	2003		X		84	S	223	63					38057	5191	1253			96.3	5	1980	21596	13267	0				2005						4
ATCHEE RIDGE AMP	08824	I	805		4/1	11/29	1597	3396	X			100	C	7560		3148				84827	15845	2249	803		278.9	34.9	21696	65596	12201	221				2009						1,4,8,9,11
BADLANDS	05848	I	780		11/1 4/6	1/17 5/5	603	177	X			87	C	40	22					13422	2305					0	40	4471	3580	0				2004						4,14
BAESER WASH	05832	M	1246	262	12/21 6/1	4/25 7/15	910	336	X			100	C/S	44	24					14732	1914	652			90.3	3.1	0	3104	4213	88				2002	2002					3,4
BEALER BASIN	14806	M	246	159	5/15	12/2	218	28	X			43	C	88	20	93				1812		1106			0.5						0	46	54	2008						4,6,7,13
BIG PACK MOUNTAIN	08821	C	1060	182	11/1	4/1		998	X			95	S	51					239	13633	907	7	80			0.3	0	13184	1990	1280				2005						4,9
BIG WASH	05881	M	980		11/16	3/10	653	326	X			85	C	157	69	126				4606	760										93	6	1	2010						7,11
BIG WASH DRAW	15885	M	516		11/1	2/28	236	312	X			90	C	204	30	241				7399	973										2	98	0	2010						2,11
BIRCHELL	08804	C	85	23	10/17	11/15	35	50	X			100	C	6					28	1692			5			2.8	0	0	1492	82				2005						13
BLAIR BASIN	14824	C	15		6/1	10/31	7	8	X			5	C	36	5	34		2		303		1101									0	100	0	2008						2,13
BLIND CANYON 11																																									
BLUE MOUNTAIN	15825	I	296		5/15	10/31	348	84		X		57	C/H	68						1145		653					0	935	132	100				2004						4,7,9
BOHEMIAN BOTTOMS	5840	I	617	356	11/16 4/16	1/15 10/31	382	239	X			100	C	29	16					9773	1082	689		2		1.4		3104	4213	88				2002	2002					4
BONANZA	15842	I	1939	707	12/5	5/5	1174	765	X			100	S	71	39					24377	3411	451				0.1		2144	14880	693				2002	2002					2,4,6,9
BOOKCLIFFS PASTURE 9	08828	M	301		7/1	10/30	311			X		100	C	1782		742				5125	18892	361						4396	693	0				2009						13
BREWER	08831	C	120	80	11/1	4/30	54	66	X			100	C	14	4					2770		23	15		7.3			1394	1154	0				2005						4,13
BROWNS PARK 10	04806	C	530		12/1	4/30			X				C	309	75	60	244	5		5521	1112	169		81								81	9	2007						7
BRIDGEPORT	14805	I	139		4/11	5/30	211		X			100	C	534	31	100	25	5		9128	882	705			10.1	3.5					0	100	0	2007						2
BRUSH CREEK	4858	I	870		11/11 5/6	2/19 6/5	691	168		X		100	C	902	2	219				13917	1563	659		293	10.4	0.4					2	53	45	2006						3,4,5,6,7,9
BULL CANYON 7	04878	M	1000		11/1	4/1	1000		X			100	C	215	31	83	227	5		15984	670	427			3.1	3.8					2	83	15	2010						8
CANAL	15816	I	224		12/1	2/10	152	16	X			63	C	41	40	15				2638	655	782			6.2	1.2					2	86	12	2003						4,6,7
CASTLE PEAK	05886	M	3632	1128	11/1	4/15	1991	1642		X		87	S	175	248	295				45113	6748	10				0					5	95	5	2010						4,11
CLAY BASIN	14802	I	384		11/1 5/1	12/30 6/1	379	30		X		100	C	600	150	210	104	5		4386											0	70	26	2007						1,3,5,6,9
CLAY BASIN MEADOWS	14804	I	365		5/1	6/19	261	103		X		78	C	73	60	150		20		4406	309	693				1.1					0	62	38	2007						2,4,6,9
COAL MINE BASIN	04855	M	707		11/15 5/1	12/29 6/14	641	67			X	100	C	355	2	140		1		4323	512	1474			11.2	1.4					0	100	0	2006						4,6,7,9,10
COCKLEBURR	05833	I	1729	95	12/21	4/30	847	882	X			100	C/S	55	30					18374	2475	747			0.1	4.9	0	10607	3385	1639				2004						4
COOPER DRAW	04835	M	344		5/16	10/30	218	126	X			76	S	208	50	298	30			2357		640				0.1					0	97	3	2008						3,4
COTTONWOOD SPRINGS	4853	M	945	382	11/20	12/30	800	145		X		100	C	515	25	685		10		13691	2569	212	1		0.6	0.8					10	54	36	2003						6,7,9
COVE & WEST COW HOLLOW	14817	C	277		6/1	10/31	269	8	X			18	C/H	120	15	84		10		2009	9	2546									0	33	67	2008						6,7,13
CURRANT CANYON	04877	M	193	240	11/1	3/30	162	79	X			100	C	315	10	179	28	30		5068	1849	193				0.3					0	24	76	2010						10
DAVIS CANYON 5	18823	I	334	450	4/1	11/29				X			C	446		186				5175	901						79	888	4286	0										
DEEP CREEK	04884	C	8		5/25	10/24	8		X			3	C	21	2	10		2		79	81	238									0	7	93	2006						7,13
DEVILS CANYON 7	04882	M	1368	1352	11/1	4/30	1192	165	X			100	C	227	30	101	120			14871	1920	248				0					0	83	17	2010						4,10,11,
DIAMOND MOUNTAIN	04837	I	788		9/16 5/1	11/1 6/30	502	181		X		33	C	546	50	494	40	3		5787	2619	6700			2	0.8					1	65	34	2001	2001					1,3,4
DIAMOND RIM	04861	C	120		5/1 10/31	5/31 11/30	120			X		100	C	201		174				4024		670			1.5	0.9					0	96	4	2006						6,9,
DINOSAUR PARK	04867	C	103		11/1 4/15	12/31 5/15	66	38	X			100	C	129	25	36				1433	1180	464				0.1					0	100	0	2001	2001					3,4,9
DOCS VALLEY	15821	I	1219	106	5/1	10/31	798	421		X		112	C/S/H	442						8431	571	2405		381		0.4	592	5986	1657	0				2004						4
DONKEY FLAT	04859	I	402		11/11 5/1	12/31 5/31	424	37		X		100	C	600		211		2		5100	310	104		399	0.3	3					0	80	20	2006						2,6,9
DRY CREEK 2																																									
DRY FORK	04854	I	224	108	6/1	9/15	319		X			80	C	628	2	340	15	5		5213	1085	1229			3.8	0.9					2	83	6	2002	2000				X	1,8,12,14
EAST COW HOLLOW	14822	C	50		6/1	10/31	50		X			13	C	29	10	32				652	1	1391				0					14	82	4	2008						13
EAST HUBER	15811	M	1043	166	11/26	4/1	612	432	X				S	21	50	18				16733	2115	247									0	77	23	2003						3,6
EAST LITTLE MOUNTAIN	04845	M	265	70	5/15	9/27	256	8			X	67	C	298	2	180		10		2597	133	991			6.6	2.9					0	100	0	2006						2,4,7,8
EIGHT MILE FLAT	05887	M	2758	1508	11/1	4/1	1831	744	X			91	S	139	108	48				22917	2160	2476			35.8	14.2					1	96	3	2010						11
FIVE MILE	04874	M	1277	884	11/1	4/1	965	135	X			100	C	598	60	1487	9	30		11432	3611	578									7	76	17	2010						4,8,10,
FLYNNS POINT	04889	C	35		5/15	10/5	35		X			10	C	25	2	20				253	656	898										40	60	2008						4,13
GADSEN DRAW	14810	C	88		7/1	10/15	70	18	X			10	C	94	10	122		1		1176		2768										82	18	2008						4,13
GADSEN	04881	C	26	23	5/16	10/18	27		X			5	C	108	10	124		1		481	39	2669			3.6							13	87	2008						13

GARDNER	04836	C	8		6/1	8/25	8		X			14	C							117	119	201				0.1							100	2006						13
GOSLIN MOUNTAIN	14803	I	2521		5/1	9/30	1933	588		X		71	C	816	163	810	215	35		28018	4713	507		16465	126.6	9.6						39	57	2007						1,2,6,9
GREEN RIVER 3		M	185		10/15	2/1					X		C	217	30	26	3			3706											19	80	1	2010						
GREEN RIVER	15820	M	1171	210	11/1 4/16	2/7 5/7	817	355	X			100	C/S	217	30	26	3			18958	1412	454		294	20.6	6.6	972	7525	4475	119				2004						4
GREEN RIVER AMP	08803	I	437	117	6/1	10/15				X		100	C	34					157	9294	289	3	504		418.1	8		2478	3316	473				2003						1,2,3,4
GREEN RIVER BOTTOMS	15878	I	330	132	5/15	10/31	328	2		X		88	C	230	35	25	90			6263	477	82			217.6	1.6					19	80	1	2003						4
HACKING	04850	C	14		5/10 10/10	6/10 10/30	10		X			16	C	51		25		1		157											8	35	57	2006						13
HALFWAY HILL	15861	I	558	215	3/1	5/1	404	154	X			87	S	23	13					7682	1266	60				2.8	9	2633	3949	232				2004						6
HALFWAY HOLLOW	15808	M	444	193	2/23	3/3	279	310		X		70	C	10	25					9173	1359	350										75	25	2003						3,9,
HATCH COVE	04834	C	281		5/16	10/16	255	28	X			92/57	C	196	25	82		1		2917	316	427										28	72	2008						2,4
HATCHBROOME BARTHOLOMEW	08805	C	107	31	11/15	4/15	38	69	X			42	C	6					27	1346	67	245	1				0	573	370					2005						4,13
HELLS HOLE 4	08819	M	3499	487	12/1	4/30	2103	1896	X			82	S	153	43					23286	1248	5793	95		54.6	4.6	209	12298	8177					2005						4
HOLMES-PALMER	15810	C	115	156	4/1	4/12	57	2	X			37	S	92	4	10				1199	3130	293									24	34	42	2003						3,4,6,8,9
HORNED TOAD	05855	I	2237		12/1	5/1	775	1462	X			100	S	40	22					14144	1553													2002	2002					4,6
HORSE POINT 9	08825	I	2465		11/16	4/30	1462	974	X			100	C	1740		703			247	33114	4860	1	269			3	2019	11259	15640					2009						1
HORSESHOE BEND	05814	C	145		10/1	3/31	86	59	X			100	C	103	6					2204	183	481				1.3					24	34	42	2000	2000				X	9,14,15
HOY FLAT 2																																								
HOY MOUNTAIN	14815	M	568		5/16	10/30	486	71		X		76	C/H	184	10	195		10		3524	441	1421			4.4	0.2						72	28	2008						1,2,4,6,7,
ISLAND PARK	04870	C	35		11/1	4/30	19	14	X			33	C	484	25	517	175	5		7286	1213	157			3	1.6						53	47	2001	2001	x	x	x	x	2,4,6,9,10
JACKS0N-CROUSECYN-D HOLOW	14812	C	946		5/10	10/28	951		X			33	C	662	30	512	53	33		9353	2591	6559		23	14.6						8	40	52	2007						2,4,6,9
JENSEN	15836	I	685	78	10/27	5/15	640	46	X			95	C/S	26	15					6022	828	3469				4.6		410	4516	612				2004						4,6,9
JOHNSON	04851	C	86		5/20 11/1	6/19 11/30	88	0	X			100	C	62	2	81		2		808	118	196				0.1						100		2006						13
KANE HOLLOW	15837	I	428	114	11/1	4/30	381	59			X	95	C/S	22	12					7386	334	1105			0.7	0.7	4708	997	1586	74				2004						4,6,9
K RANCH 5	06307	C	238	180	10/1	4/1 5/1				X			C	21	12					4365	176	3745					2	3665	725	77				2004						
KYUNE 3	04128	M	53		6/1	10/30			X				C	149		92		4		1235														2004						
LAMBSN-CRSRSVR-DVSDR	14818	M	572		5/6 9/1	7/5 11/05	398	174	X			22	S	221	10	120		5		7202	2756	685		5							16	22	62	2008						4,10,13
LEARS CANYON	4875	M	308	130	6/1	7/15	103	77	X			100	C	290	2	141		30		9039	785	884			15.5	1.3					5	74	21	2004						4
LITTLE BRUSH CREEK	04865	C	6		10/1	11/30	6		X			100	H	10		3				53												0	100	2006						13
LITTLE DESERT	05880	M	2564	1240	11/5	4/23	1257	1001	X			100	S	50	119	94	45	0		43460	5900					1.1					2	70	28	2010						4,11
LITTLE EMMA	15852	I	3624		11/27	4/30	1626	1998	X			100	C	113	63					38472	4030	2247	33		241.6	24.1	249	25377	17124	24				2002	2002					2,4
LITTLE HOLE	14811	I	330		5/16	10/15	321	11		X		100	C	1015		220		30		6775	1086			1		2.2						69	31	2008						1,3,4,6,7,9,14
LOG CABIN	04830	C	58		6/1	10/15	58		X			100	S	29		31		13		615		115											100	2008						1,2,6,9
LOWER MCCOOK	08823	I	801		11/1	4/30	445	356		X		72	C	658		274				8226	761	1			6.3	0.8								2009						2,4,9,11
LOWER SHOWALTER (Wildhorse Bench)	08811	C	1426		2/16	4/15		1426		X		100	C	71					332	16772	3237		1505					5963	7285											4,NON-USE
MAIL DRAW	14826	M	86		5/16	10/31	132		X			37	C	31	5	45				766	5	351										88	12	2008		X	X	X	X	4
MAME HOLE-BEAR HOLLOW	04816	C	140		5/10	10/26	129	11	X			31	C	87	5	70		10		1445		1424		5								33	67	2008						2,4,6
MARSHALL DRAW 1	14814	I											C	302	5	233	25			5384	2927	458				0.4						9	90	2007						1,2,6,9
MAX CANYON 8	14073																																							
MCCLELLAND 9	08826	C	1401		5/1	10/30	348	1053		X		21	C	4295		1790				15044	43544		137			8.1	2197	10043	2653					2009						4,9
MCCOY FLAT	05805	M	843	12	11/16	4/1	270	573	X			87	C/S	332	19					12499	4933	1200			4.9	0.1					1	78	21	2003						3,6,8
MCFARLEY FLAT	04863	I	408		4/8 10/19	5/8 12/23	340	68			X	100	C	408	36	47				7375	167	258			0.1	1.8					16	69	15	2001	2001					1,2,3,4,6,7,10,12
MINERS GULCH	15838	C	154	27	5/1 11/15	5/6 11/15	135	30	X			100	C	12	7					4380	282							591	3314					2004						
MOSBY	04847	C	220	4	6/1 9/1	7/31 9/28	228	1	X			70/100	C	309	4	278		20		2255	267	101			5.7	1.4					50	19	31	2006						9,13
NATURAL LAKE	14820	C	100		6/1	11/1	98	2	X			100	C	50	5	54		6		837	1	1980										71	29	2008						13
OFFIELD MOUNTAIN 2																																								
OIL SHALE	08813	C	1137		11/15	4/15	426	711	X			22	S	144					677	14990	3443	22856	50					7147	5600					2005						4,9,13
OLSEN AMP	08816	I	9268	1425	11/1	6/15	2815	6543	X			100	S	674	190					103239	29026	2030	11		115.4	24.3	731	49799	38480					2005						4
OURAY ROAD	15802	M	567	257	11/1	4/1	386	181	X			94	C	134	50					11022	555	955			6	9.1					4	82	13	2003						3,9
OURAY VALLEY	15815	C	26		10/15	11/25	11	15	X			50	C	31	12					416		270			3.1	2.4						90	10	2003						15
PADDYS GAP	04860	I	291		12/6 4/12	1/25 4/30	196	91		X		100	C/S	529		150				3670	317			184							11	83	6	2006						4,5,6,9
PARK CANYON 4	06353	I	584		4/10/ 10/1	6/5/ 1/30				X				1495		622				12263	3927	4253												2005						
PARLEYS CANYON 7	04883	M	494		11/1	4/25	213	279	X			100	C	404		390	41	60		14608	1168	823			0.3	1.6					3	53	44	2010						4,8,9,12
PELICAN LAKE	05812	M	544		4/3	4/28	258	290		X		88	C	93	25	0				6279	707	534			28.9	1.3					22	62	3	2003						4,9
PERRY	04852	M	66		5/1	6/30	43	23	X			31	C	206		168		10		1417	934	1998				0.6						84	16	2006						8,9,10,13
POINT OF PINES	15822	I	789		5/10	10/10	1103	314		X		98	C	236						4203	1142	721		229	2.1	0.5	530	2383	1581	426				2004						4,7
POWDER WASH	15857	I	2100	2307	3/1	4/15	1339	761	X			89	S	68	38					22592	3512	680			0.1	2.1		9665	9580	2341				2004						4,6,9

POWELL-SADLIER	04872	C	122		4/16	5/20	116	6	X			100	C	93	14	4				1372	1	7				0.5					3		97	2006						3,4,9
RAVEN RIDGE 4	15851	I	990	326	12/5	5/5	612	500	X			81	S	28	15					9023	1207	754						685	5827	1400				2002	2002					2,4,6,9
RED CREEK FLAT 1	04809	I										100	C	797	30	90	15	3		8171	1509				18.1	1.4						69	31	2007						
RED MOUNTAIN	04857	C	276		5/1 9/1	6/10 12/25	240	34	X			78	C	618	2	400		10		7456	1090	2556		576	3.6	1.1					3	69	3	2001	2001	X	X	X	X	2,6,7,9,10
RICH & STETSON	15801	C	63	28	11/1	11/13	28	14	X			100	S	8	12					511	23	46			10.6						9	17	74	2003						4,6,7,11
RUPLE CABIN	14833	I	1763	10	6/1	10/15	881	882			X	80	C	384	50	408	40	20		12000	982	2083		46	3.6	2.2						62	35	2008						6,7,9,14
RYE GRASS 1	14807	I										100	C	631	5	177	35	13		3460	1683	46			0.8							49	51	2008						6,9
S.J. HATCH	04862	C	1027	60	5/1 10/15	6/1 12/13	764	167	X			68	C/S	1108	50	439		2		24175	3889	1075			18.6	2.4					9	69	22	2006						2,3,4.5,6,7,9
SAND WASH	08818	M	4526	1350	11/30	4/30	2039	2487	X			76	C	373	105					137					2.7	1.2		28947	20697	312				2005						4
SANTIO SIBELLO	08806	C	96	16	11/1	2/28	29	67	X			100	C	8					36	2192		2	25			0.4		1390	178					2009						13
SCHOOL BUS DRAW	04838	C	180		5/15	7/26	113	67	X			100	C	75	5	98		2		1513		656			4.1							9	91	2008						1,2,4,6,7
SERVICEBERRY SPRING	04828	C	113		5/16	10/31	116		X			26	C	121	5	35		2		2033	692	2846				0.4						77	23	2008						4,13
SEARS CANYON 1	14809	I			5/10 9/10	6/20 10/10							C	422	5	245	150	14		4940	1073	81			8.2	3					13	60	27	2008						2,3,6,
SEVEN SISTERS	15845	I	1734		11/1	4/15	1734		X			100	S	49	27					17051	2195		39		108.8	11.3	2317	7315	4521					2002	2002					2,4
SHINDY	04849	M	68		5/1	5/31	76	10			X	100	C	278	2	96		2		2897	330	12				0.7						95	5	2006						4,6,9,10
SHINER UTAH	04869	M	3000		11/1	4/30	1443	1557		X		90	C	866	124	1178	50	12		38499	3869	2125			18.3	8.8						48	52	2001	2001					3,4
SHINER-COLO 6	04842	C	177		5/16	10/25	113	64	X			16	C							480												100		2008						9,10,13,14
SMELTER SPRINGS	04848	C	24		6/1	10/1	24		X			15	C	31		48		2		380	81	281			0.8	0.4						24	76	2006						7
SNAKE JOHN	15860	I	1164	283	3/1	3/28	634	530	X			87	S	27	15					9282	1292	106						712	7124	1377				2004						6,9
SOUTH POT CREEK 2																																									
SOUTHAM CANYON	15843	M	1315		11/1	4/1	620	695	X			100	S	69	19					12702	647	469	8		28.9	2.4								2005						3,9
SPRING CREEK	04856	C	196		5/1 11/15	6/9 12/16	102	94	X			75	C	441	2	74	50	10		4262	1902	1663			34.7	1					9	80	2	2006						4,6,9,10
SPRING HOLLOW	15862	I	311		11/14	12/30	311	75	X			91	C	13	7					4524	604	98				0.2	268	1372	2133					2000	2000					2,5
STATELINE 4	15863	M	1288	553	12/5	5/1	1285	383	X			54	S	102	57					21840	9232	8739	326		32	3	1521	4300	21287					2002	2002					2,4,9
STIRRUP	15847	I	413		3/15 5/1	6/2 10/15	314	97	X			100	C	8	4					2723	328	288			179.5	1.1		634	1734					2002	2002					4
STONE CABIN 3	04109	I	2		5/1	9/30			X				C	35		4	20			320														2010						4
STUNTZ VALLEY	15824	I	338		6/1	10/3	908	276		X		87	C	184						3279	780	668		174				3239	136					2000	2000	X	X	X	X	3,14
SULFUR CANYON 3	04111	C	158		5/1	10/15			X				C	260		198		12		4116														2010						4
SUNDAY SCHOOL CANYON	08814	I	3671	665	11/1	4/30	2911	760		X		100	C	259	72					40445		3666	159			1.9	4370	15914	17977					2009						2,4,9,11
SWEET WATER 9	08822	I	6527	1539	5/1	10/31	3342	3185		X		72	C	7648		3185				85478	15763	3204	130			22.8	17284	50741	19617	33				2009						1,2,3,4,6,8,10,11
TAYLOR FLAT 1	04808	I										100	C	668	3	24	18			5284	1762	316			10.1	5.7					16	74	10	2007						6,9,10
THORNE-UTE-BROOME	08812	C	248	44	11/1	2/28	98	150	X			100	C	19					89	3699	905	76	761			0.7		3	3010					2005						13
THREE CORNERS	14800	M	167		8/1	9/27	170		X			50	C	58	40	130		10		1056	350	766										23	77	2007						8,9
TWELVE MILE	15813	M	316	58	2/9	2/21	209	111		X		100	C	55	103	27				4861	540										2	95	3	2003						3,9
TWIN KNOLLS	04891	M	596	396	11/1	4/30	333	263	X			100	C	129	77	92	45			6043	927											39	61	2010						4,7,9
UTE	08809	C	1464		11/1	4/30		1464	X			100	C	27					126	6536	244	637	263				199	3059	3451	0				2005						4,NON-USE
WALKER HOLLOW	05839	M	753		11/15	1/31	678	75	X			93	C	27	15					9380	1111	26			4.6	0.4	110	264	3776	0				2004						4
WARREN DRAW NORTH	14813	C	190		5/15	10/31	108	82	X			100	C	189	10	140	25	10		7312	2746	3311									9	87	4	2008						2,4,6
WARREN DRAW SOUTH 1	14827	I											C	148	10	110	10	10		3186	406	1496		2235								54	46							2,6
WATER CANYON #1 7	04876	I	153	82	6/15	10/10	154		X				C	76		126		10		1131	604	2535				0.3						21	79	2004						2,6,7,8,9,10
WATER CANYON #2 7	04879	C	102	260	2/15	3/31	36	66	X			66	C	197	16	92	30			4039	1765	1006										83	17	2010						
WATSON BOOK CLIFFS	08815	I	1258	547	11/15	4/30	861	397	X			43	S	127	36					10654	1231	13540			40.1	3.5	2357	3662	1290	0				2005						4,13
WATSON DIAMOND MTN 1	24804	I											C	1826	2	45	32	3		6702	765	10		548							11	44	45	2007						9
WELLS DRAW	15884	M	814	406	11/1	4/15	277	263		X		100	C/S	32	79	303		2		9599	1284	40									4	95	1	2010						4
WEST DEADMAN	05841	M	1942	320	7/16 11/1	8/30 4/30	1132	810	X			100	C/S	74	41					25154	3916	70					2	13663	5365	0				2002	2002					4
WEST HUBER	15803	M	402	61	11/1	5/30	350	52	X			76	C	62	25	10				4008	968	2357			66.5	2.8					3	97		2003						4,6,7,13
WEST LITTLE MOUNTAIN	04846	M	121		6/5 10/16	6/18 11/29	67		X			29	C	144	2	288	30	20		1036	393	1740			0.4	0.1						87	13	2006						13
WEST PELICAN LAKE	04886	C	251		11/1	3/31	251		X			100	C	21	9					2141		78			53.9						7	65	26	2001	2001	X	X	X	X	4,9
WEST POT CREEK	04829	C	107		5/18	10/17	107		X			17	C/H	125	5	114		2		1401		1475				0.3						100	0	2008						1,4,13
WEST WATER POINT 9	08833	M	425		7/1	10/30	88	337	X			100	C	460		192				5853	444						66	3542	1433					2009						13
WETLANDS	15877	I	1099	567	3/1	2/28	727	372	X			79	C	226	78	30		3		16656	1768	39			1053.1	8.5					22	63	15	2003						1,4
WHITE RIVER	08829	C	141		3/1	4/30	99	42	X			30	S	11	3					484	210	1285	137		2.3			283	136					2005						4,13
WHITE RIVER BOTTOMS	15850	I	480	85	6/1	10/15	441	31	X			100	C							454	2500	3040	360											2005						2,4,10
WILD MOUNTAIN-COLO 2																																									
WILDHORSE BENCH	08808	I	2303		3/25	5/15	655	1324	X			100	S	87	4				381	24435	1659	22				2.6	177	20858	8641	1193				2005						1,2,4,9

WILKERSON	04887	C	14		6/1	10/1	12	2		X		100	C	16	2	7		2		193		30											23	68	2006						13
WILLOW CREEK 6	14801	I	509		7/15 10/1	8/15 11/15	447	155		X		35	C	160	75	300	35	20		6299	3820	2100				6.2							51	46	2007						1,2,3,4,6,8,9,14
WILLOW SPRING	04885	C	85		6/1	9/2	85			X		55	C	82	2	32	5	5		862		545			0.7	0.5							0	100	2006						13
WINTER RIDGE AMP 9	08827	I	1993	374	11/16	4/30	2022			X		60	C	3088		1286				33957	7520	710			7.1	3.3	140	25390	6732	179					2009						1,9
YOUNG	15809	M	535	252	3/5	3/30	198	347		X		89	C	75	25	0				7937	963	875			4.7	0.4							9	75	2003						3,9
TOTALS			137897	26364			78500	59204						60927	4096	28829	2082	673	2339	1691116	328082	190141	5717	21947	3575.6	320.8	68794	496060	363913	13678	495	5979	3322								

1- Allotments where preference is retired or non-renewable.

2- The grazing administration of these allotments is the responsibility of the Vernal Field Office. Since these allotments are entirely within the Little Snake Field Office boundary, planning is the responsibility of the Little Snake Field Office. (As per the 1968 M.O.U. between the BLM State Director of Colorado and the BLM State director of Utah.)

3- The grazing administration of these allotments is the responsibility of the Price Field Office. Planning for the portions of these allotments within the Price Field Office Boundary is the responsibility of the Price Field Office. Planning for the portions of these allotments within the Vernal Field Office Boundary is the responsibility of the Vernal Field Office. (As per the 1976 M.O.U. and the 1982 amendment between the Moab District (Price Field Office) and the Vernal District (Vernal Field Office).

4- The grazing administation of these allotments is the responsibility of the Vernal Field Office. Planning for the portions of these allotments within Colorado is the responsibility of the White River Field Office. Planning for the portions of these allotments within Utah are the responsibility of the Vernal Field Office. (As per the 1976 M.O.U. between the BLM State Director of Colorado and the BLM State Director of Utah.)

5- The grazing admistration of these allotments is the responsibility of the White River Field Office. Planning for the portion of these allotments within Colorado is the responsibility of the White River Field Office. Planning for the portions of these allotments within Utah are the responsibility of the Vernal Field Office (As per the 1976 M.O.U. between the BLM State Director of Colorado and the BLM State Director of Utah).

6- The grazing administration of these allotments is the responsibility of the Vernal Field Office. Planning for the portions of these allotments within the Vernal Field Office Boundary is the responsibility of Vernal Field Office. Planning for the portions of these allotments within the Little Snake Field Office Boundary is the responsibility of the Little Snake Field Office.

7- The grazing administation of these allotments is the responsibility of the Vernal Field Office. The planning for the portions of these allotments within the Vernal Field Office Boundary is the responsibility of Vernal Field Office. The planning for the portions of these allotments within the Price Field Office Boundary is the responsibility of the Price Field Office. (As per the 1976 M.O.U. and the 1982 amendment between the Moab District (Price Field Office) and the Vernal District (Vernal Field Offi

8- The grazing administration of these allotments is the responsibility of the Vernal Field Office. Since there is no public land within the Vernal Field Office boundary planning is the responsibility of the Price Field Office .

9- The grazing administration and planning of these allotments is the responsibility of the Vernal Field Office. (As per the 1976 and the 1983 M.O.U.s between the Moab District (Moab Field Office) and the Vernal District (Vernal Field Office.)

10- The grazing administation of these allotments is the responsibility of the Little Snake Field Office. Planning for the portions of these allotments within the Vernal Field Office Boundary is the responsibility of Vernal Field Office. Planning for the portions of these allotments within the Little Snake Field Office Boundary is the responsibility of the Little Snake Field Office. (As per the 1976 M.O.U. between the BLM State Director of Colorado and the BLM State director of Utah.)

11- The grazing administration of these allotments is the responsibility of the Price Field Office. Since there is no public land within the Vernal Field Office boundary planning is the responsibility of the Price Field Office .

* ECOLOGICAL CONDITION / SUCCESSION: Diamond Mountain (See Diamond Mountain RMP and EIS Volume I, Appendix 8, Page A8.1). Book Cliffs: (See Ecological Condition in R.O.D. and Rangeland Program Summary for Book Cliffs RMP, Glossary Page 82).

* RANGELAND HEALTH STANDARDS (See RANGELAND HEALTH STANDARDS IN APPENDIX ?)

Riparian / Wetland Definition: (See RIPARIAN AREA MANAGEMENT TR1737-9 1993, Page 1.) * RIPARIAN INVENTORY (See RIPARIAN AREA MANAGEMENT TR1737-15 1998) and (RIPARIAN AREA MANAGEMENT TR1737-16, 1999). Definition: 1) LENTIC - Standing water habitat such as lakes, ponds, seeps and meadows, and 2) LOTIC - running water habitat such as rivers, streams and springs.

*ALLOTMENT MANAGEMENT CATEGORY (See Diamond Mountain RMP and EIS, Volume I, Appendix 8, Page A8.37)

* FORAGE ALLOCATED TO OTHER SPECIES/ USES: (1) 1994 Diamond Mountain RMP allocates wildlife AUM's by allotment and (2) 1985 Book Cliffs RMP allocates wildlife AUM's by locality/herd unit; however, in this table, wildlife AUM's are calculated by allotment. This was determined based on acreage of the allotment within the locales.

DRY CREEK 2	04890	C	275	0	5/16	10/30	214	62		X		63	C/H							6201		806									0	82	19								
HOY FLAT 2	04840	C	336	0	5/11	6/11	335	1		X		50/100	C							203		103																			
OFFIELD MOUNTAIN 2	04841	C	255	0	5/11	10/31	167	88		X		38	C							2477		1099																			
SOUTH POT CREEK 2	04843	I	734	0	6/17	10/21	293	441	X			100	C							2046		726																			3
WILD MOUNTAIN-COLO 2	04844	C	329	65	5/24	9/6	358	34	X			84	C	125	0	48	50			5503	1163	75									0	99	1	2008						8,9
			1929	65			1367	626				285		125	0	48	50			16430	1163	2809																			

MAX CANYON 8	14073	C	20	10	11/1	11/30	20	0	X			100	C	19	0	0	10	0		312						0								2010						8,12,13
TABYAGO	08801	I																	55	31631	905	0					3273	17432	6047	406											

Note: All of this information is combined with Wild Horse Bench allotment.																																									
WILD HORSE BENCH BONANZA PASTURE #3	08807	M	324		3/25	5/15			X			100	S	7	4					2243	604	22					177	14895	1356	1193				2005	2002						2,4,9

APPENDIX K. SURFACE STIPULATIONS APPLICABLE TO ALL SURFACE-DISTURBING ACTIVITIES

This appendix lists by alternative surface stipulations referred to throughout this RMP and EIS. Surface stipulations would be appended, where applicable, to land use authorizations, permits, and leases issued on BLM administered lands.

DESCRIPTION OF SURFACE STIPULATIONS

Table 1 shows resources of concern and stipulation/s including exceptions, modifications, and waiver by alternative.

Three surface stipulations could be applied to land use authorizations: (1) no surface occupancy (NSO), (2) timing limitation (TL), and (3) controlled surface use (CSU).

Areas identified, as NSO would be closed to any surface disturbing activity, such as oil and gas wells, guzzler development, recreation facility or trail construction, range improvements, etc., unless specific program decisions within the RMP exempt surface disturbing activities from the decision. NSO areas would be avoidance areas for location of public utilities and closed to new road construction.

Areas identified for TL stipulations would be closed to surface disturbing activities during the identified time frames. Timing limitation stipulation areas would be open to operational and maintenance activities, including associated vehicle travel, during the closed period unless otherwise specified in the stipulation.

Areas identified as controlled CSU would require surface disturbing activities be authorized only according to the controls or constraints specified. Controls would be applicable to all surface use activities such as identified above. CSU areas would be open to public utilities.

EXCEPTIONS, MODIFICATIONS, AND WAIVERS

Surface stipulations could be excepted, modified, or waived by the authorized officer. An exception exempts the holder of the land use authorization document from the stipulation on a one-time basis. A modification changes the language or provisions of a surface stipulation, either temporarily or permanently. A waiver permanently exempts the surface stipulation. The environmental analysis document prepared for proposed surface disturbing activity also would need to address proposals to exempt, modify, or waive a surface stipulation. To exempt, modify, or waive a stipulation, the environmental analysis document would have to show that (1) the circumstances or relative resource values in the area had changed following issuance of the lease, (2) less restrictive requirements could be developed to protect the resource of concern, and (3) operations could be conducted without causing unacceptable impacts.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Cultural Resources	Uinta foothills area	TL/CSU/NSO	X	X	X				The area would be open for oil and gas leasing and other surface disturbing activities subject to timing and controlled surface-use stipulations or No Surface Occupancy (NSO). **Exception**: Permit excavation of cultural resources sites in NSO areas. **Modification**: None **Waiver**: None
Cultural Resources	Uinta foothills area	NSO				X		X	The area would be closed to oil and gas leasing. Other surface disturbing activities would be subject to No Surface Occupancy. **Exception**: Permit excavation of cultural resources sites. **Modification**: None **Waiver**: None
Cultural Resources	Uinta foothills area						X		Open to surface disturbing activities.
Cultural Resources	Little Hole and Devils Hole areas	CSU/TL	X						Surface disturbing activities would be subject to controlled surface use stipulations. **Exception**: None **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Cultural Resources	Little Hole and Devils Hole areas	NSO				X		X	The area would be closed to oil and gas leasing. Other surface disturbing activities would be subject to No Surface Occupancy. **Exception**: Permit excavation of cultural resources sites. **Modification**: None **Waiver**: None
Cultural Resources	Little Hole and Devils Hole areas			X	X		X		Open to surface disturbing activities.
Cultural Resources	Upper Willow Creek area of the Book Cliffs	TL/CSU	X	X	X	X		X	To preserve the unique representation of the Archaic period, the surface disturbing activities would be subject to timing and controlled surface use stipulations. **Exception**: None **Modification**: None **Waiver**: None
Cultural Resources	Upper Willow Creek area of the Book Cliffs						X		Open to surface disturbing activities.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Proposed	Alternative					Stipulation Description
				A	B	C	D	E	
Cultural Resources	Four Mile Wash area (Section 18, T10S, R19E)	TL/CSU/NSO	X	X					To protect traditional sacred properties, the area would be open for oil and gas leasing and other surface disturbing activities subject to timing and controlled surface-use stipulations or No Surface Occupancy (NSO). **Exception**: Permit excavation of cultural resources sites in NSO areas. **Modification**: None **Waiver**: None
Cultural Resources	Four Mile Wash area (Section 18, T10S, R19E)	NSO				X		X	To protect traditional sacred properties, the area would be closed to oil and gas leasing. Other surface disturbing activities would be subject to No Surface Occupancy. **Exception**: Permit excavation of cultural resources sites. **Modification**: None **Waiver**: None
Cultural Resources	Four Mile Wash area (Section 18, T10S, R19E)				X		X		Open to surface disturbing activities.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Lands and Realty	Planning Area Wide	NSO	X	X	X	X		X	Recreation & Public Purposes (R&PP) lease areas would be administratively unavailable for leasing or open to leasing subject to No Surface Occupancy (NSO) stipulations. **Exception**: Surface use could only occur with the concurrence of the R&PP holder. **Modification**: None **Waiver**: None
Lands and Realty	Diamond Mountain Planning Area						X		Unspecified for Recreation & Public Purposes (R&PP) lease areas.
Lands and Realty	Book Cliffs Planning Area						X		Unspecified for Recreation & Public Purposes (R&PP) lease areas.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Air Quality	Planning Area Wide		X	X	X	X		X	All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. **Exception:** This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower. **Modification**: None **Waiver**: None
Air Quality	Planning Area Wide		X	X	X	X		X	All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour. **Exception**: None. **Modification**: None **Waiver**: None
Air Quality	Diamond Mountain Planning Area						X		Unspecified for new and replacement internal combustion gas field engines.
Air Quality	Book Cliffs Planning Area						X		Unspecified for new and replacement internal combustion gas field engines.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Non-WSA areas with Wilderness Characteristics	Beach Draw, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, Vivas Cake Hill, White River, Wild Mountain	NSO	X						Closed to oil and gas leasing, except for the White River area that would be open to leasing, subject to major constraints, such as an NSO stipulation. Closed to solid mineral leasing. Closed to disposal of mineral materials. Closed to woodland product harvest. Avoidance area for rights-of-way. OHVs would be limited to designated routes. No motorized vehicles would be allowed to travel on a single path up to 300 feet from designated routes to access a camp. Retain public lands in federal ownership. When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: Permit vegetation and fuel treatments using prescribed fire, mechanical and chemical treatments, and other actions compatible with the Healthy Lands Initiative (HLI). **Exception:** White River area would be open to leasing, subject to NSO stipulation. Permit construction of wildlife water and livestock facilities, and minimal recreation facilities. Authorize reasonable access to non-BLM managed lands. **Modification**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Waiver: None
Non-WSA areas with Wilderness Characteristics	Beach Draw, Bitter Creek, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Cripple Cowboy, Daniels Canyon, Dead Horse Pass, Desolation Canyon, Diamond Breaks, Diamond Mountain, Hells Hole Canyon, Hideout Canyon, Lower Bitter Creek, Lower Flaming Gorge, Mexico Point, Moonshine Draw, Mountain Home, Rat Hole Ridge, Stuntz Draw, Sweet Water Canyon, Vivas Cake Hill, White River, Wild Mountain, and Wolf Point.	NSO						X	Closed to OHV use (Figure 28e) Closed to oil and gas leasing (Figure 14e) Closed to solid mineral leasing Closed to disposal of mineral materials Proposed for withdrawal from mineral entry Retain public lands in federal ownership Avoidance area for ROWs Closed to permitted commercial and personal-use wood cutting and seed collection (Figure 36e) Closed to new road construction Permit maintenance of existing facilities When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: Permit vegetation and fuel treatments using prescribed fire. Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities. Permit excavation of cultural resources sites. Permit excavation of paleontological resources. No actions would be allowed that would degrade the

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									wilderness characteristics. **Exception:** Permit construction of wildlife water and livestock facilities, and minimal recreation facilities. Permit vegetation and fuel treatments using prescribed fire. Permit excavation of cultural and paleontological resources sites. Authorize reasonable access to non-BLM managed lands. **Modification**: None **Waiver**: None
Non-WSA areas with Wilderness Characteristics				X	X	X	X		No specific actions are specifically prescribed to protect the wilderness characteristics of non-WSA lands with wilderness characteristics.
Recreation	Brown's Park SRMA		X		X		X		Open to surface disturbing activities.
Recreation	Brown's Park SRMA	NSO		X		X		X	The south side of the river between Little Hole and Fire Flat extending around the Taylor Flat subdivision to Rye Grass Draw in the east would be closed to surface disturbing activities. **Exception:** An exemption would be granted if the disturbance complemented recreational goals and objectives. **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Recreation	White River SRMA	NSO	X						No surface disturbing activities within line of sight from the centerline of the White River, up to one-half mile on either side of the river, from where the river enters Section 28, T10S R23E to where it leaves Section 18, T10S R23E. **Exception:** An exemption would be granted if the disturbance complemented recreational goals and objectives. Modification: None **Waiver**: None
Recreation	White River SRMA			X	X	X		X	Unspecified
Recreation	White River SRMA						X		No SRMA designation.
Special Designations	Bitter Creek ACEC	TL/CSU/NSO		X					For oil and gas leasing: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 68,674 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 160 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 400 acres would be administratively unavailable for leasing.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Bitter Creek ACEC	TL/CSU/NSO				X			For oil and gas leasing: Approximately 207 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 10,323 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 459 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 57,744 acres would be administratively unavailable for leasing.
Special Designations	Bitter Creek ACEC	TL/CSU/NSO						X	Same as described in Alt. C with the following prescriptions for non-WSA lands with wilderness characteristics: Closed to OHV use Closed to oil and gas leasing Closed to solid mineral leasing Closed to disposal of mineral materials Exclusion area for rights-of-way Closed to permitted commercial and personal-use wood cutting and seed collection Closed to road construction

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Permit maintenance of existing facilities When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: Permit vegetation and fuel treatments using prescribed fire Permit construction of wildlife waters, livestock facilities, and minimal recreation facilities Permit excavation of cultural resources sites. Permit excavation of paleontological resources No actions would be allowed that would degrade the wilderness characteristics of the non-WSA lands with wilderness characteristics. **Exception:** Permit construction of wildlife water and livestock facilities, and minimal recreation facilities. Permit vegetation and fuel treatments using prescribed fire. Permit excavation of cultural and paleontological resources sites. Authorize reasonable access to non-BLM managed lands. **Modification**: None **Waiver**: None
Special Designations	Brown's Park ACEC	TL/CSU/NSO	X						For oil and gas leasing: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 3,137 acres would be open to leasing

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									subject to moderate constraints such as timing limitations and controlled surface use. Approximately 5,014 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 10,188 acres would be administratively unavailable for leasing.
Special Designations	Brown's Park ACEC	TL/CSU/NSO		X		X			For oil and gas leasing: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 27,969 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 6,415 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 17,996 acres would be administratively unavailable for leasing.
Special Designations	Brown' Park ACEC	TL/CSU/NSO			X				For oil and gas leasing: Approximately 2,152 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 7,191 acres would be open to leasing subject to moderate constraints such as timing

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									limitations and controlled surface use. Approximately 6,857 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 2,135 acres would be administratively unavailable for leasing.
Special Designations	Brown's Park ACEC	TL/CSU/NSO					X		For oil and gas leasing: Approximately 2,178 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 18,479 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 25,019 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 6,706 acres would be administratively unavailable for leasing.
Special Designations	Brown's Park ACEC	TL/CSU/NSO						X	For oil and gas leasing: Approximately 273 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 10,966 acres would be open to leasing subject to moderate constraints such as

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									timing limitations and controlled surface use. Approximately 6,237 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 34,907 acres would be administratively unavailable for leasing. The Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.
Special Designations	Coyote Basin ACEC	TL/CSU/NSO		X					For oil and gas leasing: Approximately 83,250 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 4,312 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 99 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Coyote Basin ACEC	TL/CSU/NSO			X				For oil and gas leasing: Approximately 47,282 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 248 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 110 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Coyote Basin ACEC	TL/CSU/NSO				X			For oil and gas leasing: Approximately 94,821 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 23,104 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 5,325 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Coyote Basin ACEC	TL/CSU/NSO						X	For oil and gas leasing: Approximately 94,821 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 23,104 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 5,325 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Coyote Basin ACEC						X		Unspecified in current management plans
Special Designations	Four Mile Wash ACEC					X			The area would be closed to oil and gas leasing.
Special Designations	Four Mile Wash ACEC							X	Same as for Alt. C, plus the Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Lower Green River Corridor and Lower Green River Expansion	TL/CSU/NSO	X						For oil and gas leasing within the Lower Green River Corridor: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 71 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 8,079 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing. Surface disturbing activities within the Lower Green River Corridor and Lower Green River Expansion would be subject to NSO within line of sight or up to one-half mile from the centerline of the river, whichever is less for both areas. **Exception:** An exemption would be granted if the disturbance complemented recreational goals and objectives. **Modification**: None **Waiver**: None
Special Designations	Lower Green River Corridor and Lower	NSO		X		X			The area would be managed as NSO for oil and gas leasing within line of sight or up to one-half mile

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
	Green River Expansion								from the centerline of the river, whichever is less for both areas. **Exception:** An exemption would be granted if the disturbance complemented recreational goals and objectives. **Modification**: None **Waiver**: None
Special Designations	Lower Green River Corridor and Lower Green River Expansion	TL/CSU/NSO			X				For oil and gas leasing within the Lower Green River Corridor: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 71 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 8,079 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Lower Green River Corridor and Lower Green River Expansion	TL/CSU/NSO					X		For oil and gas leasing within the Lower Green River Corridor: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 71 acres would be open to leasing

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Proposed	Alternative					Stipulation Description
				A	B	C	D	E	
									subject to moderate constraints such as timing limitations and controlled surface use. Approximately 8,079 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Lower Green River Corridor and Lower Green River Expansion	TL/CSU/NSO						X	Same as Alt. C. The Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.
Special Designations	Main Canyon ACEC	TL/CSU/NSO				X			For oil and gas leasing: Approximately 5,198 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 38,255 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 240 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 57,152 acres would be administratively unavailable for leasing.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Main Canyon ACEC	TL/CSU/NSO						X	Same as Alt. C. The Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.
Special Designations	Middle Green River ACEC	TL/CSU				X		X	For oil and gas leasing: Approximately 4,858 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 128 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Zero acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Nine Mile Canyon	TL/CSU/NSO	X						For oil and gas leasing: Approximately 26,736 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 209 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 17,198 acres would be open to leasing subject to major constraints such as NSO

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Proposed	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Stipulation Description
									stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Nine Mile Canyon	TL/CSU/NSO		X					For oil and gas leasing: Approximately 27,109 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 342 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 20,487 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Nine Mile Canyon	TL/CSU/NSO			X		X		For oil and gas leasing: Approximately 15,274 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 21,022 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 7,848 acres would be open to leasing subject to major constraints such as NSO

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Proposed	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Stipulation Description
									stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	Nine Mile Canyon	TL/CSU/NSO				X			For oil and gas leasing: Approximately 49,182 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 19,032 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 1,374 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 10,059 acres would be administratively unavailable for leasing.
Special Designations	Nine Mile Canyon	TL/CSU/NSO						X	Same as Alt. C. The Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.
Special Designations	Red Creek Watershed ACEC	TL/CSU/NSO	X	X	X		X		The area would be open to moderate constraints such as timing limitations and controlled surface use and major constraints such as NSO stipulations.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Red Creek Watershed ACEC	NSO				X			The area would be open to major constraints such as NSO stipulations.
Special Designations	Red Creek Watershed ACEC	TL/CSU/NSO						X	Same as the Proposed Plan. The Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.
Special Designations	Red Mountain – Dry Fork Complex ACEC	TL/CSU/NSO	X	X	X	X		X	For oil and gas leasing: Approximately 495 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 21,994 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 1,988 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	Red Mountain – Dry Fork Complex ACEC	TL/CSU/NSO					X		For oil and gas leasing: Zero acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 19,955 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 4,027 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing.
Special Designations	White River ACEC	TL/CSU/NSO		X					For oil and gas leasing: Approximately 1,438 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 7,371 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 8,993 acres would be open to leasing subject to major constraints such as NSO stipulations. Zero acres would be administratively unavailable for leasing. NSO would be within line of sight from the centerline, up to one-half mile either side of the river.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Designations	White River ACEC	TL/CSU/NSO				X			For oil and gas leasing: Approximately 27,087 acres would be open to leasing subject to the terms and conditions of the standard lease form. Approximately 6,683 acres would be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. Approximately 6,380 acres would be open to leasing subject to major constraints such as NSO stipulations. Approximately 6,893 acres would be administratively unavailable for leasing. NSO would be within line of sight from the centerline, up to one-half mile either side of the river.
Special Designations	White River ACEC	TL/CSU/NSO						X	Same as Alt. C. The Alternative E management prescriptions in the Bitter Creek ACEC description under the bullet entitled “All or portions of the ACEC contain non-WSA lands with wilderness characteristics:” apply.
Light and Sound	Sensitive Areas	CSU		X	X	X			Minimize noise and light pollution in sensitive areas e.g. special status species habitat, developed camp grounds, and river corridors using best available technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to direct noise away

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									from the protection area/resource. Additionally, there would be a requirement to reduce light pollution by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. However, this requirement is not applicable if it affects human health and safety. **Exception**: An exception may be granted if a determination is made that natural barriers or view sheds would meet these mitigation objectives or if human health and safety were adversely affected. **Modification**: None **Waiver**: None
Light and Sound	Areas Adjacent to Dinosaur National Monument	NSO				X		X	There would no surface occupancy for ½ mile from Dinosaur National Monument boundary to minimize noise and light pollution adjacent to Dinosaur National Monument. Additionally, there would be a requirement to reduce light pollution by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. However, this requirement is not applicable if it affects human health and safety.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Exception: An exemption may be granted if it is determined that technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to direct noise away from the monument would meet mitigation objectives or if human health and safety were adversely affected. **Modification**: None **Waiver**: None
Light and Sound	Areas Adjacent to Dinosaur National Monument	CSU	X	X	X				Minimize noise and light pollution adjacent to Dinosaur National Monument using best available technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to direct noise away from the monument. Additionally, there would be a requirement to reduce light pollution by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. However, this requirement is not applicable if it affects human health and safety. Movement of operations to mitigate sound and light impacts would be required to be at least 200 m from the Monument boundary for VRM Classes II, III and IV.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Exception: An exception may be granted if a determination is made that natural barriers or view sheds would meet these mitigation objectives or if human health and safety were adversely affected. **Modification**: None **Waiver**: None
Fragile Soils/Slopes	Planning Area Wide	CSU	X	X	X	X		X	The surface operating standards for oil and gas exploration and development (Gold Book) would be used as a guide for surface-disturbing proposals on steep slopes/hillsides. **Exception**: None **Modification**: None **Waiver**: None
Fragile Soils/Slopes	Planning Area Wide	CSU	X	X		X		X	If surface-disturbing activities cannot be avoided on slopes from 21-40% a plan would be required. The plan would be approved by BLM prior to construction and maintenance and include: An erosion control strategy GIS modeling Proper survey and design by a certified engineer. **Exception**: None **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Fragile Soils/Slopes	Planning Area Wide	NSO	X	X					For slopes greater than 40%, allow no surface disturbance (NSO). **Exception:** If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives, surface occupancy in the NSO area may be authorized. Additionally a plan would be submitted by the operator and approved by BLM prior to construction and maintenance and include: An erosion control strategy GIS modeling Proper survey and design by a certified engineer. **Modification:** Modifications also may be granted if a more detailed analysis, i.e. Order I, soil survey conducted by a qualified soil scientist finds that surface disturbance activities could occur on slopes greater than 40% while adequately protecting the area from accelerated erosion. **Waiver**: None
Fragile Soils/Slopes	Planning Area Wide	NSO				X		X	For slopes greater than 40%, allow no surface disturbance (NSO). **Exception**: None **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Fragile Soils/Slopes	Planning Area Wide	CSU			X				If surface-disturbing activities cannot be avoided on slopes greater than 20% a plan would be required. The plan would be approved by BLM prior to construction and maintenance and include: An erosion control strategy GIS modeling Proper survey and design by a certified engineer. **Exception**: None **Modification**: None **Waiver**: None
Fragile Soils/Slopes	Planning Area Wide	NSO					X		For minerals only, on slopes greater than 40%, allow no surface disturbance (NSO). **Exception**: None **Modification**: None **Waiver**: None
Vegetation	Old growth pinion pine	NSO	X	X	X	X		X	Allow no surface occupancy within the 160 acres containing old growth pinion pines **Exception**: None **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Vegetation	Relict Vegetation Areas	NSO	X	X	X	X	X	X	Allow no surface occupancy in Lears Canyon ACEC (1,375 acres). **Exception**: None **Modification**: None **Waiver**: None
Vegetation	Relict Vegetation Areas	NSO	X	X	X	X	X	X	Allow no surface occupancy within relic vegetation area on Red Mountain. **Exception**: None **Modification**: None **Waiver**: None
River Corridors	Upper Green River	NSO	X	X	X	X	X	X	Line of sight from the centerline, up to ½ mile along both sides of the river from Little Hole to the Colorado State would be managed as NSO. **Exception**: An exemption would be granted if the disturbance were related to recreational infrastructure support. Additionally, any future facilities would be placed within the existing ROW corridor near the head of Little Swallow Canyon where existing pipelines cross the Green River. **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
River Corridors	Lower Green River	NSO	X	X	X	X	X	X	Line of sight from the centerline, up to ½ mile along both sides of the Lower Green River, between the trust land boundary at Ouray and the Carbon County line would be managed as NSO. **Exception**: Future facilities would be placed within the existing ROW corridor near the Four Mile Bottom area where an existing pipeline crosses the Green River. **Modification**: None **Waiver**: None
River Corridors	White River	NSO	X	X	X				Line of sight from the centerline, up to ½ mile along both sides of the river from where the river enters T. 10 S., R. 24 E. to where the river leaves Section 18 T. 10 S, R 23 E would be managed as NSO. **Exception**: Exempted are recognized utility corridors. **Modification**: None **Waiver**: None
Riparian Floodplains and Public Water Reserves	Planning Area Wide	NSO	X	X	X	X	X (except for Book Clif	X	Allow no new surface-disturbing activities within active flood plains, wetlands, public water reserves, or 100m of riparian areas. Keep construction of new stream crossings to a minimum. **Exception:** An exception could be authorized if: (a) there are no practical alternatives (b) impacts could be fully mitigated, or (c) the action is designed to

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
							fs)		enhance the riparian resources. **Modification**: None **Waiver**: None
Visual Resources	Planning Area Wide	NSO, TL, CSU	X	X	X	X	X (except for Book Cliffs)	X	Visual resource management activities would comply with BLM Handbook 8410-1. ithin VRM I areas, very limited management activity would be allowed, with the objective of preserving the existing character of the landscape, allowing for natural ecological changes. The level of change to the landscape should be very low and must not attract attention. Within VRM II areas, surface-disturbing activities would retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract attention of the casual observer. Any change to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. Within VRM III areas, surface-disturbing activities would partially retain the existing character of the landscape. The allowable level of change would be moderate, may attract attention, but should not dominate the view of a casual observer. Landscape changes should repeat the basic elements of form, line, color, and texture found in the predominant

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									natural features of the characteristic landscape. Within VRM IV areas, surface-disturbing activities are allowed to dominate the view and be the major focus of viewer attention. Major modifications to the existing character of the landscape are allowed. But, every attempt should be made to minimize and mitigate the impacts. **Exception**: Exempted are recognized utility corridors. **Modification**: None **Waiver**: None
Visual Resources	Book Cliffs Planning Area	NSO					X		For minerals only, to protect the visual resources, no occupancy or other surface disturbance will be allowed on slopes in excess of 40 percent (see 1985 Book Cliffs RMP, Figure 2-8). **Exception**: Exemptions would require written permission of the authorized officer. **Modification**: None **Waiver**: None
Recreation	Pelican Lake SRMA	NSO	X	X	X	X	X	X	Pelican Lake SRMA would be closed to surface-disturbing activities. **Exception**: An exemption would be granted if the disturbance were related to recreational infrastructure support.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Modification: None **Waiver**: None
Recreation	Planning Area wide	NSO	X						Developed recreation sites would be closed to the shooting of firearms, grazing, and all forms of surface-disturbing activities. **Exception**: An exemption would be granted if the disturbance were related to recreational infrastructure support. **Modification**: None **Waiver**: None
Wildlife Antelope Fawning Areas	Antelope Flat	TL	X	X	X	X	X	X	Do not allow activities that would result in adverse impacts to antelope from May 1 through June 30 on currently identified 7,800 acres. **Exception**: An exemption would apply if antelope are not present, or impacts could be mitigated through other management actions. Additionally this restriction would not apply to maintenance and operation of existing facilities. **Modification**: None **Waiver**: None
Wildlife Wildlife Habitat	Sagebrush Habitat – Crucial deer winter range	CSU		X					Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed or enhanced at a ratio of 1.5:1.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Exception: None **Modification**: None **Waiver**: None
Wildlife Wildlife Habitat	Sagebrush Habitat – crucial deer winter range	CSU			X				Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed or enhanced at a ratio of 1:1. **Exception**: None **Modification**: None **Waiver**: None
Wildlife Wildlife Habitat	Sagebrush Habitat – crucial deer winter range	CSU				X		X	Disturbance within sagebrush habitat on crucial deer winter range would be reclaimed or enhanced at a ratio of 3:1. **Exception**: None **Modification**: None **Waiver**: None
Wildlife Wildlife Habitat	Crucial deer winter range	CSU	X						Within crucial deer winter range, no more than 10% of such habitat would be subject to surface disturbance and remain un-reclaimed at any given time. **Exception**: This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that impacts can be mitigated.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Modification: None **Waiver**: None
Wildlife Wildlife Habitat	Crucial deer winter range	CSU		X	X				New Surface disturbance of up to 560 acres per township would be allowed, prorated based on the percentage of the crucial deer winter range within the township. **Exception**: None **Modification**: None **Waiver**: None
Wildlife Wildlife Habitat	Crucial deer winter range	CSU				X		X	Total surface disturbance (new and existing) of 560 acres per township would be allowed, prorated based on percentage of the crucial deer winter range within the township. **Exception**: None **Modification**: None **Waiver**: None
Wildlife Wildlife Habitat	Crucial deer winter range						X		Unspecified in current management plans.
Wildlife Deer Migration	Monument and McCook Ridges	TL	X	X					Allow no surface-disturbing activities from April 15-May 31 within McCook and Monument Ridge mule

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Corridors									deer migration corridors. **Exception**: This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated. **Modification**: None **Waiver**: None
Wildlife Deer Migration Corridors	Monument and McCook Ridges	TL				X		X	Allow no surface-disturbing activities from April 15-May 31 and from September 1-October 15 within McCook and Monument Ridge mule deer migration corridors. **Exception**: This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated. **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Wildlife Deer Migration Corridors	Monument Ridge	TL					X		For minerals only, in order to protect the migration of deer along Monument Ridge, surface-disturbing activities would not be allowed during the period May 11- May 31. **Exception**: This stipulation may be excepted by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. **Modification**: None **Waiver**: None
Wildlife Deer Migration Corridors	McCook Ridge	TL					X		For minerals only, in order to protect the biannual migration of deer on McCook Ridge, surface-disturbing activities would not be allowed during the period October 2- May 31. **Exception**: This stipulation may be excepted by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. **Modification**: None **Waiver**: None
Wildlife Crucial Elk Fawning and Deer Fawning	Planning Area Wide	TL	X	X	X	X	X	X	In order to protect crucial elk calving and deer fawning habitat, exploration, drilling, and other development activity would not be allowed from May 15 to June 30.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Habitat									**Exception**: This restriction would not apply to maintenance and operation of existing facilities. This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated. **Modification**: None **Waiver**: None
Wildlife Crucial Deer and Elk Winter Range	Planning Area Wide	TL	X						Do not allow activities that would result in adverse impacts to deer and elk within crucial winter range from December 1-April 30. (p. 2-93) **Exception**: This restriction would not apply if deer and/or elk are not present, or if it is determined through analysis and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance. **Modification**: The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Waiver: This stipulation could be waived if it is determined through collaborative monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.
Wildlife Crucial Deer and Elk Winter Range	Planning Area Wide	TL		X		X		X	Do not allow activities that would result in adverse impacts to deer and elk within crucial winter range from November 15-April 30. **Exception**: This restriction would not apply if it were determined through analysis, and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance. **Modification**: The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established. **Waiver**: This stipulation could be waived if it is determined through collaborative monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Wildlife Crucial Deer and Elk Winter Range	Planning Area Wide	TL			X				Disturbance activities would not be allowed from December 15 to March 15 that would displace deer and elk from more than 10% of their total winter habitat at any given time. **Exception**: An exception could be granted if deer and elk are not present, topography or other attributes screen the activity sufficiently so that the proposed activity would not displace the species, or disturbance resulting from the proposed activity could be mitigated. **Modification**: The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established. **Waiver**: This stipulation could be waived if it is determined through collaborative monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.
Wildlife Crucial Deer and Elk Winter Range	Book Cliffs McCook Ridge	TL					X		In order to protect the crucial winter deer and elk habitat on McCook Ridge, surface-disturbing activities would not be allowed during the period October 1-May 31.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Exception: This stipulation may be excepted by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. **Modification**: None **Waiver**: None
Wildlife Crucial Deer and Elk Winter Range	Book Cliffs (excludes McCook Ridge)	TL					X		In order to protect crucial winter elk habitat, surface-disturbing activities would not be allowed during the period November 1-March 31. **Exception**: This stipulation may be excepted by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. **Modification**: None **Waiver**: None
Wildlife Crucial Deer and Elk Winter Range	Browns Park/ Dry Fork	TL					X		Do not allow activities that would result in adverse impacts to deer and elk within crucial winter range from December 1 to April 30. **Exception**: This restriction would not apply if deer and/or elk are not present, or impacts could be mitigated through other management actions. **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Status Species Black-footed Ferret	PMZ area	CSU/TL	X	X	X	X	X	X	BLM would manage the black-footed ferret consistent with the Black-footed Ferret Reintroduction Plan Amendment (UT-080-99-002) and those portions of the Cooperative Plan for the Reintroduction and Management of Black-footed Ferret in Coyote Basin, Uintah County, Utah that are consistent with this plan amendment. New power lines constructed through the PMZ would be raptor proof. Management activities within the PMZ would be conducted with the objective of maintaining at least 10,000 acres of prairie dog colonies. According to the Service and the UDWR, a minimum of 8,000 acres is acceptable as long as the ferret habitat rating (the number of ferret families the habitat can support) does not fall below 50% of the 1989 levels. Whenever possible, such activities would avoid prairie dog habitat. Otherwise, activities would be designed to impact the smallest area possible and/or those areas with the lowest prairie dog densities. The creation of additional prairie dog habitat (e.g. burning vegetation and drilling new holes, etc.) would be required only if the disturbance or development reduces the prairie dog acreage below the 8,000 acre threshold. The period between breeding and emergence of young is a period of "sensitivity" for ferrets. This period extends from March 1 to July 15. The period between birth and emergence of young is a period

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									of "critical" importance for successful ferret productivity. This period extends from May 1 to July 15. Activities involving the development or construction of temporary or permanent surface disturbances would be prohibited within 1/8 mile boundaries of known home ranges of female ferrets during the "critical" period from May 1 thru July15. The home ranges would be determined from data obtained from radio collard animals. Previously existing or permitted operations which may occur within these boundaries would continue normal operations; however, no new surface disturbances would be initiated at these sites during the "critical" period. If a ferret is discovered at a commercial facility (e.g. Gilsonite mine, well pad, power plant), it would then be decided by the Service and UDWR, if removal of the ferret was necessary and, if so, removal would be initiated within 48 hours. If the targeted animal(s) cannot be captured within 72 hours of the commencement of trapping activities, such activities will cease and be replaced by a monitoring program to ascertain the status of the animal(s). Further attempts to remove the subject animal(s) would be based on this monitoring. If ferrets are discovered at the site of a proposed commercial operation, then mitigation in the form of: delay of activities, movement of ferret(s), off-site prairie dog habitat development, redesign of activities, or any combination of the above would be

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									required. The course of events chosen would be determined cooperatively by the operator, UDWR, the Service, and land management agencies. **Exception**: Retrofitting of existing poles and towers to raptor proof standards would not be required. Maintenance or construction of previously existing or permitted operations can continue. Ephemeral surface disturbance (disturbance in prairie dog habitat for less than six months, after which it again becomes or can be made suitable for prairie dog use), such as prescribed fire or herbicide treatment, may be conducted within 1/8 mile of the boundary of the home range of a female from March 1 to May 1. In general, the disturbance should be completed before the critical period begins. The Service, UDWR, and the land management agencies would determine if this exemption applies. Normal travel and surveying activities would not be restricted. **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Planning Area Wide	TL		X					Human disturbances would be avoided within 0.6 miles of a lek during the breeding season (March 1-May-31) from 1 hour before sunrise to 3 hours after sunrise. **Exception**: Livestock, wildlife, and wild horse use would be managed to achieve and maintain sagebrush and riparian/meadow habitats in good ecological condition per the BLM May 1997

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Rangeland Health and Guidelines for grazing management. **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Planning Area Wide	TL			X				Significant human disturbances would be avoided within 0.6 mile of a lek during the breeding season (March 1-May 31) from one hour before sunrise to three hours after sunrise. **Exception**: None **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Planning Area Wide	NSO		X					Construction of routes, fences, poles, and utility lines would be avoided within 1,300 feet of a lek. **Exception**: Livestock, wildlife, and wild horse use would be managed to achieve and maintain sagebrush and riparian/meadow habitats in good ecological condition per the BLM May 1997 Rangeland Health and Guidelines for grazing management. **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Status Species Sage Grouse	Planning Area Wide	NSO			X				Construction of routes, fences, poles, and utility lines would be avoided within 1,300 feet of a lek. Additionally, any development within 2 miles of a lek must be designed to minimize to the extent possible raptor perching. **Exception**: An exception would be granted if designed to minimize to the extent possible bird structure collision and to prevent raptor perching. **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Planning Area Wide	TL	X			X		X	No surface-disturbing activities within 2 miles of active sage grouse leks from March 1-June 15. **Exception**: None **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Planning Area Wide	NSO	X			X		X	No surface-disturbing activities within 1/4 mile of active sage grouse leks year round and no permanent facilities or structures would be allowed within 2 miles when possible. **Exception**: None **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Status Species Sage Grouse	Planning Area Wide	CSU	X	X		X		X	Within ½ mile of known active leks, use the best available technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to reduce noise. **Exception**: None **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Book Cliffs Planning Area	TL					X		For minerals only, surface disturbance, exploration, drilling, and other development activity would be allowed only during the period from June 15-March 15. **Exception**: This stipulation may be excepted by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Book Cliffs Planning Area	NSO					X		No drilling or storage facilities would be allowed within 300 feet of sage grouse strutting grounds. **Exception**: This stipulation may be excepted by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. **Modification**: None **Waiver**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
Special Status Species Sage Grouse	Diamond Mountain Planning Area	TL					X		Do not allow surface-disturbing activities within sage grouse nesting areas (a 2-mile radius of sage grouse strutting grounds within the sagebrush vegetation type) from March 1 through June 30. **Exception**: This restriction would not apply if sage grouse are not present or impacts could be mitigated through other management actions. **Modification**: None **Waiver**: None
Special Status Species Sage Grouse	Diamond Mountain Planning Area	NSO					X		Do not allow surface-disturbing activities within 1000 feet of sage grouse strutting grounds. **Exception**: This restriction would not apply if sage grouse are not present or impacts could be mitigated through other management actions. **Modification**: None **Waiver**: None
Special Status Species Raptors	Planning Area Wide	CSU	X	X	X	X	X	X	Protect and restore cottonwood bottoms for bald eagle winter habitat along the Green and White Rivers, at Pelican Lake, and at the Cliff Creek Bald Eagle roost site, as well as any new roost sites discovered in the future. **Exception**: None **Modification**: None

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									Waiver: None
Special Status Species Raptors - Buffers	Planning Area Wide	TL/CSU/NSO	X	X	X	X		X	Raptor management would be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses. **Exception**: None **Modification**: Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the "*Raptor BMPs",* would include the following: 1. Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1 of the Raptor BMPs in Appendix A) 2. Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of the *"*BMPs*"* would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised.

Table 1. Resources of Concern and Stipulation(s) including Exceptions, Modifications, and Waiver by Alternative

Resource of Concern	Applicable Area	Stipulation Code	Alternative						Stipulation Description
			Proposed	A	B	C	D	E	
									3. Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of UDWR and the Service, BLM could allow the activity to continue while requiring monitoring to determine the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to UDWR for incorporation into the Natural Heritage Program (NHP) raptor database. **Waiver**: None

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APPENDIX M. UTAH PUBLIC LANDS STUDY – KEY SOCIAL SURVEY FINDINGS FOR DAGGETT, DUCHESNE AND UINTAH COUNTIES

A statewide social survey was conducted by Utah State University in 2007 to assess the ways in which Utah residents use and value public land resources, and their views about public land management. Random samples of residential households were selected in each of the state's 29 counties. Sampled households were contacted by mail, and a randomly-selected adult from the household was asked to participate in the survey. Self-completion questionnaires were distributed to potential survey participants using a multiple-wave survey administration procedure. The discussion that follows is focused on key survey results obtained for Daggett County (n = 41 survey responses), Duchesne County (n = 108 survey responses), and Uintah County (n = 119 survey responses).[1]

ECONOMIC LINKAGES TO PUBLIC LANDS

One major focus of the survey questionnaire involved assessment of the various ways in which Utahans may engage in economic activities that are linked directly or indirectly to public land resources in the state.

PERMIT-BASED ECONOMIC ACTIVITIES

As indicated in Table 1, only a minority of survey respondents in Daggett, Duchesne, or Uintah Counties reported that a portion of their household income is directly linked to activities that involve permitted uses of lands or resources administered by the U.S. Forest Service, the Bureau of Land Management (BLM), other federal agencies, or the State of Utah. In Daggett County reports of income derived from permit-based economic activities on public lands most often involved activities involving land administered by the Bureau of Land Management (12.2%). In Duchesne County these types of economic linkage to public lands were reported most often for activities involving land administered by the State of Utah (13.9%), followed by the Bureau of Land Management (11.1%). In Uintah County such linkages were most frequently reported for permit-based activities involving Bureau of Land Management lands (21.8%) and lands administered by the State of Utah (14.3%) Overall, these types of connections to public lands in Utah appear to be most prevalent among residents of Uintah County, and least prevalent among those living in Daggett County.

[1] *The number of respondents for Daggett County is small in part because the commercial firm that provided random samples of residential mailing addresses for the statewide survey was able to identify only 183 potentially valid residential addresses in that county. In addition, 110 of the questionnaire packets that were mailed to addresses included in the sample were returned as undeliverable. As a result of this unexpectedly small sample size, results for Daggett County should be interpreted cautiously.*

Table 1. Percentage of Survey Respondents Reporting that a Portion of Household Income is Directly Linked to Permitted Use of Public Lands or Resources

	Uintah County	Daggett County	Duchesne County
Forest Service	12.2%	5.6%	8.4%
BLM	21.8%	4.9%	11.1%
Other Federal Agency	0.0%	6.5%	7.6%
State of Utah	2.6%	13.9%	14.3%

The data reported in Table 2 reflect the percentage of respondents reporting these types of permit-based economic linkages to public lands who also indicated that 25% or more of their total household income is derived from those activities. Since in many cases the number of respondents reporting such economic linkages was small, these values are based on a limited number of cases and as a consequence need to be interpreted with caution. Nevertheless, it is clear that in all three of these counties the survey respondents who reported participation in permit-based economic activities on public lands often rely fairly heavily on those activities as sources of household income.

Table 2. Percentage of Survey Respondents Reporting Permit-based Economic Activities on Public Lands Who Indicated that 25% or More of Their Household Income is Derived from those Activities

	Uintah County	Daggett County	Duchesne County
Forest Service	60.0%	66.7%	40.0%
BLM	88.5%	50.0%	75.0%
Other Federal Agency	0.0%	67.1%	67.7%
State of Utah	100.0%	20.0%	52.9%

HOUSEHOLD PARTICIPATION IN SELECTED COMMERCIAL ACTIVITIES

The next series of questions asked respondents to indicate whether they or members of their households participate in any of a number of commercial activities that, while commonly associated with public land use, can involve the use of either public or private lands. Results summarized in Table 3 indicate that for any of these activities only a minority of survey respondents in Daggett, Duchesne or Uintah counties reported participation. Among Daggett County respondents the activities reported most frequently were participation in commercial firewood cutting (10% of responses), in oil and gas exploration or development (10%), and in miscellaneous other commercial activities (10.8%). In Duchesne County the activities identified most often included participation in oil and gas exploration or development (26.9%) and livestock grazing or related work (12.3%). In Uintah County the most commonly-reported commercial activities were participation in oil and gas exploration or development (31.4%), livestock grazing and related work (12.7%), and commercial firewood cutting (11.9%). On balance, the response patterns indicate that there is a higher level of engagement in most of these types of resource-based commercial activities among residents of Uintah County than is the case in either Daggett County or Duchesne County.

Table 3. Percentage Of Survey Respondents Reporting That They Or Members Of Their Households Participate In Selected Resource-based Commercial Activities, On Either Public Or Private Lands

	Daggett County	Duchesne County	Uintah County
Livestock grazing and related work	2.5%	12.3%	12.7%
Commercial firewood cutting	10.0%	5.6%	11.9%
Logging, post & pole cutting, or other timber-related work	2.5%	3.7%	6.8%
Mining of coal, uranium or other solid minerals	0.0%	1.9%	5.2%
Mining of sand, gravel, or other construction materials	0.0%	4.7%	5.1%
Oil &gas exploration/development	10.0%	26.9%	31.4%
Operating an outfitting or guiding business	5.0%	1.9%	3.4%
Film making/commercial photography	0.0%	0.0%	0.8%
Other commercial activities	10.8%	3.1%	2.8%

HOUSEHOLD INVOLVEMENT IN BUSINESSES LINKED TO RECREATION/TOURISM

Survey respondents were also asked whether they or any member of their household operates or works at a business linked to recreation or tourism activity that is influenced by the presence of public lands and resources. The percentage of respondents indicating involvement in such businesses was highest in Daggett County (22.5%). In contrast, relatively few survey respondents from either Duchesne County (8.3%) or from Uintah County (8.0%) said "yes" to this question. When asked to assess how important activities and uses linked to public lands are to the success of this business, over three-fourths (77.8%) of Daggett County respondents, over one-fifth (22.2%) of Duchesne County respondents, and over two-fifths (44.4%) of Uintah County respondents who did report involvement in such businesses said that the influence of public lands is "extremely important."

HOUSEHOLD INVOLVEMENT IN BUSINESSES LINKED TO COMMODITY PRODUCTION

A similar question asked about the involvement of survey participants and members of their households in business that provide services and supplies to farming or ranching operations, logging firms, or other commercial enterprises that use or process natural resources located on public lands. Not a single respondent from Daggett County reported this type of economic linkage involving their household. One out of ten (10.2%) respondents from Duchesne County and two out of ten (21.2%) respondents from Uintah County reported that they or a household member was involved in some way with this type of business.

OWNERSHIP OF PROPERTY OR ASSETS WITH VALUES INFLUENCED BY NEARBY PUBLIC LANDS

When asked whether they own land, buildings, or other assets that they believe have a monetary value that is significantly influenced by the presence and condition of nearby public lands, 67.5% of Daggett County respondents, 29.6% of Duchesne County respondents, and 18.4% of Uintah County respondents said "yes." Those who did perceive the existence of such a relationship were then asked to identify specific types of assets that they own and that they believe have a value influenced by the close proximity of public lands. Respondents in all three of these counties most frequently cited their permanent residential property (63.4% in Daggett County, 20.4% in Duchesne County, and 9.2% in Uintah County).

PERCEIVED IMPORTANCE OF PUBLIC LANDS FOR OVERALL QUALITY OF LIFE

Survey participants were also asked to report how important they think fifteen different types of public land resources and resource uses are for the overall quality of life experienced by people living in their communities. Table 4 summarizes response patterns to this series of questions for Daggett, Duchesne and Uintah counties, with a focus on the percentage of respondents from each county who indicated that they consider a particular type of resource use to be "very important" for local quality of life.

Table 4. Percentage Of Survey Respondents Indicating That Selected Public Land Resource Uses Are "Very Important" To The Overall Quality Of Life In Their Community

	Daggett County	Duchesne County	Uintah County
Grazing of livestock on public lands	68.4%	77.0%	67.3%
Water resources used to irrigate crops and pastures	84.2%	95.1%	94.5%
Water resources used to supply homes and businesses	90.0%	80.8%	90.3%
Water resources that provide important fish/wildlife habitat	87.5%	79.6%	75.9%
Energy resources such as oil, gas, coal or uranium	55.3%	81.2%	83.0%
Sand, gravel or other minerals used in building and construction industries	32.4%	37.4%	46.8%
Forested areas that provide timber used by logging operations and lumber mills	57.9%	45.9%	47.7%
Areas where trees or other vegetation provide important wildlife habitat	82.1%	69.2%	72.1%
Areas that attract tourism and recreational activity	82.1%	55.4%	57.1%
Opportunities to enjoy off-road vehicles, snowmobiling, or other motorized recreation	61.5%	39.2%	60.9%

Table 4. Percentage Of Survey Respondents Indicating That Selected Public Land Resource Uses Are "Very Important" To The Overall Quality Of Life In Their Community

	Daggett County	Duchesne County	Uintah County
Opportunities to enjoy hiking, backpacking, cross-country skiing, horseback riding, or other types of non-motorized recreation	66.7%	56.7%	55.5%
Opportunities to hunt for wild game	80.0%	65.0%	66.7%
Opportunities to fish in area lakes, streams and rivers	95.0%	74.0%	70.5%
Undeveloped landscapes where motorized access and resource development are restricted	47.2%	46.5%	40.8%
Areas managed to maintain biodiversity and protect habitat for sensitive or important plants or wildlife	44.7%	35.6%	42.2%

In Daggett County only three of the fifteen types of public land resource use presented in this question were considered "very important" by fewer than one-half of respondents (sand/gravel or other construction-related mineral development, undeveloped landscapes where motorized access and development are restricted, and areas managed to maintain biodiversity and protect plant or wildlife habitat). At the same time, over three-fourths of Daggett County respondents considered water resources used to irrigate crops and pastures, water resources used to supply homes and businesses, water resources used to supply fish and wildlife habitat, areas where trees or other vegetation provide important wildlife habitat, areas that attract tourism and recreation opportunity, opportunities to hunt for wild game, and opportunities to fish in area lakes, streams and rivers to be "very important" to the local quality of life.

In Duchesne County five of these resource uses were considered "very important" by fewer than one-half of respondents (sand/gravel or other construction-related mineral development, timber production, opportunities to enjoy off-road vehicles, snowmobiling, or other motorized recreation, undeveloped landscapes where motorized access and resource development are restricted, and areas managed to maintain biodiversity and to protect habitat). Conversely, five resource uses – grazing of livestock on public lands, water resources used to irrigate crops and pastures, water resources used to supply homes and businesses, water resources used to provide important fish and wildlife habitat, and energy resources such as oil, gas, coal or uranium -- were considered "very important" to the local quality of life by more than three-fourths of Duchesne County respondents.

Four of the resource uses included in this list were considered to be "very important" to the overall quality of life by fewer than one-half of respondents living in Uintah County (sand/gravel or other construction-related mineral development, timber production, undeveloped landscapes where motorized access and resource development are restricted, and areas managed to maintain biodiversity and to protect habitat). Four of the resource uses included in the list -- water resources used to irrigate crops and pastures, water resources used to supply homes and businesses, water resources used to provide important fish and wildlife habitat, and energy

resources such as oil, gas, coal or uranium -- were considered to be very important by more than three-fourths of Uintah County respondents.

RECREATIONAL USES OF PUBLIC LANDS

Survey participants were also asked to report whether they had participated in any of a broad range of outdoor recreation activities and other non-commodity use activities on Utah public lands during the prior twelve months. Results from this series of questions are reported in Table 5 and Table 6. These findings clearly indicate that there is widespread participation in many of these public land activities among residents of Daggett, Duchesne, and Uintah Counties.

Table 5 reports the extent of reported participation in thirty different outdoor recreation activities. Among survey participants living in Daggett County, more than one-half reported participation in ten of these activities -- camping, picnicking, day hiking, bird watching, wildlife viewing, nature photography, motor boating, fishing, visiting historical sites, and driving for pleasure/sightseeing on public lands -- during the preceding twelve months. In Duchesne County over half of respondents reported that they had participated in six of these activities – camping, picnicking, wildlife viewing, fishing, visiting historical sights, and sightseeing/driving for pleasure. One-half or more of Uintah County respondents reported participation during the prior 12 months in nine of the activities -- camping, picnicking, day hiking, wildlife viewing, hunting, fishing, visiting historical sites, ATV riding, and driving for pleasure/sightseeing on public lands.

Table 5. Percentage Of Survey Respondents Reporting Participation In Selected Recreation Activities On Utah Public Lands During The Past Twelve Months

	Daggett County	Duchesne County	Uintah County
Camping	68.3%	64.5%	75.4%
Picnicking	82.5%	75.0%	79.7%
Backpacking	23.1%	19.6%	17.3%
Day hiking	72.5%	41.0%	54.9%
Bird watching	53.8%	26.5%	29.0%
Wildlife viewing	82.5%	61.3%	72.6%
Nature photography	61.5%	33.7%	40.2%
Canoeing/kayaking	15.4%	5.9%	10.2%
River rafting	47.5%	9.8%	26.1%
Motor boating	56.1%	20.4%	40.2%
Jet skiing	7.7%	3.9%	8.3%
Swimming	45.0%	24.3%	47.8%
Rock climbing	12.8%	9.5%	15.6%
Mountain climbing	17.5%	15.2%	17.4%
Hang gliding	0.0%	1.9%	0.0%
Mountain bike riding	27.5%	9.6%	13.8%
Hunting	43.9%	39.4%	52.6%

Table 5. Percentage Of Survey Respondents Reporting Participation In Selected Recreation Activities On Utah Public Lands During The Past Twelve Months

	Daggett County	Duchesne County	Uintah County
Fishing	82.9%	60.6%	67.8%
Horseback riding	20.5%	26.2%	24.8%
Orienteering/geo-caching	7.7%	6.9%	7.5%
Rock hounding	27.5%	25.2%	27.8%
Visiting historical sites	70.7%	55.1%	64.9%
Resort skiing/snowboarding	12.8%	11.5%	6.5%
Backcountry skiing/snowboarding	7.7%	5.9%	1.9%
Snowshoeing	7.7%	5.8%	4.7%
Snowmobiling	17.9%	9.7%	13.8%
ATV riding	39.0%	31.7%	50.0%
Dirt bike riding	7.7%	3.9%	15.7%
4-wheel driving/jeeping	40.0%	20.2%	39.3%
Sightseeing/pleasure driving	85.4%	79.6%	81.9%

Table 6. Percentage Of Survey Respondents Reporting Participation In Selected Non-commodity Use Activities On Utah Public Lands During The Past Twelve Months

	Daggett County	Duchesne County	Uintah County
Collecting firewood for home use	67.5%	26.2%	23.9%
Cutting Christmas trees	37.5%	21.4%	36.0%
Collecting material for craft projects	35.0%	16.7%	21.8%
Collecting rocks for home landscaping	50.0%	26.7%	33.3%
Collecting plants for home landscaping	12.5%	6.9%	9.2%
Gathering wild mushrooms	5.1%	1.0%	0.9%
Gathering pinyon nuts	10.3%	14.7%	13.6%
Gathering berries, herbs or wild foods	5.1%	8.9%	12.8%
Collecting fossils, rocks or minerals	25.6%	20.4%	22.0%

Responses to a question focusing on participation in a variety of non-commodity use activities on public lands are summarized in Table 6. Among this list of activities, Daggett County respondents were most likely to report that they participate in collection firewood for home use, collecting rocks for home landscaping, cutting Christmas trees, collecting materials for craft projects, and collecting fossils, rocks or minerals. In Duchesne County the activities identified most often included collecting rocks for home landscaping, collecting firewood for home use, cutting Christmas trees, and collecting fossils, rocks or minerals. In Uintah County respondents most frequently indicated participation in cutting Christmas trees, collecting rocks for home landscaping, collecting firewood for home use, collecting material for craft projects, and collecting fossils, rocks or other minerals from public land areas.

Respondents were also asked to identify the one or two activities from the lists presented in these questions that they participate in most often, and to provide detail on where they engage in those activities. Among Daggett County respondents the first of these activities listed by respondents most often involved fishing (35.0% of responses), followed by camping (10.0%). In Duchesne County the first listed activity most often involved camping (29.5% of responses), followed by fishing (13.7%). In Uintah County the activities listed most frequently were camping (29.2% of responses), fishing (12.3%) and sightseeing/pleasure driving (11.3%). When asked to indicate where they participate in the first-listed of their "most frequently pursued" activities, 95% of Daggett County respondents, 74.5% of Duchesne County respondents, and 86.3% of Uintah County respondents who answered the question identified a location within the county where they live.

ATTITUDES AND PREFERENCES REGARDING PUBLIC LAND MANAGEMENT

Two similar sets of survey questions focused on respondents' attitudes and preferences regarding the extent to which various natural resource use activities or management practices should be reduced or increased by those responsible for managing public lands in Utah. Response patterns to these questions are summarized in Table 7 and Table 8.

The data presented in Table 7 indicate that Daggett County respondents were considerably more likely to prefer an increase rather than a decrease in timber harvest levels, protection of important fish and wildlife habitat, thinning of forested areas to reduce wildfire risk, and development of water storage and delivery systems on Utah public lands. On the other hand, attitudes were more evenly split between preferences for reducing and preferences for increasing mineral exploration/extraction, designation of wilderness areas, exploration for and development of oil and gas resources, livestock grazing, and designation of wild and scenic rivers. Daggett County respondents were also considerably more likely to prefer a reduction rather than an increase in management efforts to protect endangered species.

Among Duchesne County residents respondents were more considerably likely to prefer an increase rather than a decrease in mineral exploration/extraction, timber harvest, oil and gas development, protection of fish and wildlife habitat, use of controlled burns to improve ecological conditions, thinning of forested areas to reduce wildfire risk, livestock grazing, and development of water storage and delivery systems. To a lesser extent they also were more likely to see an increase rather than a decrease in protection of endangered species and

designation of wild and scenic rivers, yet at the same time they were more likely to prefer a reduction as opposed to an increase in designation of wilderness areas.

Uintah County respondents were considerably more likely to express a preference for an increase rather than a decrease in public land management that would involve mineral exploration/extraction, timber harvest, exploration for/development of oil and gas resources, protection of fish and wildlife habitat, use of controlled burns to improve ecological conditions, thinning of forested areas to reduced wildfire risk, livestock grazing, and development of water storage and delivery systems. They were somewhat more likely to prefer a reduction as opposed to an increase in designation of wilderness areas, protection of endangered species, and designation of wild and scenic rivers.

Results summarized in Table 8 indicate that Daggett County respondents were more likely to prefer an increase rather than a reduction in provision of road access to recreation areas, provision of hunting opportunities, development of trails for non-motorized recreation, regulations that restrict motorized vehicles to designated trails, regulations to limit noise and emissions from snowmobiles and ATVs, and development of visitor facilities that would encourage an increase in tourism levels. In Duchesne County respondents were considerably more likely to prefer an increase rather than a decrease in provision of road access to recreation areas, provision of hunting opportunities, development of trails for non-motorized recreation, regulations that require motorized vehicles to stay on designated trails, regulations that limit levels of noise and emissions from snowmobiles and ATVs, and development of visitor facilities that would encourage increased tourism. In Uintah County, responses indicated a stronger preference for increases rather than decreases in provision of road access to recreation areas, provision of hunting opportunities, development of trails for off-highway motorized recreation, development of trails for non-motorized recreation, implementation of regulations that would require motorized vehicles to remain on designated trails, implementation of noise and emission regulations for snowmobiles and ATVs, and development of facilities to attract increased tourism.

Table 7. Survey Respondents' Attitudes Regarding The Extent To Which Various Activities Occurring On Utah Public Land Should Be Reduced Or Increased*

	Daggett County		Duchesne County		Uintah County	
	Reduce	Increase	Reduce	Increase	Reduce	Increase
Mineral exploration/extraction	25.6%	25.6%	7.3%	40.6%	14.7%	43.1%
Timber harvest	12.5%	32.5%	13.5%	29.2%	16.7%	40.7%
Designation of wilderness areas	27.5%	32.5%	31.3%	21.9%	34.6%	21.5%
Exploration for/development of oil and gas resources	22.5%	30.0%	12.4%	45.4%	13.4%	55.3%
Protection of important fish and wildlife habitat	10.2%	53.9%	9.2%	52.0%	7.2%	46.8%
Protection of endangered species	40.0%	27.5%	23.5%	30.6%	34.8%	25.0%

Table 7. Survey Respondents' Attitudes Regarding The Extent To Which Various Activities Occurring On Utah Public Land Should Be Reduced Or Increased*

	Daggett County		Duchesne County		Uintah County	
	Reduce	**Increase**	**Reduce**	**Increase**	**Reduce**	**Increase**
Use of controlled burns to improve ecological conditions	35.0%	30.0%	15.8%	29.5%	7.4%	46.3%
Thinning of forested areas to reduce wildfire risk	10.0%	65.0%	10.1%	53.5%	4.6%	60.2%
Livestock grazing	25.6%	20.5%	9.1%	30.3%	9.3%	32.7%
Designation of wild and scenic rivers	30.8%	30.8%	19.1%	29.7%	25.0%	18.5%
Developing water storage and delivery systems to meet needs of nearby communities	5.0%	52.5%	3.0%	77.8%	2.8%	73.1%

* Original response categories were "major reduction" and "moderate reduction" (combined to create "reduce") and "major increase" and "minor increase" (combined to create "increase"). "Stay about the same" responses not reported here.

Table 8. Survey Respondents' Attitudes Regarding The Extent to Which The Emphasis Placed On Various Activities Occurring On Utah Public Land Should Be Reduced Or Increased By Public Land Managers*

	Daggett County		Duchesne County		Uintah County	
	Reduce	**Increase**	**Reduce**	**Increase**	**Reduce**	**Increase**
Permitting of commercial guiding or outfitter services	28.2%	10.3%	16.2%	18.2%	20.8%	10.3%
Providing road access to recreation areas	15.0%	35.0%	12.7%	40.2%	7.3%	41.8%
Providing hunting opportunities	12.8%	33.3%	10.6%	27.8%	7.5%	47.7%
Developing trails for off-highway motorized recreation	32.5%	30.0%	30.1%	32.0%	17.4%	44.0%
Developing trails for hiking, biking, and other non-motorized recreation	10.0%	47.5%	10.6%	43.3%	8.3%	46.8%
Regulations that require motorized vehicles to stay on designated trails	5.0%	55.0%	9.7%	49.5%	13.5%	45.9%

Table 8. Survey Respondents' Attitudes Regarding The Extent to Which The Emphasis Placed On Various Activities Occurring On Utah Public Land Should Be Reduced Or Increased By Public Land Managers*

	Daggett County		Duchesne County		Uintah County	
	Reduce	**Increase**	**Reduce**	**Increase**	**Reduce**	**Increase**
Regulations that limit levels of noise and emissions from snowmobiles and ATVs	15.4%	46.1%	16.2%	45.4%	21.1%	42.4%
Developing visitor facilities to increase tourism	20.0%	37.5%	14.9%	38.6%	12.8%	42.2%

* Original response categories were "major reduction" and "moderate reduction" (combined to create "reduce") and "major increase" and "minor increase" (combined to create "increase"). "Stay about the same" responses not reported here.

"The State of Utah Public Lands Policy Coordination Office has asked that BLM refer readers to its website at **http://governor.utah.gov/publiclands** where it posts updated State of Utah socioeconomic information from time to time. The BLM does not participate in collecting or compiling this information. For purposes of this PRMP/FEIS, BLM has only relied on information specifically cited in the PRMP/FEIS text and included in this Appendix."

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APPENDIX L. UTAH'S THREATENED AND ENDANGERED SPECIES LEASE NOTICES FOR OIL AND GAS DEVELOPMENT AND BLM-COMMITTED CONSERVATION MEASURES

L.1 UTAH'S THREATENED AND ENDANGERED SPECIES NOTICES

The following oil and gas lease notices were developed in consultation with USFWS and are specific to the VPA.

L.1.1 LEASE NOTICE: BLACK-FOOTED FERRET

The Lessee/Operator is given notice that the lands in this parcel may contain occupied black-footed ferret habitat, an endangered species under the Endangered Species Act classified as an experimental, nonessential population in the state of Utah. Avoidance and minimization measures that should be followed are included within the *Cooperative Plan for the Reintroduction and Management of Black-Footed Ferrets in Coyote Basin, Uintah County, Utah* published by the Utah Division of Wildlife Resources in September, 1996. [Please note: the VFO will follow the minimization measures outlined in the *Northeastern Region Black-footed Ferret Management Plan*, published by the Utah Division of Wildlife Resources in April, 2007.]These measures may be updated based on the best available scientific data as it becomes available.

L.1.2 LEASE NOTICE-ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN

The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pikeminnow, and razorback sucker) listed as endangered under the Endangered Species Act (ESA), or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994 (59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration, of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of ESA, Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s);
2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated;

3. Water production will be managed to ensure maintenance or enhancement of riparian habitat;
4. Avoid loss or disturbance of riparian habitats;
5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers;
6. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities;
7. Implement the Utah Oil and Gas Pipeline Crossing Guidance (from BLM National Science and Technology Center);
8. Drilling will not occur within 100-year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat; and,
9. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to the Utah Oil and Gas Pipeline Crossing Guidance, to minimize the potential for equipment damage and resulting leaks or spills.

Water depletions from *any* portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

L.1.3 LEASE NOTICE: LISTED PLANT SPECIES

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

1. Site inventories:
    a. Must be conducted to determine habitat suitability;
    b. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods;
    c. Documentation should include, but not be limited to individual plant locations and suitable habitat distributions; and,
    d. All surveys must be conducted by qualified individuals.
2. Lease activities will require monitoring throughout the duration of the project. To endure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

3. Project activities must be designed to avoid direct disturbance to populations and to individual plants:
    a. Designs will avoid concentrating water flows or sediments into plant occupied habitat;
    b. Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 100 feet minimum between surface disturbances and plants and populations will be incorporated;
    c. Where populations occur within 200 feet of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction;
    d. Areas for avoidance will be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc; and,
    e. For surface pipelines, use a 10-foot buffer from any plant locations:
        i. If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population.
4. For riparian/wetland-associated species, e.g. Ute ladies-tresses, avoid loss or disturbance of riparian habitats.
5. Ensure that water extraction or disposal practices do not result in change of hydrologic regime.
6. Limit disturbances to and within suitable habitat by staying on designated routes.
7. Limit new access routes created by the project.
8. Place signing to limit ATV travel in sensitive areas.
9. Implement dust abatement practices near occupied plant habitat.
10. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area.
11. Post construction monitoring for invasive species will be required.
12. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.
13. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

L.1.4 LEASE NOTICE: MEXICAN SPOTTED OWL

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. *The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 (69 FR 53181-53298).*Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether

the action is temporary or permanent, and whether it occurs within or outside the owl nesting season. A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act (ESA). Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of ESA, Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s).
2. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat. Determine potential effects of actions to owls and their habitat.
    a. Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat.
    b. Document if action is temporary or permanent.
3. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
4. Water production will be managed to ensure maintenance or enhancement of riparian habitat.
5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for Mexican Spotted Owl nesting.
6. For all temporary actions that may impact owls or suitable habitat:
    a. If the action occurs entirely outside of the owl breeding season (March 1–August 31), and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.
    b. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of the breeding season.
    c. Rehabilitate access routes created by the project through such means as raking out scars, re-vegetation, gating access points, etc.
7. For all permanent actions that may impact owls or suitable habitat:
    Survey two consecutive years for owls according to accepted protocol prior to commencing activities.
    a. If owls are found, no actions will occur within 0.5 mile of identified nest site. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).

b. Avoid drilling and permanent structures within 0.5 mile of suitable habitat unless surveyed and not occupied.
c. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5-mile buffer for suitable habitat, including canyon rims.
d. Limit disturbances to and within suitable habitat by staying on approved routes.
e. Limit new access routes created by the project.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

L.1.5 LEASE NOTICE: CANADA LYNX

The Lessee/Operator is given notice that the lands in this parcel contain potential habitat for Canada lynx, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on the nature of the proposed development, as well as proposed timing and location. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of ESA, Section 7 consultation at the permit stage.

Current avoidance and minimization measures are generally adapted from the standards and guidelines listed in Chapter 7 (Conservation Measures) of the LCAS (Ruediger 2000) and include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s), and be conducted according to protocol.
2. Based on data and information gathered in item 1, lease activities within, or in proximity to, occupied lynx habitats will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
3. Avoid all surface disturbing actions within occupied denning habitat.
4. Avoid construction and surface disturbing actions in proximity to potential denning habitat during the breeding season (mid-April to July).
5. Activities involved with routine maintenance and operation will only occur during daytime hours, when lynx are least active.
6. Where technically and economically feasible, wells will be remotely monitored within lynx habitat.
7. Limit disturbance to and within suitable habitat by staying on approved access routes.

8. Limit new access routes created by the project.
9. Dirt and gravel roads traversing lynx habitat (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway etc.) in a manner that is likely to lead to significant increases in traffic volume, traffic speed, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat. When these types of upgrades are proposed, a thorough analysis of potential direct and indirect impacts to lynx and lynx habitat should be conducted.
10. Minimize impacts to habitats that support lynx prey.
11. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and to minimize or eliminate drilling in suitable lynx habitat.

Additional measures may also be employed to avoid or minimize effects to the species at the development stage and will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

*L.1.6 Lease Notice: Uinta Basin Hookless Cactus (*Sclerocactus glaucus [= brevispinus and wetlandicus]*)*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for the Uinta Basin hookless cactus, under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened Uinta Basin hookless cactus, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[1] prior to any ground disturbing activities to determine if suitable Uinta Basin hookless cactus habitat is present.

2. Within suitable habitat[2], site inventories will be conducted to determine occupancy. Inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,

[1] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[2] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Uinta Basin hookless cactus. Habitat descriptions can be found in the U.S. Fish and Wildlife Service's 1990 Recovery Plan and Federal Register Notices for the Uinta Basin hookless cactus (http://www.fws.gov/endangered/wildlife.html).

b. Will be conducted in suitable and occupied[3] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods:
   i. *Sclerocactus brevispinus* surveys should be conducted March 15th to June 30th, unless extended by the BLM
   ii. *Sclerocactus wetlandicus* surveys can be done any time of the year, provided there is no snow cover,
c. Will occur within 115' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 100' from the perimeter of disturbance for the proposed well pad including the well pad,
d. Will include, but not be limited to, plant species lists and habitat characteristics, and
e. Will be valid until March 15th the following year for *Sclerocactus brevispinus* and one year from the survey date for *Sclerocactus wetlandicus*.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Reduce well pad size to the minimum needed, without compromising safety,
   b. Limit new access routes created by the project,
   c. Roads and utilities should share common right-of-ways where possible,
   d. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   e. Place signing to limit off-road travel in sensitive areas,
   f. Stay on designated routes and other cleared/approved areas, and
   g. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Follow the above (#3) recommendations for project design within suitable habitats,
   b. Buffers of 100 feet minimum between the edge of the right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated,
   c. Surface pipelines will be laid such that a 100 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat to ensure the pipelines don't move towards the population,
   d. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,

[3] *Occupied habitat* is defined as areas currently or historically known to support Uinta Basin hookless cactus; synonymous with "known habitat."

e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
f. Designs will avoid concentrating water flows or sediments into occupied habitat,
g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied Uinta Basin hookless cactus habitats within 100' of the edge of the surface pipelines' right-of-ways, 100' of the edge of the roads' right-of-ways, and 100' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.

6. Reinitiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Uinta Basin hookless cactus is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

L.1.7 LEASE NOTICE: UTE LADIES'-TRESSES (SPIRANTHES DILUVIALIS)

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Ute ladies'-tresses under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened Ute ladies'-tresses, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. Ute ladies'-tresses habitat is provided some protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. Although plants, habitat, or populations may be afforded some protection under these regulatory mechanisms, the following conservation measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area, including areas where hydrology might be affected by project activities, within potential habitat[4] prior to any ground disturbing activities to determine if suitable Ute ladies'-tresses habitat is present.

2. Within suitable habitat[5], site inventories will be conducted to determine occupancy. Inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and USFWS accepted survey protocols,
    b. Will be conducted in suitable and occupied[6] habitat for all areas proposed for surface disturbance or areas that could experience direct or indirect changes in hydrology from project activities,
    c. Will be conducted prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods (usually August 1st and August 31st in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower),
    d. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
    e. Will include, but not be limited to, plant species lists, habitat characteristics, source of hydrology, and estimated hyroperiod, and
    f. Will be valid until August 1st the following year.

3. Design project infrastructure to minimize direct or indirect impacts to suitable habitat[2] both within and downstream of the project area:
    a. Alteration and disturbance of hydrology will not be permitted,
    b. Reduce well pad size to the minimum needed, without compromising safety,
    c. Limit new access routes created by the project,
    d. Roads and utilities should share common right-of-ways where possible,
    e. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed,
    f. Construction and right-of-way management measures should avoid soil compaction that would impact Ute ladies' tresses habitat,
    g. Off-site impacts or indirect impacts should be avoided or minimized (i.e. install berms or catchment ditches to prevent spilled materials from

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[4] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[5] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Ute ladies'-tresses. Habitat descriptions can be found in Recovery Plans and Federal Register Notices for the species at <http://www.fws.gov/endangered/wildlife.html>.

[6] *Occupied habitat* is defined as areas currently or historically known to support Ute ladies'-tresses; synonymous with "known habitat."

reaching occupied or suitable habitat through either surface or groundwater),

h. Place signing to limit off-road travel in sensitive areas,
i. Stay on designated routes and other cleared/approved areas, and
j. All disturbed areas will be re-vegetated with species approved by USFWS and BLM botanists.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
    a. Follow the above (#3) recommendations for project design within suitable habitats,
    b. Buffers of 300 feet minimum between right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated,
    c. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and the plants, using stabilizing and anchoring techniques when the pipeline crosses habitat to ensure the pipelines don't move towards the population,
    d. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
    e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
    f. Designs will avoid altering site hydrology and concentrating water flows or sediments into occupied habitat,
    g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, with berms and catchment ditches to avoid or minimize the potential for materials to reach occupied or suitable habitat, and
    h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied Ute ladies'-tresses habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Habitat impacts include monitoring any changes in hydrology due to project related activities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Ute ladies'-tresses is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

L.1.8 LEASE NOTICE: CLAY REED-MUSTARD (SCHOENOCRAMBE ARGILLACEA)

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for clay reed-mustard under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened clay reed-mustard, the BLM in coordination with the USFWS developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[7] prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present.

2. Site inventories will be conducted within suitable habitat[8] to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
    b. Will be conducted in suitable and occupied[9] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),

[7] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[8] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>.

[9] *Occupied habitat* is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
d. Will include, but not be limited to, plant species lists and habitat characteristics, and
e. Will be valid until May 1st the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   f. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   g. Reduce well pad size to the minimum needed, without compromising safety,
   h. Limit new access routes created by the project,
   i. Roads and utilities should share common right-of-ways where possible,
   j. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   k. Place signing to limit off-road travel in sensitive areas, and
   l. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   m. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   n. Follow the above recommendations (#3) for project design within suitable habitats,
   o. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
   p. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
   q. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only,
   r. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

s. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population ; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
t. Construction activities will not occur from May 1st through June 5th within occupied habitat,
u. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
v. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
w. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
x. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied clay reed-mustard habitats within 300' of the edge of the surface pipelines' right of ways, 300' of the edge of the roads' right of ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

L.1.9 Lease Notice: Shrubby reed-mustard (Schoenocrambe (=Glaucocarpum) suffrutescens)

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for shrubby reed-mustard under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally endangered shrubby reed-mustard, the BLM in coordination with the USFWS developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling,

production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[10] prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present.

2. Within suitable habitat[11], site inventories will be conducted to determine occupancy. Inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
    b. Will be conducted in suitable and occupied[12] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (April 15th to August 1st, unless extended by the BLM),
    c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
    d. Will include, but not be limited to, plant species lists and habitat characteristics, and
    e. Will be valid until April 15th the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
    a. Reduce well pad size to the minimum needed, without compromising safety,
    b. Limit new access routes created by the project,
    c. Roads and utilities should share common right-of-ways where possible,
    d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
    e. Place signing to limit off-road travel in sensitive areas, and
    f. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
    a. Follow the above (#3) recommendations for project design within suitable habitats,

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[10] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[11] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain shrubby reed-mustard; habitat descriptions can be found in the Federal Register 52(193):37416-37420 and in the U.S. Fish and Wildlife Service's 1994 Utah Reed-Mustards Recovery Plan (http://www.fws.gov/endangered/wildlife.html).

[12] *Occupied habitat* is defined as areas currently or historically known to support shrubby reed-mustard; synonymous with "known habitat."

b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant,
c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 30th (flowering period); dust abatement applications will be comprised of water only,
d. The edge of the well pad should be located at least 300' away from plants,
e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the white shale strata to ensure the pipelines don't move towards the population,
f. Construction activities will not occur from April 15th through May 30th within occupied habitat,
g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
i. Designs will avoid concentrating water flows or sediments into occupied habitat,
j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied shrubby reed-mustard habitats within 300' of the edge of the surface pipeline right of ways, 300' of the edge of the road right of ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

L.2 BLM-COMMITTED CONSERVATION MEASURES

BLM-committed conservation measures, which would be incorporated into the RMP, are binding species-specific measures intended to protect species, and minimize the potential for adverse impacts that may result from the implementation of BLM authorized activities on special status species. This is not a comprehensive list, in that other modified versions of these measures may be imposed for any BLM authorized activity following further analyses or reviews, and/or consultation and coordination with USFWS on specific actions.

L.2.1 COMMITTED MITIGATION IDENTIFIED IN CHAPTER 2 OF THE PROPOSED PLAN AND THOSE RESULTING FROM CONSULTATION ON EXISTING LAND USE PLANS

1. In consultation with USFWS and Utah Division of Wildlife Resources (UDWR), apply species-specific protective stipulations on federal actions to avoid or minimize adverse effects on federally listed, proposed, or candidate species or suitable habitat for the same species.

2. Maintain adequate baseline information regarding the extent of special status species to make informed decisions, evaluate the effectiveness of management actions, and assess progress toward recovery. Implement species-specific conservation measures to avoid or mitigate adverse impacts on known populations and their habitats of BLM special status plant and animal species on BLM administered lands.

3. In areas where multiple resources are potentially affected by surface disturbance (e.g., crucial-value wildlife habitat, livestock pastures, threatened and endangered and special status species habitat, and occupied wild horse and burro range), coordinate implementation of any offsite mitigation with other affected agencies and the overlapping resource values.

4. Cooperate with the USFWS, other agencies, and universities to develop plans for federally listed plant and animal species.

5. Work with the UDWR to identify and improve special status fish passage and habitat connectivity. Maintain or improve habitat for reintroduction of special status fish species to streams. Maintain special status plant species communities in natural patterns on a landscape scale.

6. Follow guidelines and implement management recommendations presented in species recovery or conservation plans or alternative management strategies developed in consultation with USFWS.

7. Use emergency actions where use threatens known communities of Special Status plant or animal species.

8. Prohibit surface disturbances that may affect listed species or critical habitat of plants or animals (T&E or Candidate) without consultation or conference (ESA Section 7) between the BLM and USFWS.

9. Continue to work with USFWS and others to ensure that plans and agreements are updated to reflect the latest scientific data.

L.2.2 SPECIES SPECIFIC BLM-COMMITTED CONSERVATION MEASURES

As part of the proposed plan, the BLM has included conservation measures to minimize or eliminate adverse impacts to federally listed species. These measures are listed by species and are extrapolated from the *Biological Opinion for the Existing Utah BLM RMP*, the *Amendment of Informal Oil & Gas Lease Sales Consultation (05-0215) and the Utah BLM RMP Biological Opinion (6-UT-07-F-0018) Conservation Measures*.

L.2.3 UTE LADIES'-TRESSES

In order to minimize effects to the federally threatened Ute ladies'-tresses, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. Ute ladies'- tresses habitat is provided some protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. Although plants, habitat, or populations may be afforded some protection under these regulatory mechanisms, the following conservation measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area, including areas where hydrology might be affected by project activities, within potential habitat[13] prior to any ground disturbing activities to determine if suitable habitat is present.

2. Within suitable habitat[14], site inventories will be conducted to determine occupancy. Inventories:

    a. Must be conducted by qualified individual(s) and according to BLM and USFWS accepted survey protocols;

[13] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[14] Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain . Habitat descriptions can be found in Recovery Plans and Federal Register Notices for the species at (http://www.fws.gov/endangered/wildlife.html).

b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance or areas that could experience direct or indirect changes in hydrology from project activities;
c. Will be conducted prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods (usually August 1st and August 31st in the Uinta Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower);
d. Will occur within 300 feet from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad including the well pad;
e. Will include, but not be limited to, plant species lists, habitat characteristics, source of hydrology, and estimated hydroperiod; and
f. Will be valid until August 1st the following year.

3. Design project infrastructure to minimize direct or indirect impacts to suitable habitat both within and downstream of the project area:

a. Alteration and disturbance of hydrology will not be permitted;
b. Reduce well pad size to the minimum needed, without compromising safety;
c. Limit new access routes created by the project;
d. Roads and utilities should share common right-of-ways where possible;
e. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed;
f. Construction and right-of-way management measures should avoid soil compaction that would impact Ute ladies' tresses habitat;
g. Off-site impacts or indirect impacts should be avoided or minimized (i.e. install berms or catchment ditches to prevent spilled materials from reaching occupied or suitable habitat through either surface or groundwater);
h. Place signing to limit off-road travel in sensitive areas;
i. Stay on designated routes and other cleared/approved areas; and,
j. All disturbed areas will be re-vegetated with species approved by USFWS and BLM botanists.

4. Within occupied habitat[15], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:

a. Follow the above (#3) recommendations for project design within suitable habitats;

[15] *Occupied habitat* is defined as areas currently or historically known to support; synonymous with "known habitat."

b. Buffers of 300 feet minimum between right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated;
c. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right-of-way and the plants, using stabilizing and anchoring techniques when the pipeline crosses habitat to ensure the pipelines don't move towards the population;
d. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.;
e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad;
f. Designs will avoid altering site hydrology and concentrating water flows or sediments into occupied habitat;
g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, with berms and catchment ditches to avoid or minimize the potential for materials to reach occupied or suitable habitat; and,
h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied habitats within 300 feet of the edge of the surface pipelines' ROW, 300 feet of the edge of the roads' ROWs, and 300 feet from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Habitat impacts include monitoring any changes in hydrology due to project related activities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.

6. Reinitiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

L.2.4 Uinta Basin Hookless Cactus (Sclerocactus glaucus [=S. wetlandicus and S. brevispinus])

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Uinta Basin hookless cactus (*Sclerocactus glaucus*). This list is not comprehensive. Additional conservation measures,

or other modified versions of these measures, may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of section 7 consultation with the USFWS.

1. Prior to surface disturbing activities in habitat for the species, presence/absence surveys of potentially affected areas will be conducted in accordance with established protocols.

2. Appropriate avoidance/protection/mitigation will be used to manage potential impacts of similar subsequent projects. These measures should include, but are not be limited to:
    a. the stabilization of soils to minimize or avoid impacts related to soil erosion;
    b. marking/flagging of suitable and/or occupied habitat (including predetermined buffers) prior to development to avoid trampling by crew members or equipment during disturbance related activities; and
    c. require project proponents to conduct surveys and monitoring actions using BLM-approved specialists to document population effects and individual impacts.

3. BLM shall continue to document new populations of Uinta Basin hookless cactus as they are encountered.

4. To assist and support recovery efforts, BLM will minimize or avoid surface disturbances in habitats that support the species.

5. BLM will encourage and assist project proponents in development and design of their proposed actions in order to avoid direct disturbance to suitable habitat, populations, or individuals where feasible. Designs should consider water flow, slope, appropriate buffer distances, possible fencing needs, and pre-activity flagging of sensitive areas that are planned for avoidance.

6. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.

7. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.

8. Cultural and paleontological survey/recovery technicians (i.e., archeologists and/or paleontologists), conducting work in the vicinity of known populations, will be educated in the identification of listed species in order to avoid inadvertent trampling or removal during survey, mapping, or excavation of cultural or paleontological resources.

9. Areas of viable habitat, near populations considered for prescribed burning, will be surveyed according to established protocols for new or undocumented populations of the species.

10. Lands being considered for exchange or disposal that contain suitable habitat for the species will be surveyed for undocumented populations, according to established protocols, prior to approval of such disposal. Lands supporting populations shall not be disposed of unless it is determined that the action will not threaten the survival and recovery of the species in accordance with the ESA and BLM *Guidance and Policy Manual 6840 (Special Status Species Management)*.

11. The BLM will encourage the avoidance of key habitats during livestock herding and trailing activities on BLM-administered lands. (Key habitats are those that are deemed necessary for the conservation of the species including, but not necessarily limited to, designated critical habitat and other occupied or unoccupied habitats considered important for the species survival and recovery as determined in coordination with the USFWS).

L.2.5 CLAY REED-MUSTARD (SCHOENOCRAMBE ARGILLACEA)

In order to minimize effects to the federally threatened clay reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[16] prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present.

2. Site inventories will be conducted within suitable habitat[17] to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,

[16] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[17] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>.

b. Will be conducted in suitable and occupied[18] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
d. Will include, but not be limited to, plant species lists and habitat characteristics, and
e. Will be valid until May 1st the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Reduce well pad size to the minimum needed, without compromising safety,
   c. Limit new access routes created by the project,
   d. Roads and utilities should share common right-of-ways where possible,
   e. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   f. Place signing to limit off-road travel in sensitive areas, and
   g. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Follow the above recommendations (#3) for project design within suitable habitats,
   c. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
   d. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,

[18] *Occupied habitat* is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

e. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only,
f. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
g. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population ; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
h. Construction activities will not occur from May 1st through June 5th within occupied habitat,
i. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
j. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
k. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
l. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied clay reed-mustard habitats within 300' of the edge of the surface pipelines' right of ways, 300' of the edge of the roads' right of ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

L.2.6 SHRUBBY REED-MUSTARD (SCHOENOCRAMBE [=GLAUCOCARPUM] SUFFRUTESCENS)

In order to minimize effects to the federally endangered shrubby reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[19] prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present.

2. Within suitable habitat[20], site inventories will be conducted to determine occupancy. Inventories:
    a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
    b. Will be conducted in suitable and occupied[21] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (April 15th to August 1st, unless extended by the BLM),
    c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
    d. Will include, but not be limited to, plant species lists and habitat characteristics, and
    e. Will be valid until April 15th the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
    a. Reduce well pad size to the minimum needed, without compromising safety,
    b. Limit new access routes created by the project,
    c. Roads and utilities should share common right-of-ways where possible,
    d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
    e. Place signing to limit off-road travel in sensitive areas, and

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[19] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[20] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain shrubby reed-mustard; habitat descriptions can be found in the Federal Register 52(193):37416-37420 and in the U.S. Fish and Wildlife Service's 1994 Utah Reed-Mustards Recovery Plan (http://www.fws.gov/endangered/wildlife.html).

[21] *Occupied habitat* is defined as areas currently or historically known to support shrubby reed-mustard; synonymous with "known habitat."

f. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Follow the above (#3) recommendations for project design within suitable habitats,
   b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant,
   c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 30th (flowering period); dust abatement applications will be comprised of water only,
   d. The edge of the well pad should be located at least 300' away from plants,
   e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the white shale strata to ensure the pipelines don't move towards the population,
   f. Construction activities will not occur from April 15th through May 30th within occupied habitat,
   g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
   h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
   i. Designs will avoid concentrating water flows or sediments into occupied habitat,
   j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
   k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied shrubby reed-mustard habitats within 300' of the edge of the surface pipeline right of ways, 300' of the edge of the road right of ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

L.2.7 MEXICAN SPOTTED OWL (STRIX OCCIDENTALIS LUCIDA)

The following list of measures provides species-specific guidance, intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Mexican spotted owl (*Strix occidentalis lucida*). This list is not comprehensive. Additional conservation measures, or other modified versions of these measures, may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of section 7 consultation with the Service.

1. BLM will place restrictions on all authorized (permitted) activities that may adversely affect the Mexican spotted owl in identified PACs, breeding habitat, or designated critical habitat, to reduce the potential for adverse impacts to the species. Restrictions and procedures have been adapted from guidance published in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS 2002b), as well as coordination between BLM and the Service. Measures include:

    a) Surveys, according to USFWS protocol, will be required prior to any disturbance related activities that have been identified to have the potential to impact Mexican spotted owl, unless current species occupancy and distribution information is complete and available. All surveys must be conducted by USFWS certified individuals, and approved by the BLM authorized officer.

    b) Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the appropriate conservation measures below if project activities occur within 0.5 mile of suitable owl habitat, dependent in part on if the action is temporary[22] or permanent[23]:

    For all temporary actions that may impact owls or suitable habitat:

        i. If action occurs entirely outside of the owl breeding season, and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.

[22] Temporary activities are defined as those that are completed prior to the start of the following raptor breeding season, leaving no permanent structures and resulting in no permanent habitat loss.

[23] Permanent activities continue for more than one breeding season and/or cause a loss of owl habitat or displaces owls through disturbances, e.g., creation of a permanent structure including but not limited to well pads, roads, pipelines, electrical power line.

ii. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity should be delayed until outside of the breeding season.
iii. Eliminate access routes created by a project through such means as raking out scars, revegetation, gating access points, etc.

For all permanent actions that may impact owls or suitable habitat:

i. Survey two consecutive years for owls according to established protocol prior to commencing of activity.
ii. If owls are found, no actions will occur within 0.5 mile of identified nest site.
iii. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).
iv. Avoid placing permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied.
v. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims (Delaney et al. 1997). Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5 mile buffer for suitable habitat, including canyon rims.
vi. Limit disturbances to and within suitable owl habitat by staying on designated routes.
vii. Limit new access routes created by the project.

2. The BLM will, as a condition of approval (COA) on any project proposed within identified PACs, designated critical habitat, or within spatial buffers for Mexican spotted owl nests (0.5 mile), ensure that project proponents are notified as to their responsibilities for rehabilitation of temporary access routes and other temporary surface disturbances, created by their project, according to individual BLM Field Office standards and procedures, or those determined in the project-specific Section 7 Consultation.

3. The BLM will require monitoring of activities in designated critical habitat, identified PACs, or breeding habitats, wherein it has been determined that there is a potential for take. If any adverse impacts are observed to occur in a manner, or to an extent that was not considered in the project-specific Section 7 Consultation, then consultation must be reinitiated.

    a. Monitoring results should document what, if any, impacts to individuals or habitat occur during project construction/implementation. In addition, monitoring should document successes or failures of any impact

minimization, or mitigation measures. Monitoring results would be considered an opportunity for adaptive management, and as such, would be carried forward in the design and implementation of future projects.

4. For all survey and monitoring actions:

    a. Reports must be provided to affected field offices within 15 days of completion of survey or monitoring efforts.
    b. Report any detection of Mexican spotted owls during survey or monitoring to the authorized officer within 48 hours.

5. The BLM will, in areas of designated critical habitat, ensure that any physical or biological factors (i.e., the primary constituent elements), as identified in determining and designating such habitat, remains intact during implementation of any BLM-authorized activity.

6. For all BLM actions that *"may adversely affect*" the primary constituent elements in any suitable Mexican spotted owl habitat, BLM will implement measures as appropriate to minimize habitat loss or fragmentation, including rehabilitation of access routes created by the project through such means as raking out scars, revegetation, gating access points, etc.

7. Where technically and economically feasible, use directional drilling from single drilling pads to reduce surface disturbance, and minimize or eliminate needing to drilling in canyon habitats suitable for Mexican spotted owl nesting.

8. Prior to surface disturbing activities in Mexican spotted owl PACs, breeding habitats, or designated critical habitat, specific principles should be considered to control erosion. These principles include:

    a. Conduct long-range transportation planning for large areas to ensure that roads will serve future needs. This will result in less total surface disturbance.
    b. Avoid surface disturbance in areas with high erosion hazards to the greatest extent possible. Avoid mid-slope locations, headwalls at the source of tributary drainages, inner valley gorges, and excessively wet slopes such as those near springs. In addition, avoid areas where large cuts and fills would be required.
    c. Locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.

9. Project developments should be designed, and located to avoid direct or indirect loss or modification of Mexican spotted owl nesting and/or identified roosting habitats.

10. Water production associated with BLM authorized actions should be managed to

ensure maintenance or enhancement of riparian habitats.

L.2.8 Bonytail (Gila elegans), Colorado Pikeminnow (Ptychocheilus lucius), Humpback Chub (Gila cypha), and Razorback Sucker (Xyrauchen texanus)

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker, herein referred to as the Colorado River fishes. This list is not comprehensive. Additional conservation measures, or other modified versions of these measures, may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of Section 7 consultation with the USFWS.

1. Monitoring of impacts of site-specific projects authorized by the BLM will result in the preparation of a report describing the progress of each site-specific project, including implementation of any associated reasonable and prudent measures or reasonable and prudent alternatives. This will be a requirement of project proponents and will be included as a condition of approval (COA) on future proposed actions that have been determined to have the potential for take. Reports will be submitted annually to the USFWS–Utah Field Office, beginning after the first full year of implementation of the project, and shall list and describe:

    a. Any unforeseen direct or indirect adverse impacts that result from activities of each site-specific project;
    b. Estimated levels of impact or water depletion, in relation to those described in the original project-level Consultation effort, in order to inform the USFWS of any intentions to reinitiate Section 7 consultation; and,
    c. Results of annual, periodic monitoring which evaluates the effectiveness of any site-specific terms and conditions that are part of the formal Consultation process. This will include items such as an assessment of whether implementation of each site-specific project is consistent with that described in the BA, and whether the project has complied with terms and conditions.

2. The BLM shall notify the USFWS immediately of any unforeseen impacts detected during project implementation. Any implementation action that may be contributing to the introduction of toxic materials or other causes of fish mortality must be immediately stopped until the situation is remedied. If investigative monitoring efforts demonstrate that the source of fish mortality is not related to the authorized activity, the action may proceed only after notification of USFWS authorities.

3. Unoccupied, suitable habitat areas should be protected in order to preserve them for future management actions associated with the recovery of the Endangered Colorado River Fish, as well as approved reintroduction, or relocation efforts.

    a. BLM will avoid impacts where feasible, to habitats considered most representative of prime suitable habitat for these species.
    b. Surface-disturbing activities will be restricted within 1/4 mile of the channel centerline of the Colorado, Green, Duchesne, Price, White, and San Rafael Rivers.
    c. Surface-disturbing activities proposed to occur within floodplains or riparian areas will be avoided unless there is no practical alternative or the development would enhance riparian/aquatic values. If activities must occur in these areas, construction will be designed to include mitigation efforts to maintain, restore, and/or improve riparian and aquatic conditions. If conditions could not be maintained, offsite mitigation strategies should be considered.

4. BLM will ensure project proponents are aware that designs must avoid as much direct disturbance to current populations and known habitats as is feasible. Designs should include:
    a. protections against toxic spills into rivers and floodplains;
    b. plans for sedimentation reduction;
    c. minimization of riparian vegetation loss or degradation;
    d. pre-activity flagging of critical areas for avoidance;
    e. design of stream-crossings for adequate passage of fish; and,
    f. measures to avoid or minimize impacts on water quality at the 25-year frequency runoff

5. Prior to surface-disturbing activities, specific principles will be considered to control erosion. These principles include:

    a. Conduct long-range transportation planning for large areas to ensure that roads will serve future needs. This will result in less total surface disturbance.
    b. Avoid, where possible, surface disturbance in areas with high erosion hazards.
    c. Avoid mid-slope location of drill pads, headwalls at the source of tributary drainages, inner valley gorges, excessively wet slopes such as those near springs and avoid areas where large cuts and fills would be required.
    d. Design and locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.

6. Where technically and economically feasible, project proponents will use directional drilling or multiple wells from a single pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such

drilling does not intercept or degrade alluvial aquifers. Drilling will not occur within 100 year floodplains that contain listed fish species or their designated critical habitats.

7. The Utah Oil and Gas Pipeline Crossing Guidance (BLM National Science and Technology Center), or other applicable guidance, will be implemented for oil and gas pipeline river/stream crossings.

8. In areas adjacent to 100-year floodplains, particularly in systems prone to flash floods, BLM will analyze the risk for flash floods to impact facilities. Potential techniques may include the use of closed loop drilling and pipeline burial or suspension as necessary to minimize the potential for equipment damage and resultant leaks or spills.

9. Water depletions from any portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect the critical habitat of these endangered fish species. Section 7 consultation will be completed with the USFWS prior to any such water depletions.

10. Design stream-crossings for adequate passage of fish (if present), minimum impact on water quality, and at a minimum, a 25-year frequency run-off.

L.3 Conservation Measures from the Biological Opinion for the Utah BLM Land Use Plans Amendments BA and Fire Management Plans BAs

Firefighter and public safety is the first priority in every fire management activity. Setting priorities among protecting human communities, community infrastructure, other property and improvements, and natural and cultural resources must be based on the values to be protected, human health and safety, and costs of protection. The Applicant Committed Resource Protection Measures will apply to the species covered in this consultation, unless a threat to human life or property exists.

During the wildfire suppression activities, the Incident Commander has the final decision-making authority for suppression operations and tactics, including implementation of resource protection operations, thereby minimizing or avoiding many effects to federally protected species. However, in the event that measures cannot be implemented during fire suppression operations due to safety concerns, some effects may occur to federally protected species. In these cases, BLM would initiate emergency consultation with the USFWS for these fire suppression efforts.

L.3.1 Land Use Plan Amendment

The project proponent commits to the following resource protection measures as identified in the March 4, 2005 Biological Assessment. These measures have been developed as part of the proposed action to provide statewide consistency in reducing the effects of fire management activities on listed, proposed, and candidate species and their

habitats. Resource protection measures for fire management practices use the following codes to represent which actions fir within each of the measures:

SUP: wildland fire suppression,

WFU: wildland fire use for resource benefit,

RX: prescribed fire,

NF: non-fire fuel treatments,

ESR: Emergency Stabilization and Rehabilitation

L.3.1.1 MEASURES DESIGNED TO PROTECT AIR QUALITY INCLUDE:

A-1: Evaluate weather conditions, including wind speed and atmospheric stability, to predict impacts from smoke from prescribed fires and wildland fire uses. Coordinate with Utah Department of Environmental Quality for prescribed fires and wildland fire use (RX, WFU).

A-2: When using chemical fuels reduction methods, follow all label requirements for herbicide application (NF).

L.3.1.2 MEASURES DESIGNED TO PROTECT SOIL AND WATER QUALITY INCLUDE:

SW-1: Avoid heavy equipment use on highly erosive soils (soils with low soil loss tolerance), wet or boggy soils and slopes greater than 30%, unless otherwise analyzed and allowed under appropriate NEPA evaluation with implementation of additional erosion control and other soil protection mitigation measures. (SUP, WFU, RX, NF, ESR)

SW-2: There may be situations where high intensity fire will occur on sensitive and erosive soil types during wildland fire, wildland fire use or prescribed fire. If significant areas show evidence of high severity fire, then evaluate area for soil erosion potential and downstream values at risk and implement appropriate or necessary soil stabilization actions such as mulching or seeding to avoid excessive wind and water erosion. (SUP, WFU, RX)

SW-3: Complete necessary rehabilitation on fire lines or other areas of direct soil disturbance, including but not limited to water barring fire lines, covering and mulching fire lines with slash, tilling and/or sub soiling compacted areas, scarification of vehicle tracks, OHV closures, seeding and/or mulching for erosion protection. (SUP, WFU, RX)

SW-4: When using mechanical fuels reduction treatments, limit tractor and heavy equipment use to periods of low soil moisture to reduce the risk of soil compaction. If this is not practical, evaluate sites, post treatment and if necessary, implement appropriate remediation, such as sub soiling, as part of the operation. (NF)

SW-5: Treatments such as chaining, plowing and roller chopping shall be conducted as much as practical on the contour to reduce soil erosion. (NF, ESR)

SW-6: When using chemical fuel reduction treatments follow all label directions, additional mitigations identified in project NEPA evaluation and the Approved Pesticide

Use Permit. At a minimum, provide a 100-foot-wide riparian buffer strip for aerial application, 25 feet for vehicle application and 10 feet for hand application. Any deviations must be accordance with the label. Herbicides would be applied to individual plants within 10 feet of water where application is critical. (NF)

SW-7: Avoid heavy equipment in riparian or wetland areas. During fire suppression or wildland fire use, consult a Resource Advisor before using heavy equipment in riparian or wetland areas. (SUP, WFU, RX, NF, ESR)

SW-8: Limit ignition within native riparian or wetland areas. Allow low-intensity fire to burn into riparian areas. (RX)

SW-9: Suppress wildfires consistently with compliance strategies for restoring or maintaining the restoration of water quality impaired [303(d) listed] water bodies. Do not use retardant within 300 feet of water bodies. (SUP, WFU)

SW-10: Plan and implement projects consistent with compliance strategies for restoring or maintaining the restoration of water quality impaired [303(d) listed] water bodies. Planned activities should take into account the potential impacts on water quality, including increased water yields that can threaten fisheries and aquatic habitat; improvements at channel crossings; channel stability; and downstream values. Of special concern are small headwaters of moderate to steep watersheds, erosive or saline soils; multiple channel crossings; at-risk fisheries, and downstream residents. (RX, NF, ESR)

L.3.1.3 MEASURES DESIGNED TO PROTECT VEGETATION INCLUDE:

V-1: When restoring or rehabilitating disturbed rangelands, non-intrusive, non-native plant species are appropriate for use when native species: (1) are not available; (2) are not economically feasible; (3) cannot achieve ecological objectives as well as non-native species; and/or (4) cannot compete with already established native species. (RX, NF, ESR)

V-2: In areas known to have weed infestations, aggressive action should be taken in rehabilitating fire lines, seeding and follow-up monitoring and treatment to reduce the spread of noxious weeds. Monitor burned areas and treat as necessary. All seed used would be tested for purity and for noxious weeds. Seed with noxious weeds would be rejected. (SUP, WFU, RX, NF, ESR)

L.3.1.4 MEASURES DESIGNED TO PROTECT SPECIAL STATUS SPECIES (INCLUDING THREATENED AND ENDANGERED SPECIES) INCLUDE:

SSS-1: Initiate emergency Section 7 consultation with United States Fish and Wildlife Service (Service) upon the determination that wildfire suppression may pose a potential threat to any listed threatened or endangered species or adverse modification of designated critical habitat. (SUP)

SSS-2: Prior to planned fire management actions, survey for listed threatened, endangered, and non-listed sensitive species. Initiate Section 7 consultation with the Service as necessary if a proposed project may affect any listed species. Review appropriate management, conservation and recovery plans and include recovery plan direction into project proposals. For non-listed special status plant and animal species,

follow the direction contained in the BLM 6840 Manual. Ensure that any proposed project conserves non-listed sensitive species and their habitats and ensure that any action authorized, funded, or carried out by BLM does not contribute to the need for any species to become listed. (RX, NF, ESR)

SSS-3: Incorporate site-specific conservation measures identified in this BA. (SUP, WFU, RX, NF, ESR)

L.3.1.5 MEASURES DESIGNED TO PROTECT FISH AND WILDLIFE RESOURCES INCLUDE:

FW-1: Avoid treatments during nesting, fawning, spawning, or other critical periods for wildlife or fish. (RX, NF, ESR)

FW-2: Avoid if possible or limit the size of, wildland fires in important wildlife habitats such as, mule deer winter range, riparian and occupied sage grouse habitat. Use Resource Advisors to help prioritize resources and develop Wildland Fire Situation Analyses (WFSAs) and Wildland Fire Implementation Analyses (WFSAs) and Wildland Fire Implementation Plans (WFIPs) when important habitats may be impacted. (SUP, WFU)

FW-3: Minimize wildfire size and frequency in sagebrush communities where sage grouse habitat objectives will not be met if a fire occurs. Prioritize wildfire suppression in sagebrush habitat with an understory of invasive, annual species. Retain unburned islands and patches of sagebrush unless there are compelling safety, private property and resource protection or control objectives at risk. Minimize burn out operations (to minimize burned acres) in occupied sage-grouse habitats when there are not threats to human life and/or important resources. (SUP)

FW-4: Establish fuel treatment projects at strategic locations to minimize size of wildfires and to limit further loss of sagebrush. Fuel treatments may include green stripping to help reduce the spread of wildfires into sagebrush communities. (RX, NF)

FW-5: Use wildland fire to meet wildlife objectives. Evaluate impacts to sage grouse habitat in areas where wildland fire use for resource benefit may be implemented. (WFU, RX)

FW-6: Create small openings in continuous or dense sagebrush (>30% canopy cover) to create a mosaic of multiple-age classes and associated understory diversity across the landscape to benefit sagebrush-dependent species. (WFU, RX, NF)

FW-7: On sites that are currently occupied by forests or woodlands, but historically supported sagebrush communities, implement treatments (fire, cutting, chaining, seeding, etc.) to re-establish sagebrush communities. (RX, NF)

FW-8: Evaluate and monitor burned areas and continue management restrictions until the recovering and/or seeded plant community reflect the desired condition. (SUP, WFU, RX, ESR)

FW-9: Utilize the Emergency Stabilization and Rehabilitation program to apply appropriate post fire treatments within crucial wildlife habitats, including sage grouse habitats. Minimize seeding with non-native species that may create a continuous perennial grass cover and restrict establishment of native vegetation. Seed mixtures should be designed to re-establish important seasonal habitat components for sage grouse.

Leks should not be re-seeded with plants that change the vegetation heights previously found on the lek. Forbs should be stressed in early and late brood-rearing habitats. In situations of limited funds for emergency stabilization and rehabilitation actions, prioritize rehabilitation of sage grouse habitats. (ESR)

L.3.1.6 MEASURES DESIGNED TO PROTECT WILD HORSES AND BURROS INCLUDE:

WHB-1: Avoid fencing that would restrict access to water. (RX, NF, ESR)

L.3.1.7 MEASURES DESIGNED TO PROTECT CULTURAL RESOURCES INCLUDE:

CR-1: Cultural Resource Advisors should be contacted when fires occur in areas containing sensitive cultural resources. (SUP)

CR-2: Wildland fire use is discouraged in areas containing sensitive cultural resources. A Programmatic Agreement is being prepared between the Utah State Historic Preservation Office, BLM, and the Advisory Council to cover the finding of adverse effects to cultural resources associated with wildland fire use. (WFU)

CR-3: Potential impacts of proposed treatments should be evaluated for compliance with the National Historic Preservation Act (NHPA) and the Utah Statewide Protocol. This should be conducted prior to the proposed treatment. (RX, NF, ESR)

L.3.1.8 MEASURES DESIGNED TO PROTECT PALEONTOLOGY RESOURCES INCLUDE:

P-1: Planned projects should be consistent with BLM Manual and Handbook H-8270-1, Chapter III (A) and III (B) to avoid areas where significant fossils are known or predicted to occur or to provide for other mitigation of possible adverse effects. (RX, NF, ESR)

P-2: In the event that paleontological resources are discovered in the course of surface fire management activities, including fires suppression, efforts should be made to protect these resources. (SUP, WFU, RX, NF, ESR)

L.3.1.9 MEASURES DESIGNED TO PROTECT FORESTRY RESOURCES INCLUDE:

F-1: Planned projects should be consistent with HFRA Section 102(e)(2) to maintain or contribute to the restoration of old-growth stands to a pre-fire suppression condition and to retain large trees contributing to old-growth structure. (SUP, WFU, RX, NF)

F-2: During planning, evaluate opportunities to utilize forest and woodland products prior to implementing prescribed fire activities. Include opportunities to use forest and woodland stands, consider developing silvicultural prescriptions concurrently with fuel treatments prescriptions. (RX, NF)

L.3.1.10 MEASURES DESIGNED TO PROTECT LIVESTOCK GRAZING RESOURCES INCLUDE:

LG-1: Coordinate with permittees regarding the requirements for non-use or rest of treated areas. (SUP, WFU, RX, NF, ESR)

LG-2: Rangelands that have been burned by wildfire, prescribed fire, or wildland fire use, would be ungrazed for a minimum of one complete growing season following the burn. (SUP, WFU, RX)

LG-3: Rangelands that have been re-seeded or otherwise treated to alter vegetation composition, chemically or mechanically, would be ungrazed for a minimum of two complete growing seasons. (RX, NF, ESR)

L.3.1.11 MEASURES DESIGNED TO PROTECT RECREATION AND VISITOR SERVICES INCLUDE:

Rec-1: Wildland fire suppression efforts would preferentially protect Special Recreation Management Areas and recreation site infrastructure in line with fire management goals and objectives. (SUP)

Rec-2: Vehicle tracks created off of established routes would be obliterated after fire management actions in order to reduce unauthorized OHV travel. (SUP, WFU, RX, NF, ESR)

L.3.1.12 MEASURES DESIGNED TO PROTECT LAND AND REALITY RESOURCES INCLUDE:

LR-1: Fire management practices would be designed to avoid or otherwise ensure the protection of authorized rights-of-way and other facilities located on the public lands, including coordination with holders of major rights-of-way systems within rights-of-way corridors and communication sites. (WFU, RX, NF, ESR)

LR-2: Fire management actions must not destroy, deface, change or remove to another place any monument or witness tree of the Public Land Survey System. (SUP, WFU, RX, NF, ESR)

L.3.1.13 MEASURES DESIGNED TO MINIMIZE IMPACTS CONFOUNDED BY HAZARDOUS WASTE INCLUDE:

HW-1: Recognize hazardous wastes and move fire personnel to a safe distance from dumped chemicals, unexploded ordnance, drug labs, wire burn sites, or any other hazardous wastes. Immediately notify BLM Field Office hazmat coordinator or state hazmat coordinator upon discovery of any hazardous materials, following the BLM hazardous materials contingency plan. (SUP, WFU, RX, NF, ESR)

L.3.1.14 MEASURES DESIGNED TO PROTECT MINERAL RESOURCES INCLUDE:

M-1: A safety buffer should be maintained between fire management activities and at-risk facilities. (SUP, WFU, RX)

L.3.1.15 MEASURES DESIGNED TO PROTECT WILDERNESS AND WILDERNESS STUDY AREAS (WSAS) INCLUDE:

Wild-1: The use of earth-moving equipment must be authorized by the field office manager. (SUP, WFU, RX, ESR)

Wild-2: Fire management actions would rely on the most effective methods of suppression that are least damaging to wilderness values, other resources and the environment, while requiring the least expenditure of public funds. (SUP, WFU)

Wild-3: A Resource Advisor should be consulted when fire occurs in Wilderness and WSAs. (SUP, WFU)

L.3.2 Additional Resource Protection Measures

In addition to the Resource Protection Measures listed under the LUP, the Vernal Support Center has instituted the following measures into their FMP.

L.3.2.1 Measures designed to protect cultural resources include:

CR-4: The implementation of ground-disturbing wildland fire suppression activities and wildland fire use will be prohibited or curtailed in areas where significant and sensitive cultural resource sites are known or suspected to occur. The application of fire retardant will be prohibited in areas known or suspected to contain rock art. (SUP, WFU)

CR-5: If prudent and feasible, areas of traditional cultural concern to Native American groups will be protected during wildland fire suppression activities. If areas of traditional cultural concern are impacted by wildland fires or wildland fire suppression, the BLM would work with affected parties to mitigate impacts. (WFU, RX, SUP)

CR-6: If Native American human remains are discovered on BLM lands during wildland fire suppression, wildland fire use, prescribed fire, non-fire fuels treatments, and emergency stabilization and rehabilitation activities, the BLM will follow procedures identified in the Native American Graves Protection and Repatriation Act and 43 CFR Part 10. If BLM fire suppression activities or emergency stabilization and rehabilitation activities extend onto private or state land, and Native American human remains are discovered, the provisions of the appropriate state laws will be adhered to. (SUP, WFU, RX, NF, ESR)

CR-7: Previously unidentified cultural resources that are identified during the course of project implementation will be avoided until they are documented, evaluated, appropriate notification procedures have been accomplished, and proper management recommendations and requirements have been agreed upon. (SUP, WFU, RX, NF, ESR)

L.3.2.2 Measures designed to protect Native American religious concerns include:

NAT-1: Consultation will be completed on a site-by-site basis. (SUP, WFU, RX, NF, ESR)

L.3.2.3 Measures designed to protect water quality include:

SW-4: Plan and implement projects taking into account the potential impacts on water quality, including increased water yields that can threaten fisheries and aquatic habitat, improvements at channel crossings, channel stability, and downstream values. Of special concern are small headwaters of moderate to steep watersheds, erosive soils, multiple

channel crossings, at-risk fisheries, and downstream residents. (SUP, WFU, RX, NF, ESR)

L.3.2.4 MEASURES DESIGNED TO PROTECT WILDERNESS AND WILDERNESS STUDY AREAS (WSAS) INCLUDE:

Wild-4: Minimum Impact Suppression Tactics (MIST) must be employed in the FMU to preserve the Wilderness Study Unit present. (SUP)

Wild-5: Restoration and rehabilitation techniques will be developed that are consistent with guidelines described in BLM Handbook 8550-1 Interim Management Policy for Lands under Wilderness Review. (ESR)

L.3.2.5 MEASURES DESIGNED TO PROTECT FISH AND WILDLIFE RESOURCES INCLUDE:

FW-10: Seed mixtures should be designed to reestablish important seasonal habitat components for sage grouse. Leks should not be reseeded with plants that change the vegetation height previously found on the lek. Forbs should be stressed in early and late brood-rearing habitats. In situations of limited funds for emergency stabilization and rehabilitation actions, prioritize rehabilitation of sage grouse habitats. (ESR)

FW-11: Vegetation treatments would consider the Western Association of Fish and Wildlife Agencies Guidelines for Management of Sage Grouse Populations and Habitats and State and Local Conservation Plans. This is in accordance with the Memorandum of Understanding among the Western Association of Fish and Wildlife Agencies, Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service regarding sage grouse management. (WFU, RX, NF, ESR)

L.3.3 OTHER MANAGEMENT PRACTICES

Other Management Practices are specific measures and practices which are considered at the project-specific level, on a case by case basis. These practices should be implemented wherever possible, to reduce possible adverse affects, advance the protection, conservation, and recovery of special status species. The management practices would allow flexibility for resource managers to implement protective measures for special status species.

L.3.3.1 CULTURAL RESOURCES AND PALEONTOLOGICAL RESOURCES

Archeologists can be educated and taught how to identify special status species in order to avoid trampling during excavations and fence construction efforts.

L.3.3.2 ENERGY AND MINERAL DEVELOPMENT

Surface restrictions should be placed in and around known populations of special status species.

L.3.3.3 FIRE MANAGEMENT

Areas should also be analyzed when a wildfire determination is being made to either let it burn or suppress the fire.

L.3.3.4 Forestry and Woodlands Resource Management

Individuals obtaining permits for posts, firewood, and Christmas trees would be directed to areas that do not contain known occupied habitat of special status species.

L.3.3.5 Lands and Realty Management

Road construction, maintenance and right-of-way corridors shall be restricted in known populations of special status species.

L.3.3.6 Recreation

OHV use should be designated as limited to existing roads and trails where known special status species populations exist.

L.3.3.7 Vegetation Resource Management

The use of herbicides, chemical treatments and habitat manipulations should be restricted within special status species populations and habitat.

L.3.3.8 Wild Horse and Burro Management

The herding and trapping of wild horses and burros in special status species populations and habitat should be avoided to reduce additional trampling caused by such activities.

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APPENDIX N. CHANGES BETWEEN THE DRAFT RMP/EIS AND THE PROPOSED RMP/FINAL EIS

This Appendix presents the changes that the BLM has made between the Draft RMP/Draft EIS and Proposed RMP/Final EIS. The BLM has prepared this Appendix to document if changes between the Draft RMP/Draft EIS and the Proposed RMP/Final EIS resulted in a significant change in circumstances or conditions, or if the Proposed RMP/Final EIS contains different information from that which was presented to the public in the Draft RMP/Draft EIS. Finally, the BLM wanted to confirm that all changes made to the Proposed RMP/Final EIS fall within the range of alternatives presented and analyzed in the Draft RMP/Draft EIS.

The regulation controlling whether or not a supplement is required is found at 40 CFR 1502.9(c), which provides:

Agencies:

> *(1) Shall prepare supplements to either draft or final environmental impact statements if:*
> *(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or*
> *(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact.*
> *(2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.*
> *(3) Shall adopt procedures for introducing a supplement into its formal administrative record, if such a record exists.*
> *(4) Shall prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement unless alternative procedures are approved by the Council.*

All changes to the Vernal Field Office Draft RMP/Draft EIS were made in response to public comment and/or internal review. The majority of the changes were editorial changes made to add clarity to the document. In some cases, alternatives presented in the Draft RMP/Draft EIS were modified in the Proposed RMP to reflect technical corrections and data updates. In other cases, such as in Chapter 3, incorporation of updated information was necessary to refine the analysis in Chapter 4 that was incomplete or needed augmentation.

None of the changes detailed in Appendix N meet the regulatory definition for significance in 40 CFR 1508.27(a) and (b). These regulations require an agency preparing a NEPA document to review the changes for significant new circumstances or information relevant to environmental concerns and bearing on the Proposed Plan or its impacts, using context and intensity as the trigger for significance. BLM has reviewed each substantive change through this regulatory standard and has determined that none of the changes, individually or collectively, require a supplement to this Final EIS.

DESCRIPTION OF CHANGES
Combined Hydrocarbon Areas/Special Tar Sand Areas
Management decisions regarding combined hydrocarbon area / special tar sand areas are deferred to the programmatic EIS which is being prepared. A plan amendment will be prepared after the EIS ROD is signed.
Forage – Book Cliffs Locality
No wild horses will be permitted in the Winter Ridge Herd Area due to disease (e.g., EIA) and trespass of private horses because of mixed surface ownership with the Ute Indian Tribe, State of Utah, and privately held lands. Initially 2,340 AUMs would be allocated for wild horses in the Winter Ridge Herd Area and the Hill Creek Herd Management Area. The 2,340 AUMs no longer needed for wild horses would be allocated through a future planning process.
Hillcreek Extension
Refined, in cooperation with Ute Indian Tribe, those state lands in the Hill Creek Extension that are managed by the BLM, this increased the acreage for this area by 3,500 acres.
Non-WSA Lands with Wilderness Characteristics
Approximately 106,178 acres would be managed as non-WSA lands with wilderness Characteristics: • Beach Draw, Bourdette Draw, Bull Canyon, Cold Spring Mountain, Daniels Canyon, Dead Horse Pass, Diamond Breaks, Diamond Mountain, Lower Flaming Gorge, Moonshine Draw, Mountain Home, Stuntz Draw, Vivas Cake Hill, White River, and Wild Mountain. • They would be managed with the following common prescriptions: • VRM Category II • Closed to oil and gas leasing, except for the White River area that would be open to leasing, subject to major constraints, such as an NSO stipulation. • Closed to solid mineral leasing. • Closed to disposal of mineral materials. • Closed to woodland product harvest. • Avoidance area for rights-of-way. • OHVs would be limited to designated routes. • No motorized vehicles would be allowed to travel on a single path up to 300 feet from designated routes to access a camp. • Retain public lands in federal ownership. • When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics: • Permit vegetation and fuel treatments using prescribed fire, mechanical and chemical treatments, and other actions compatible with the Healthy Lands Initiative (HLI). • Permit construction of wildlife water and livestock facilities, and minimal recreation facilities. • The following areas would not be managed as non-WSA lands with wilderness characteristics: • Bitter Creek, Cripple Cowboy, Desolation Canyon, Hells Hole Canyon, Hideout Canyon, Lower Bitter Creek, Mexico Point, Rat Hole Ridge, Sweetwater Canyon, and Wolf Point.
Proposed Plan/Final EIS
The Proposed Plan/Final EIS does not carry forward Alternative A (the Preferred Alternative) from the Draft RMP/EIS. Rather the Proposed Plan/RMP consists of a combination of all the alternatives, including Alternative A from the Draft RMP/EIS (January 2005), information from the supplement on existing and potential Areas of Critical Concern (ACECs) considered within the Draft RMP and EIS (December 2005), and Alternative E from the supplement that was issued October 5, 2007 on non-WSA lands with wilderness characteristics, as those alternatives and that information has been modified in response to public comment.

DESCRIPTION OF CHANGES
Special Designations – Areas of Critical Environmental Concern (ACECs)
The VFO manages the three following ACECs that were designated in the 1994 Diamond Mountain RMP ROD and carried forward without revisions in the Proposed Plan: • Pariette Wetlands– Manage to protect high value wetland, wildlife, and plant habitat resources. Manage as NSO and close to mineral material sales. • Lears Canyon– Manage to protect the relict vegetation. Manage as NSO and close to mineral material sales. • Lower Green River Corridor– Manage to protect riparian habitat, special status animal species habitat, and high-quality scenic values. Four additional ACECs were designated in the 1994 Diamond Mountain RMP ROD (Brown's Park, Nine-Mile Canyon, Red Creek Watershed, and Red Mountain-Dry Fork). These four ACECs have been further analyzed due to modifications in size and prescriptions. The following areas would not be included for ACEC designation: • Bitter Creek, Coyote Basin, Four Mile Wash, Main Canyon, Middle Green River, and White River.
Special Recreation Management Area (SRMA)
• Blue Mountain (42,729) acres would be managed as an SRMA. • The Book Cliffs (273,486 acres) would not be designated as an SRMA. • Brown's Park would be designated as an SRMA but would be reduced in size from 52,720 acres to 18,474 acres. • Fantasy Canyon (69 acres) would be managed as an SRMA. • Nine-Mile Canyon would continue to have an SRMA designation but would be reduced in size from 81,168 to 44,168. • White River - would be designated as an SRMA but would be reduced from 81,168 acres to 2,831 acres. • Dry Fork Canyon SRMA - would be developed to determine what areas are appropriate for day use only. • Continue to manage 1,014 acres at Pelican Lake as a Special Recreation Management Area (SRMA). The area would be open to oil and gas leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations and closed to mineral materials sales. • Manage 24,259 acres in Red Mountain-Dry Fork as a SRMA to provide for maintenance and development of OHV or non-OHV trails, minimal facilities necessary for human health and safety, watershed values, relict vegetation communities, and crucial deer and elk winter habitat. An activity plan for the SRMA would be developed to determine what areas are appropriate for day use only.
Supplement to the DRMP has been merged to the DRMP
The Supplement presents an analysis of the effects of managing non-Wilderness Study Area (WSA) lands with wilderness characteristics in a protective manner. This analysis is identified as Alternative E in the combined RMP.
Travel Plan
A travel plan will be completed after signature of the Final EIS/RMP ROD.
Wild and Scenic Rivers
Two segments identified as suitable on the Green River are being carried forward as Wild and Scenic Rivers (Upper and Lower). All other river segments (Argyle Creek, Bitter Creek, Evacuation Creek, Middle Green River, Nine-Mile Creek, and the White River) would not be identified as suitable for designation into the National Wild and Scenic River System.
Changes Made Throughout Document
Editorial changes made and language added throughout the document to include the Supplement to the RMP (Alternative E), and the Proposed RMP.

DESCRIPTION OF CHANGES
All tables have been modified throughout the document to include the Proposed RMP.
"Reservation Trust Lands" has been changed to "Indian Trust Lands."
Changed "critical" wildlife habitat to "crucial" wildlife habitat where habitat is not for Threatened, Endangered, or Candidate species.
Reworded bald eagle references, as bald eagle is now de-listed. Bald eagles remain Federally protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (based on U.S. Fish and Wildlife comment).
"Uintah Basin" to "Uinta Basin;" "Uintah Mountains" to "Uinta Mountains;" "Uintah Foothills" to "Uinta Foothills."
Executive Summary
Rewritten to highlight the areas brought forward from the Draft RMP Final EIS.
Corrected boundary description of the Vernal Planning Area (VPA). Corrected the number of ACECs being brought forward from 6 to 7. Added a section that summarizes the major changes from the Draft RMP/EIS to the Proposed RMP/Final EIS.
Add section summarizing changes to document.
Table Added: Table S.5. Proposed RMP and Alternatives Comparison: non-WSA Lands With Wilderness Characteristics (acres)
Chapter 1
Rewritten to highlight the areas brought forward from the Draft RMP Final EIS.
Corrected boundary description of the Vernal Planning Area (VPA). Corrected the number of ACECs being brought forward from 6 to 7. Added a section that summarizes the major changes from the Draft RMP/EIS to the Proposed RMP/Final EIS.
Language Added: RS-2477 - Issues Beyond the Scope of the Plan The State of Utah, Uintah, Duchesne and Daggett Counties may hold valid existing rights-of-way in the planning area pursuant to Revised Statute (RS) 2477, Act of July 28 1866, chapter 262, 8, 14 Stat. 252, 253, codified at 43 USC 932. On October 21, 1976, Congress repealed R.S-2477 through passage of FLPMA. This RMP does not adjudicate, analyze, or otherwise determine the validity of claimed rights-of-way. However, nothing in the RMP extinguishes any valid right-of-way, or alters in any way the legal rights the state and counties have to assert and protect RS-2477 rights or to challenge in Federal court or other appropriate venue any use restrictions imposed by the RMP that they believe are inconsistent with their rights.
Language Added: Utah Division of Wildlife Resources (DWR) Wildlife Habitat Classification System Change In August of 2005, the Utah Division of Wildlife Resources (UDWR) changed its wildlife habitat classification system. Prior to 2005, the UDWR classification system distinguished between "critical" habitat (an area that provides for biological and/or behavioral requisites necessary to sustain the existence and/or perpetuation of a wildlife population) and "high value" (an area that provides for intensive use by the species). The UDWR has been criticized for using the term "critical", as the same term refers to habitat Federally designated by the U.S. Fish and Wildlife Service as required by the Endangered Species Act (ESA). In previous BLM planning efforts, mitigation decisions (usually timing stipulations) for impacts to UDWR's "critical" habitats have been integrated into the planning process. BLM rarely incorporated management decisions in its RMPs for "high value" habitats. UDWR changed its classification system to include "critical" habitat with "high value" habitat, in part to accommodate the limitations of having classifications that were of no practical value to land managers. The new term "crucial" habitat is defined by UDWR as "habitat on which the local population of a wildlife species depends for survival because there are no alternative ranges or

DESCRIPTION OF CHANGES
habitats available. Crucial habitat is essential to the life-history requirements of a wildlife species. Degradation or loss of crucial habitat will lead to significant declines in the wildlife population in question." Crucial habitat boundaries appear larger on the wildlife maps in this Proposed Plan because they are a combination of UDWR's old "critical" habitat and "high value" habitat, with some minor modifications. Timing stipulations for each of the species now apply to the whole crucial habitat area. It is important to note however, that the application of waivers, exceptions and modifications, as outlined in Appendix K, will be taken into consideration and used where/when applicable for all surface disturbing activities in these areas. The range of alternatives in the Draft RMP/Draft EIS considered both of UDWR's old classifications of critical and high value habitat. Minor boundary modifications have been made by UDWR prior to incorporating them into crucial habitat boundaries. Because this information was taken into consideration and analyzed in the Draft, these minor changes are not considered significant in terms of resource uses and/or analysis in this Proposed Plan, and therefore a supplement to this EIS is not necessary for this purpose.
Added Documents Incorporated by Reference: • 1991. Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States and associated Records of Decision. BLM Wyoming State Office, Casper Wyoming. 1991. (BLM-WY-ES-91-036-4320) • 2007. Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement and associated Record of Decision. USDI, Bureau of Land Management. (FES 07-21) • 2007. Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report. USDI, Bureau of Land Management (FES07-21)
Language Added: Programmatic Vegetation EIS (VEIS) (directions from UT IB 2008 – 014) Continue implementation of noxious weed and invasive species control actions as per national guidance and local weed management plans in cooperation with state, federal, affected counties, adjoining private land owners and other partners or interests directly affected.
Language Added: National Programmatic EIS for Tar Sands and Oil Shale Resources The Vernal Field Office contains areas of tar sands and oil shale resources. The tar sand resources have been, and currently are, available for lease under the Combined Hydrocarbon Leasing Act of 1981 and in accordance with decisions in the existing BLM land-use plans/plan amendments. There are, at present, no regulations in place to allow for leasing oil shale, nor any existing commercial oil shale leases upon BLM-managed lands. The VFO contains one Research and Development Oil Shale Lease. In Utah, the major tar sand resources lie within 11 designated Special Tar Sands Areas (STSAs) managed by the Vernal, Price, Richfield, and Monticello Field Offices. One of these STSAs lies within the Grand Staircase-Escalante National Monument where leasing is prohibited. The Vernal Field Office wholly or in part manages seven of the remaining ten STSAs. Lands containing oil shale resources were originally identified through an inventory that portrayed the occurrence of the Green River geologic formation in Utah, Wyoming, and Colorado. Once identified, lands containing oil shale resources were withdrawn from mineral entry through a 1930 Executive Order, which was later modified to allow for oil, gas, sodium leasing and leasing of UA UB Oil Shale tracts. Since that time, the economic potential for the oil shale resource has been further defined, now comprising a much smaller area in Utah, primarily in the southern part of the BLM Vernal Field Office area with a small area in the northeast portion of the lands managed by the Price Field Office. When the Vernal Resource Management Plan Revision was initiated in 2001, there was no reasonable foreseeable development expectation for tar sands or oil shale over the life of the plan. The mineral report identified these resources, but did not foresee any leasing or development due to prevailing and anticipated economic factors.

DESCRIPTION OF CHANGES
Since the start of this RMP revision, Congress enacted the Energy Policy Act of 2005. Section 369 of the Energy Policy Act requires the Secretary of Interior to "complete a programmatic environmental impact statement for a commercial leasing program for oil shale and tar sands resources on public lands, with an emphasis on the most geologically prospective lands within each of the States of Colorado, Utah, and Wyoming." On December 13, 2005, the BLM published a Notice of Intent in the Federal Register initiating a Programmatic Environmental Impact Statement (PEIS) to support a commercial oil shale and tar sands leasing program on federal lands in these three states. Since that time, the scope of the PEIS has been revised. The BLM is no longer using the PEIS as the document that supports the National Environmental Policy Act (NEPA) requirements for leasing. Given that the development technologies for in-situ production of oil shale are just emerging, there is a lack of information regarding resource use and associated impacts. Consequently, the BLM has changed this document to a resource allocation document that identifies the BLM-managed lands for which applications to lease oil shale and tar sands resources would be accepted in the future. However although applications would be accepted, additional NEPA analysis would be performed before any leasing of the area would be considered. All decisions related to land-use planning decisions (areas open to application for potential leasing) for oil shale and tar sands resources in this Resource Management Plan will be made by the ongoing PEIS for Oil Shale and Tar Sands Resources. The Record of Decision on the final PEIS will amend the existing Diamond Mountain and Book Cliffs RMP by making land-use planning decisions on whether or not lands will be available for future application, leasing and development of oil shale and tar sands on public lands for those areas where the resource is present. Additional site-specific NEPA analysis will be completed on each lease application before any leases would be issued. As part of the site-specific NEPA analysis, the environmental consequences to specific resource values and uses within the areas and any alternative actions would be analyzed. Any decision to offer the lands for lease would be made based on a full disclosure of the impacts. If a decision is made to offer the lands for lease, specific mitigation measures will be developed to ensure that the commercial operations use practices that minimize or mitigate impacts. This pre-leasing NEPA analysis would include the same opportunities for public involvement and comment that are part of this PEIS process and every other land-use planning and NEPA process the BLM undertakes. The decisions associated with the PEIS will be incorporated into the Vernal RMP as it is finalized or will amend the Vernal RMP [Exact language will be dependent on situation at the time of printing—use whichever phrase is appropriate]. Additional opportunities for public involvement and comment will occur when the Proposed RMP Amendment/ Final PEIS is available. This Resource Management Plan will, however, provide allocation and leasing decisions for conventional oil and gas leasing in the STSAs and Oil Shale areas.
Language Added: Planning Process Step 9 is the monitoring and evaluation process. Monitoring is the repeated measurement of activities and conditions over time. Evaluation is a process in which the plan and monitoring data are reviewed to see if management goals and objectives are being met and if management direction is sound. Monitoring data gathered over time is examined and used to draw conclusions on whether management actions are meeting stated objectives, and if not, why. Conclusions are then used to make recommendations on whether to continue current management or what changes need to be made in management practices to meet objectives. The two types of monitoring that are tied to the planning process include implementation and effectiveness monitoring. Land-use plan monitoring is the process of (1) tracking the implementation of land-use planning decisions and (2) collecting and assessing data/information necessary to evaluate the effectiveness of land-use planning decisions. The two types of monitoring are described below.

DESCRIPTION OF CHANGES
Implementation Monitoring: Implementation monitoring is the most basic type of monitoring and simply determines whether planned activities have been implemented in the manner prescribed by the plan. Some agencies call this compliance monitoring. This monitoring documents BLM's progress toward full implementation of the land-use plan decision. There are no specific thresholds or indicators required for this type of monitoring. **Effectiveness Monitoring**: Effectiveness monitoring is aimed at determining if the implementation of activities has achieved the desired goals and objectives. Effectiveness monitoring asks the question: Was the specified activity successful in achieving the objective? This requires knowledge of the objectives established in the RMP as well as indicators that can be measured. Indicators are established by technical specialists in order to address specific questions, and thus avoid collection of unnecessary data. Success is measured against the benchmark of achieving desired future conditions established by the plan. Regulations at 43 CFR 1610.4-9 require that the proposed plan establish intervals and standards, as appropriate, for monitoring and evaluation of the plan, based on the sensitivity of the resource decisions involved. Progress in meeting the plan objectives and adherence to the management framework established by the plan is reviewed periodically. CEQ regulations implementing NEPA state that agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases (40 CFR 1505.2(c)). To meet these requirements, the BLM will review the plan on a regular schedule in order to provide consistent tracking of accomplishments and provide information that can be used to develop annual budget requests to continue implementation. Land-use plan evaluations will be used by BLM to determine if the decisions in the RMP, supported by the accompanying NEPA analysis, are still valid. Evaluation of the RMP will generally be conducted every five years per BLM policy, unless unexpected actions, new information, or significant changes in other plans, legislation, or litigation triggers an evaluation. Land-use plan evaluations determine if decisions are being implemented, whether mitigation measures are satisfactory, whether there are significant changes in the related plans of other entities, whether there is new data of significance to the plan, and if decisions should be changed through amendment or revision. Evaluations will follow the protocols established by the BLM Land-use Planning Handbook H-1601-1 in effect at the time the evaluation is initiated. Specific monitoring and evaluation needs are identified by resource/uses throughout Chapter 2.
Add section summarizing changes to document.
Chapter 2
Rewritten to further detail what has been moved into the Final RMP/EIS.
Table 2.1 Table has been broken down into sections by resources (2.1.1 through 2.1.27) for better flow and ease in locating specific resources.
Implementation Level Decisions All implementation–level decisions in Tables 2.1.1 through 2.1.27 have been italicized and asterisked with a footnote at the bottom of each page as follows: *This is an implementation-level decision that cannot be protested under the planning regulations. Please see the cover letter for further information.
Table 2.4 Deleted from the Final RMP/EIS. This table was considered to be extraneous information and no longer served any useful purpose.
Language Added: Air Quality Common to All • BLM will continue to work cooperatively with state, federal, and tribal entities in developing air quality assessment protocols to address cumulative impacts and regional air quality issues. • BLM will continue to work cooperatively with the Utah Airshed Group to manage emissions from

DESCRIPTION OF CHANGES
wildland and prescribed fire activities. • National Ambient Air Quality Standards are enforced by the Utah Department of Environmental Quality, Division of Air Quality (UDEQ-DAQ), with EPA oversight. Special requirements to reduce potential air quality impacts will be considered on a case-by-case basis in processing land-use authorizations. • BLM will utilize BMPs and site specific mitigation measures, when appropriate, based on site specific conditions, to reduce emissions and enhance air quality. Examples of these types of measures can be found in the Four Corners Air Quality Task Force Report of Mitigation Options, November 1, 2007. • Project specific analyses will consider use of quantitative air quality analysis methods (i.e. modeling), when appropriate as determined by BLM, in consultation with state, federal, and tribal entities.
Language Added: Fluid Minerals – Common to All In accordance with an UDEQ-DAQ letter dated June 6, 2008, (see Appendix O) requesting implementation of interim nitrogen oxide control measures for compressor engines; BLM will require the following as a Lease Stipulation and a Condition of Approval for Applications for Permit to Drill: • All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NOx per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower. • All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NOx per horsepower-hour.
Language Added: Special Designations – Wild and Scenic Rivers BLM would work with the State of Utah, local and tribal governments, and other federal agencies, in a state-wide study, to reach consensus regarding recommendations to Congress for the inclusion of rivers in the National Wild and Scenic Rivers System. Besides applying consistent criteria across agency jurisdictions, the joint study would avoid piece-mealing of river segments in logical watershed units in the state. The study would evaluate, in detail, the possible benefits and effects of designation on the local and state economies, agricultural and industrial operations and interests, outdoor recreation, natural resources (including the outstandingly remarkable values for which the river was deemed suitable), water rights, water quality, water resource planning, and access to and across river corridors within, and upstream and downstream from the proposed segments(s). Actual designation of river segments would only occur through congressional action or as a result of Secretarial decision at the request of the Governor in accordance with provisions of the Wild and Scenic Rivers Act (the Act). BLM will work with the State, local and tribal governments, and the agencies involved to coordinate its decision making on wild and scenic river issues and to achieve consistency wherever possible. BLM recognizes that water resources on most river and stream segments within the State of Utah are already fully allocated. Before stream segments that have been recommended as suitable under this Proposed Plan are recommended to Congress for designation, BLM will continue to work with affected local, state, federal, and tribal partners to identify in-stream flows necessary to meet critical resource needs, including values related to the subject segments(s). Such quantifications would be included in any recommendation for designation. BLM would then seek to jointly promote innovative strategies, community-based planning, and voluntary agreements with water users, under State law, to address those needs. Should designations occur on any river segment as a result of Secretarial or congressional action, existing rights, privileges, and contracts would be protected. Under Section 12 of the Act, termination of such rights, privileges, and contracts may happen only with the consent of the affected non-federal party. A determination by the BLM of eligibility and suitability for the inclusion of rivers on public lands to the Wild and Scenic Rivers System does not create new water rights for the BLM. Federal reserved water rights for new components of the Wild and Scenic Rivers System are established at the discretion of Congress. If water is reserved by Congress when a river component is added to the Wild and Scenic Rivers System, it would come from water that is not appropriated at the time of designation, in the amount necessary to protect features which led to the river's inclusion into the system. BLM's intent would be to leave existing water rights undisturbed and to recognize the lawful rights of private, municipal, and state entities to manage water resources under state law

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to meet the needs of the community. Federal law, including Section 13 of the Act and the McCarren Amendment (43 U.S.C. 666), recognizes state jurisdiction over water allocation in designated streams. Thus, it is BLM's position that existing water rights, including flows apportioned to the State of Utah interstate agreements and compacts, including the Upper Colorado River Compact, and developments of such rights would not be affected by designation or the creation of the possible federal reserved water right. BLM would seek to work with upstream and downstream water users and applicable agencies to ensure that water flows are maintained at a level sufficient to sustain the values for which affected river segments were designated.
Language Added: The Proposed Plan/Final EIS does not carry forward Alternative A (the Preferred Alternative) from the Draft RMP/EIS (January 14, 2005). Rather the Proposed Plan/RMP consists of a combination of all the alternatives, including Alternative A from the Draft RMP/EIS, information from the Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) Supplement (December 13, 2005) analyzing existing and potential Areas of Critical Environmental Concern (ACECs) considered within the Draft RMP and EIS, and Alternative E from the Supplement that was issued in October 5, 2007 analyzing the management of non-WSA lands with wilderness characteristics. These alternatives are combined in the PRMP/FEIS. Some changes to the draft alternatives have been made in response to the public comments received during the comment period. These changes are limited to, for the most part, to correcting mistakes and refining technical points. Changes are summarized for the reader in Appendix N.
Language Added: Travel Management Sections BLM, in preparing its RMP designations and its implementation-level travel management plans, is following policy and regulation authority found at: 43 C.F.R. Part 8340; 43 C.F.R. Subpart 8364; and 43 C.F.R. Subpart 9268. Where the authorized officer determines that OHVs are causing or would cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public would be notified. BLM could impose limitations on types of vehicles allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated routes.
Language Added: Travel Management & WSA Sections Where routes would remain available for motorized use within WSAs, such use could continue on a conditional basis. Use of the existing routes in the WSAs ("ways" when located within WSAs – see Glossary) could continue as long as the use of these routes does not impair wilderness suitability, as provided by the IMP (BLM 1995). If Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance are found through monitoring efforts to impair the area's suitability for wilderness designation, BLM would take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is based on user compliance and non-impairment of wilderness values.
Language Added: Lands (Land Tenure Adjustment) Give land exchanges with the State of Utah priority consideration to resolve inholdings issues.
Language Added: Wildlife The BLM will approach compensatory mitigation on an "as appropriate" basis where it can be performed onsite, and on a voluntary basis where it is performed offsite, or, in accordance with current guidance.
Language Added: Transportation and Access (SITLA lands) As per the State of Utah v. Andrus, Oct. 1, 1979 (Cotter Decision), BLM would grant the State of Utah reasonable access to State lands for economic purposes, on a case-by-case basis.
Language Added: Alternatives Considered But Eliminated From Detailed Analysis – No Leasing During scoping and/or the comment period for the DRMP/EIS, commentors suggested that BLM should address a "No-Leasing Alternative" because the "No-Leasing Alternative" is the equivalent of the "No Action Alternative" that must be analyzed in all EISs.

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The "No-Leasing Alternative" in an RMP revision is actually an action alternative because where lands have already been leased, the no-action for NEPA purposes continues to allow for (honor) valid existing rights. Proposing a "No-Leasing Alternative" would require revisiting existing leases and either buying them back from the lessee, or allowing them to expire on their own terms. The first option (buying back), is outside the scope of any RMP. This is a political decision that BLM has no authority to undertake in planning. As a result, BLM does not regularly include a "No-Leasing Alternative". The purpose and need for the land-use plan is to identify and resolve potential conflicts between competing resource uses rather than to eliminate a principle use of the public lands in the Vernal Field Office Area. Leasing of the public lands for oil and gas exploration and production is required by the Mineral Leasing Act of 1920, as amended, and BLM's current policy is to apply the least restrictive management constraints to the principal uses of the public lands necessary to achieve resource goals and objectives. A field office-wide "No-Leasing Alternative" would be an unnecessarily restrictive alternative for mineral exploration and production on the public lands. The National Environmental Policy Act (NEPA Section 102 (E)) requires that agencies *"study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."* No issues or conflicts have been identified during this land-use planning effort which requires the complete elimination of oil and gas leasing within the planning area for their resolution. BLM's Land-use Planning Handbook (BLM MANUAL Rel. 1-1693), requires that land-use plans identify areas as open or unavailable for leasing. Given the potential range of decisions available in the DRMP/DEIS, the analyzed alternatives include no leasing for certain areas; but a field office-wide "No-Leasing Alternative" is not necessary in order to resolve issues and protect other resource values and uses. As mentioned above, a "No-Leasing Alternative" should not be confused with the "No Action Alternative" for purposes of NEPA compliance. Leasing and No Leasing on the public lands has previously been analyzed in several NEPA documents. In 1973, the Department of Interior published the Final Environmental Impact Statement on the Federal Upland Oil and Gas Leasing Program (USDI, 1973). The proposed action was to lease Federal lands for production of oil and natural gas resources. Alternatives included the No Action Alternative, which at initiation of the program was "No Leasing." To supplement that EIS, BLM prepared a series of Environmental Assessments (then titled "Environmental Analysis Records or EARs") including the Vernal District Oil and Gas Program Environmental Analysis Record (EAR), 1975 which addressed oil and gas leasing for the public lands in the Vernal Field Office area. Alternatives again included the No Action or "No Leasing" alternative. The outcome was a category system for leasing which categorized all public and Forest Service lands into four groups: 1) Open to leasing with standard lease stipulations, 2) Special Stipulations to address special concerns, 3) No surface occupancy and 4) No Leasing. Since completion of the EAR in 1975 oil and gas leasing in the Vernal Field Office Area has been an ongoing federal program under the established categories. The Council on Environmental Quality (Section 1502.14(d) of NEPA) requires the alternatives analysis in an EIS to "include the alternative of no action," but explains that there are two distinct interpretations of "no action" that must be considered, depending on the nature of the proposal being evaluated. "The first situation might involve an action such as updating a land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases "no action" is "no change" from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until that action is changed." (CEQ Forty Most Asked Questions, Question 3). Therefore, for the Vernal DRMP/DEIS, the "No-Action Alternative" is to continue the *status quo* which is to lease under the oil and gas stipulations (formerly categories) established in the Vernal RMP.

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Language Added: Alternatives Considered But Eliminated From Detailed Analysis – Livestock Grazing During scoping and comment on the Draft EIS it was suggested that BLM consider adjustments to livestock numbers, livestock management practices, and the kind of livestock grazed on allotments within the Vernal Field Office to benefit wildlife and protect and promote land health including soils, hydrologic cycles and biotic integrity. BLM policy regarding adjustments to the levels of livestock use authorized is to monitor and inventory range conditions under existing stocking levels and make adjustments to livestock use as indicated by this data to help assure that standards for rangeland health and resource objectives are met. Regulations at 43 CFR 4130.3 require that the terms and conditions under which livestock are authorized "ensure conformance with the provisions of subpart 4180" (Standards for Rangeland Health) and further that "livestock grazing use shall not exceed the livestock carrying capacity of the allotment." It would be inappropriate and unfeasible to estimate and allocate the available forage, design specific management practices and determine if changes to the kind of livestock are necessary for each allotment in the Vernal Field Office or in the area as a whole in the RMP/EIS. Such changes would not be supportable considering the type and amount of data required and the analysis necessary to make such changes. According to BLM policy decisions regarding authorized livestock use levels and the terms and conditions under which they are managed is an implementation decision (H-1610-1, Appendix C, Page 15).BLM assesses rangeland health, conducts monitoring and inventories, and evaluates this data on a periodic basis, normally on an allotment and/or watershed basis. After NEPA analysis, necessary changes to livestock management and implementation of Guidelines for Rangeland Management on Public Lands in Utah are implemented through a proposed decision in accordance with 43 CFR 4160. These decisions determine the exact levels of use by livestock in conformance with the LUP and to meet resource objectives and maintain or enhancing land health. For these reasons this alternative has been dismissed from further consideration in this land-use plan revision.
Language Added: Wildlife Minor adjustments to crucial wildlife habitat boundaries periodically made by the Utah Division of Wildlife Resources (UDWR) would be accommodated through plan maintenance.
Language Added: Transportation & Access (SITLA Lands) As per the State of Utah v. Andrus, Oct. 1, 1979 (Cotter Decision), BLM would grant the State of Utah reasonable access to State lands for economic purposes, on a case-by-case basis.
Chapter 3
Language Added: Global Climate Change On-going scientific research has identified the potential impacts of climate changing pollutants on global climate. These pollutants are commonly called "greenhouse gases" and include carbon dioxide, CO2; methane; nitrous oxide; water vapor; and several trace gas emissions. Through complex interactions on a regional and global scale, these emissions cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the Earth back into space. Although climate changing pollutant levels have varied for millennia (along with corresponding variations in climatic conditions), recent industrialization and burning of fossil carbon sources have caused CO2 concentrations to increase dramatically, and are likely to contribute to overall climatic changes, typically referred to as global warming. Increasing CO2 concentrations also lead to preferential fertilization and growth of specific plant species. Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Figure X demonstrates that northern latitudes (above 24° N) have exhibited temperature increases of nearly 1.2°C (2.1°F) since 1900, with nearly a 1.0°C (1.8°F) increase since 1970. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of these

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"greenhouse gases" are likely to accelerate the rate of climate change.

The Intergovernmental Panel on Climate Change (IPCC) has recently completed a comprehensive report assessing the current state of knowledge on climate change, its potential impacts, and options for adaptation and mitigation. At printing of this PRMP/FEIS, this assessment is available on the IPCC web site at http://www.ipcc.ch/. According to this report, global climate change may ultimately contribute to a rise in sea level, destruction of estuaries and coastal wetlands, and changes in regional temperature and rainfall patterns, with major implications to agricultural and coastal communities. The IPCC has suggested that the average global surface temperature could rise 1 to 4.5 degrees Fahrenheit (°F) in the next 50 years, with significant regional variation. The National Academy of Sciences (2006) has confirmed these findings, but also indicated that there are uncertainties regarding how climate change may affect different regions. Computer models indicate that such increases in temperature will not be equally distributed globally, but are likely to be accentuated at higher latitudes, such as in the Arctic, where the temperature increase may be more than double the global average (BLM 2007). Also, warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures. Vulnerabilities to climate change depend considerably on specific geographic and social contexts.

BLM recognizes the importance of climate change and the potential effects it may have on the natural environment. Several activities occur within the planning area that may generate emissions of climate changing pollutants. For example, oil and gas development, large fires, and recreation using combustion engines, can potentially generate CO2 and methane. Wind erosion from disturbed areas and fugitive dust from roads along with entrained atmospheric dust has the potential to darken glacial surfaces and snow packs resulting in faster snowmelt. Other activities may help sequester carbon, such as managing vegetation to favor perennial grasses and increase vegetative cover, which may help build organic carbon in soils and function as "carbon sinks".

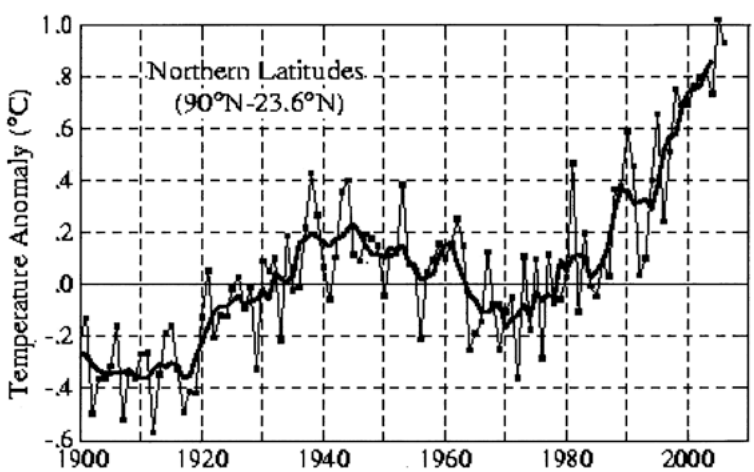

Figure 3.2.2 – Annual Mean Temperature Change for Northern Latitudes (24 - 90° N)
Source: Goddard Institute for Space Studies (2007)

Language Added: Transportation & Access (SITLA Lands)

Throughout much of Utah, the state owns and manages four isolated sections in each 36-section township. These are generally sections 2, 16, 32, and 36, and are ordinarily one mile square (640 acres). They are primarily administered by the Utah School and Institutional Trust Lands Administration (SITLA) for the purpose of economic support of the state's public schools and institutional trust funds. Activities on state land generally are not substantially different from those on the surrounding land administered by BLM. Many of

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the SITLA lands generate funds through grazing permits, right-of-way easements and permits, and hydrocarbon or other mineral leases. Many BLM lands with management restrictions, such as WSAs, have state lands that are adjacent to or within their boundaries. State lands that are completely or almost entirely surrounded by BLM lands with management restrictions, or are in conjunction with administratively endorsed National Park Service lands, are termed state inholdings. Existing access to inheld state lands varies. Some of the parcels have direct access through cherry-stemmed or boundary roads of WSAs. Inheld parcels may or may not currently have access, depending upon whether or not existing vehicle routes lead to them. BLM policy, as required by the Cotter decision, is that "the state must be allowed access to the state school trust lands so that those lands can be developed in a manner that will provide funds for the common school..." This decision confined the issue of access to situations directly involving economic revenues generated for the school trust. For example, if a holder of a state oil and gas lease on a parcel of state land that is completely surrounded by a WSA requires access to develop that lease, BLM must grant the leaseholder reasonable access with consideration given to minimize impacts to wilderness character.
Chapter 4
Language Added: Air Quality - Global Climate Change The assessment of climate changing pollutant emissions and climate change is in its formative phase; therefore, it is not yet possible to know with confidence the net impact to climate. However, the Intergovernmental Panel on Climate Change (IPCC 2007) recently concluded that "warming of the climate system is unequivocal" and "most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic [man-made] greenhouse gas concentrations." The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts. Currently BLM does not have an established mechanism to accurately predict the effect of resource management-level decisions from this planning effort on global climate change. However, potential impacts to air quality due to climate change are likely to be varied. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased windblown dust from drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated. Due to loss of habitat, or due to competition from other species whose ranges may shift northward, the population of some animal species may be reduced. Less snow at lower elevations would be likely to impact the timing and quantity of snowmelt, which, in turn, could impact aquatic species. In the future, as tools for predicting climate changes in a management area improve and/or changes in climate affect resources and necessitate changes in how resources are managed, BLM may be able to re-evaluate decisions made as part of this planning process and adjust management accordingly.
Section 4.14 – Socioeconomics The socioeconomics section has been extensively revised to incorporate the most current census information and data from recent economic reports and studies specific to the Uinta Basin.
All Sections – General Analysis has been revised to address changes to Chapter 2.
Chapter 5
Table added to show the Proposed RMP/EIS consistency with Utah Code 63j-4-401.

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Appendices
Appendices Added • Document Change Appendix • Air Mitigation Strategies Appendix
Language Added: BMPs described in this appendix (section) are designed to assist in achieving the RMP objectives. BMPs are dynamic, and should not be interpreted as specific direction at the same level as the RMP decisions. BMPs are selected and implemented as necessary, based on site specific conditions, to meet resource objectives for specific management actions. This appendix (section) does not provide an exhaustive list of BMPs. Additional BMPs may be identified during an interdisciplinary process when evaluating site-specific management actions. BMPs may also be updated as new technology emerges. Applicants may also suggest alternate practices that could accomplish the same intended result. Implementation and effectiveness of BMPs needs to be monitored to determine whether the practices are achieving the RMP goals and objectives. Adjustments could be made as necessary to ensure goals and objectives are met, as well as to conform to changes in BLM regulations, policy, direction, or new scientific information.
Glossary
Language Added Wilderness Characteristics – Features of the land associated with the concept of wilderness that specifically deal with naturalness and opportunities for solitude and primitive and unconfined recreation. These characteristics may be considered in land-use planning when BLM determines that those characteristics are reasonably present, of sufficient value (condition, uniqueness, relevance, importance), and need (trend, risk), and are practical to manage (from IM-2003-275, Change 1, Considerations of Wilderness Characteristics in LUP, Attachment 1) Undertaking - A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency.
Maps
All crucial wildlife habitat baseline maps have been changed to include the date that the UDWR information was provided to create the map and the following statement printed directly onto the maps: "Surface disturbing activities are not excluded in these areas. All timing and controlled surface use limitations are subject to waivers, exceptions, and/or modification identified in Appendix K."
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• National Academy of Sciences. 2006. Understanding and Responding to Climate Change: Highlights of National Academies Reports. Division on Earth and Life Studies. National Academy of Sciences. Washington, D.C. • Available on the Internet: http://dels.nas.edu/basc/Climate-HIGH.pdf. • EPA. 2005. Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule. 40CFR, Part 51. (http://www.epa.gov/scram001/guidance/guide/appw_05.pdf). November 9.
Tables
All tables have been modified throughout the document to include the Proposed RMP.

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State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

June 6, 2008

Selma Sierra
State Director
BLM Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

Dear Director Sierra:

This letter addresses air quality mitigation strategies for the six proposed Resource Management Plans being updated within the State of Utah. The state appreciates BLM's interest in this important issue.

It is the policy of the State of Utah to protect public health and the environment from the harmful effects of air pollution, to ensure that the air in Utah meets standards established under federal and state law, and to maintain an environment that is conducive to continued economic vitality and growth.

The Department of Interior monitors ozone at National Parks in the intermountain west, including: Mesa Verde National Park in Colorado, Grand Canyon National Park in Arizona, Great Basin National Park in Nevada, and Canyonlands National Park in Utah. These sites reflect conditions in areas that have not been subject to intensive development and are therefore generally indicative of background conditions. Monitoring data at these locations demonstrates a gradual upward trend in ozone levels, raising questions about ozone levels region-wide. The state believes additional information is needed regarding current conditions and the potential impacts from increasing development activity, including oil and gas activity. This information should inform future BLM decision making, but managers should not defer management actions in anticipation of better information.

Fortunately, ozone related impacts can be reduced if certain mitigation measures are required on new oil and gas related emission sources. In fact, several neighboring states currently encourage application of just such measures. BLM should include interim nitrogen oxide control measures provided by the state as a required condition of lease approval. These control measures are consistent with control measures suggested by neighboring states and jurisdictions. The state recognizes that performance standards will continue to evolve and supports technological flexibility, provided control measures are at least as effective as those in place elsewhere within the region at the time of site-specific authorization. Performance standards representing the current regional standard can be found in the *Four Corners Air*

Quality Task Force Report of Mitigation Options, DRAFT: Version 7, June 22, 2007. These standards are 2 g/bhp-hr for engines less than 300 HP and 1 g/bhp-hr for engines over 300 HP.

The State of Utah will continue to work with the BLM and others through efforts such as the Four Corners Task Force to address these issues. The state appreciates your cooperation in working to protect air quality related values. If you have any questions about our position, please contact me at (801) 537-9802.

Sincerely,

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JON M. HUNTSMAN, JR
Governor

GARY R. HERBERT
Lieutenant Governor

July 17, 2008

Blaine Phillips
Bureau of Land Management
Vernal Field Office
170 South 500 East
Vernal UT 84078

RE: Vernal Field Office RMP

In reply, please refer to Case No. 08-0528

Dear Mr. Phillips:

The Utah State Historic Preservation Office received your request for our comment on the above referenced project.

We concur with your determinations made by BLM in the Vernal Field Office RMP. [Reference BLM Letter May 21, 2008: 8141 UT-082].

This letter serves as our comment on the determinations you have made, within the consultation process specified in §36CFR800.4. If you have questions, please contact me at (801) 533-3555 or jdykmann@utah.gov.

As ever,

James L. Dykmann
Acting Deputy State Historic Preservation Officer - Archaeology

ACRONYMS AND GLOSSARY

ACRONYMS

ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ADC	Animal Damage Control
AML	Appropriate Management Level
AMLIS	Abandoned Mine Land Inventory System
AMP	Allotment Management Plan
APD	Application for Permit to Drill (an oil or gas well)
APHIS	Animal and Plant Health Inspection Service (USDA)
ARPA	Archeological Resource Protection Act (of 1979)
AUM	Animal unit month
BA	Biological Assessment
BCC	Birds of Conservation Concern
BCF	Billion cubic feet (a measure of quantity of natural gas)
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
BO	Biological Opinion
BOR	(United States) Bureau of Reclamation
CAA	Clean Air Act (of 1970)
CAAA	Clean Air Act Amendments
CBNG	Coal Bed Natural Gas
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (of 1980)
CFR	Code of Federal Regulations
CFS	Cubic Feet Per Second (a unit of water flow)
CHL	Combined Hydrocarbon Lease

CLDQ	Cleveland-Lloyd Dinosaur Quarry
CO	Carbon Monoxide
COA	Conditions of Approval
CRMP	Cultural Resource Management Plan
CSU	Controlled Surface Use
CWA	Clean Water Act (of 1977)
CWD	Chronic Wasting Disease
CWMA	Cooperative Weed Management Area
DEIS	Draft Environmental Impact Statement
DFC	Desired Future Condition
DOGM	(Utah) Division of Oil, Gas and Mining
DOI	(United States) Department of the Interior
DPC	Desired Plant Community
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPCA	Energy Policy and Conservation Act (of 1975)
ERMA	Extended Recreation Management Area
ESA	Endangered Species Act (of 1973)
ESR	Emergency Stabilization and Rehabilitation
ESRI	Environmental Systems Research Institute (makers of GIS software)
FEIS	Final Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
FLPMA	Federal Land Policy and Management Act (of 1976)
FMP	Fire Management Plan
FMZ	Fire Management Zone
FO	Field Office
FR	Federal Register
FWMP	Forest and Woodlands Management Plan
GAP	Geographical Analysis Program
GIS	Geographic Information Systems

GY	Grazing Year
HAP	Hazardous Air Pollutants
HFRA	Healthy Forests Restoration Act (of 2003)
HMA	Herd Management Area
HMAP	Herd Management Area Plan
HMP	Habitat Management Plan
HUC	Hydrologic Unit Code
IBLA	Interior Board of Land Appeals
IMP	Interim Management Policy
ISA	Instant (Wilderness) Study Area
KGS	Known Geologic Structure
KRCRA	Known Recoverable Coal Resource Area
LTA	Land Tenure Agreement
LUP	Land Use Plan
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act (of 1918)
MCF	Thousand cubic feet
MFP	Management Framework Plan (pre-FLPMA BLM land use plan)
MLRA	Major Land Resource Area
MMCF	Million cubic feet
mmhos/cm	Millimhos per centimeter (in soils, a measure of electrical conductivity)
MOU	Memorandum of Understanding
MSA	Management Situation Analysis
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act (of 1990)
NEPA	National Environmental Policy Act (of 1969)
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NHS	National Health Services
NNL	National Natural Landmark
NOx	Nitrogen Oxides

NO2	Nitrogen Dioxide
NOA	Notice of Availability (published in the Federal Register)
NOI	Notice of Intent (published in the Federal Register)
NOSR2	Naval Oil Shale Reserve Number 2
NPS	National Park Service
NRA	National Recreation Area
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSO	No Surface Occupancy (a stipulation on an oil and gas lease)
NWSRS	National Wild and Scenic River System
OHV	Off-Highway Vehicle
ORV	Off Road Vehicle (an older acronym, replaced by OHV)
P Primitive	(Recreation Opportunity Spectrum classification)
PAH	Polyaromatic Hydrocarbons
PFC	Proper Functioning Condition (of riparian/wetland areas)
PFO	Price Field Office
PIF	Partners-in-Flight
PM	Particulate Matter
PM2.5	Particulate Matter (less than 2.5 microns in diameter)
PM10	Particulate Matter (less than 10 microns in diameter)
PMP	Population Management Plan
PRMA	Price River Management Area
PSD	Prevention of Significant Deterioration
R	Rural (Recreation Opportunity Spectrum classification)
R&I	Relevance and Importance
R&PP	Recreation and Public Purposes (Act of 1926)
RAMP	Recreation Area Management Plan
RCA	Raptor Concentration Area
RCRA	Resource Conservation and Recovery Act (1976)
RDCC	(Utah) Resource Development and Coordinating Committee
RFA	Reasonably Foreseeable Action (or Activity)

RFD	Reasonably Foreseeable Development
RFFA	Reasonably Foreseeable Future Actions
RHS	Rangeland Health Standards
RMA	Recreation Management Area
RMIS	Recreation Management Information System
RMP	Resource Management Plan (BLM land use plan under FLPMA)
RN	Roaded Natural (Recreation Opportunity Spectrum classification)
RNA	Research Natural Area
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum
ROW	Right of Way
S&G	Standards & Guidelines
SARA	Superfund Amendment Reauthorization Act
SHPO	State Historic Preservation Officer
SITLA	(Utah) School and Institutional Trust Lands Administration
SOx	Sulfur Oxides
SO2	Sulfur Dioxide
SPM	Semi-Primitive Motorized (Recreation Opportunity Spectrum classification)
SPNM	Semi-Primitive Non-Motorized (Recreation Opportunity Spectrum classification)
SRCMA	Special Recreation and Cultural Management Area
SRMA	Special Recreation Management Area
SRMRDP	San Rafael Motorized Route Designation Plan
SRP	Special Recreation Permit
SRRMP	San Rafael Resource Management Plan
SUWA	Southern Utah Wilderness Alliance
T&E	Threatened and/or Endangered (species as per ESA of 1973)
TDS	Total Dissolved Solids
TL	Timing Limitations
TMDL	Total Maximum Daily Load
TPY	Tons Per Year
TSCA	Toxic Substances Control Act (of 1976)

U Urban	(Recreation Opportunity Spectrum classification)
UAAQS	Utah Ambient Air Quality Standards
UAC	Utah Administrative Code
UDA	Utah Division of Aeronautics
UDAQ	Utah Department of Air Quality
UDEQ	Utah Division of Environmental Quality
UDOGM	Utah Division of Oil, Gas, and Mining
UDOT	Utah Department of Transportation
UDWaR	Utah Division of Water Resources
UDWQ	Utah Division of Water Quality
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Survey
UP&L	Utah Power and Light
USFWS	United States Fish and Wildlife Service
USC	United States Code
USDA	United States Department of Agriculture
USFS	United States Forest Service
USGS	United States Geological Survey
VFO	Vernal Field Office
VPA	Vernal Planning Area
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WAFWA	Western Association for Fish and Wildlife Agencies
WMA	Wildlife Management Area
WSA	Wilderness Study Area
WSR	Wild and Scenic River(s) (Act of 1973)
WUG	Western Utility Group
WUI	Wildland Urban Interface

GLOSSARY

Activity Plan: A type of implementation plan (see Implementation plan); an activity plan usually describes multiple projects and applies best management practices to meet land use plan objectives. Examples of activity plans include interdisciplinary management plans, habitat management plans, recreation area management plans, and allotment management plans.

Actual Use: A report of the actual livestock grazing use certified to be accurate by the permittee or lessee. Actual use may be expressed in terms of animal unit months or animal months.

Air Pollutant: Any substance in the air that could, if in high enough concentration, harm humans, animals, vegetation, or material. Air pollutants may include almost any natural or artificial matter capable of being airborne, in the form of solid particles, liquid droplets, gases, or a combination of these.

Air Quality: The composition of air with respect to quantities of pollution therein; used most frequently in connection with "standards" of maximum acceptable pollutant concentrations.

All-Terrain Vehicle: A wheeled or tracked vehicle, other than a snowmobile or work vehicle, designed primarily for recreational use or for the transportation of property or equipment exclusively on undeveloped road rights of way, marshland, open country or other unprepared surfaces.

Allotment: An area of land where one or more individuals graze their livestock. Generally consists of public land, State land, and private land. Livestock grazing is regulated by BLM who determines the number of livestock, class of livestock, and season of use for each allotment through the land use planning process.

Allotment Management Plan: A document prepared in consultation with the lessees or permittees involved, which applies to livestock operations on the public lands or on lands within National Forests in the eleven contiguous Western States and which:

prescribes the manner in, and extent to, which livestock operations will be conducted in order to meet the multiple-use, sustained-yield, economic and other needs and objectives as deter-mined for the lands by the Secretary concerned; and

decribes the type, location, ownership, and general specifications for the range improvements to be installed and maintained on the lands to meet the livestock grazing and other objectives of land management; and

contains such other provisions relating to livestock grazing and other objectives found by the Secretary concerned to be consistent with the provisions of this Act and other applicable law.

Alluvium: General term for clay, silt, sand, or gravel deposited in the bed of a stream during relatively recent geologic time, as a result of stream action.

Alternative: In an EIS, one of a number of possible options for responding to the purpose and need for action.

Alternative Dispute Resolution: Any process used to prevent, manage, or resolve conflicts using procedures other than traditional courtroom litigation or formal agency adjudication.

Amendment: The process for considering or making changes in the terms, conditions, and decisions of approved RMPs or MFPs. Usually only one or two issues are considered that involve only a portion of the planning area.

Animal Unit: (1) Considered to be one mature cow or approximately 1,000 pounds, either dry or with calf up to six months of age, or their equivalent, based on a standard amount of forage consumed. (2) A standardized unit of measurement for range livestock that is equivalent to one cow, one horse, five sheep, five goats, or four reindeer, all over 6 months of age.

Animal Unit Month: The amount of dry forage required by one animal unit for one month based on a forage allowance of 26 pounds per day.

Animals: Any member of the animal kingdom, including without limitation any mammal, fish, bird, amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate, and includes any part, product, egg, or offspring thereof, or the dead body or parts thereof. As used here, the words "animals," "fish or wildlife," and "wildlife" are interchangeable.

Annual (plant): A plant whose life cycle is completed in 1 year or season.

Aquifer: Rock or rock formations (often sand, gravel, sandstone, or limestone) that contain or carry groundwater and act as water reservoirs.

Areas of Critical Environmental Concern (ACEC): Means areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

Arid: A term applied to regions or climates where lack of sufficient moisture severely limits growth and production of vegetation. The limits of precipitation vary considerably according to temperature conditions.

Assessment: The act of evaluating and interpreting data and information for a defined purpose.

Authorized Officer: The Federal employee who has the delegated authority to make a specific decision.

Avoidance Areas: Areas with sensitive resource values where rights-of-way and Section 302 permits, leases, and easements would be strongly discouraged. Authorization made in avoidance areas would have to be compatible with the purpose for which the area was designated and not is otherwise feasible on lands outside the avoidance area.

Back Country Byways: These roads generally do not meet full federal safety standards, meaning they are not wide enough, or graded enough, or level enough to be safe year-round, for passenger cars. They do, however, meet the highest standard of scenic, recreational and historical criteria.

Beneficial Outcomes: Also referenced as "Recreation Benefits"; improved conditions, maintenance of desired conditions, prevention of worse conditions, and the realization of desired experiences.

Best Management Practices (BMPs): A suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a land use plan decision unless the land use plan specifies that they are mandatory. They may be updated or modified without a plan amendment if they are not mandatory.

Big Game: Any species of hoofed wildlife that are hunted, such as elk, deer, desert bighorn sheep, Rocky Mountain bighorn sheep, moose, bison, mountain goats and pronghorn antelope.

Biological Assessment: The document prepared by or under the direction of BLM concerning listed and proposed species and designated and proposed critical habitat that may be present in the action area and contains the BLM's determination of potential effects of the action on such species and habitat. Biological assessments are required for formal consultations and conferences on "major construction projects." They are recommended for all formal consultations and formal conferences and many informal consultations where a written evaluation of the effects of an action on listed or proposed species and on designated or proposed critical habitat is needed. Also referred to as a BA.

Biological Opinion: The document which includes: (1) the opinion of the U.S. Fish and Wildlife Services' and/or the NOAA-Fisheries as to whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion is based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat. Depending upon the determination of jeopardy or non-jeopardy, the biological opinion may contain reasonable and prudent alternatives, a statement of anticipated take of listed animals and conservation recommendations for listed plants. Also referred to as a BO.

Biological Soil Crusts (cryptogamic, cryptobiotic, microbiotic or microphytic soil crusts): Biological Soil Crusts are a complex mosaic of cyanobacteria, green algae, lichens, mosses, microfungi, and other bacteria. Cyanobacterial and microfungal filaments weave through the top few millimeters of soil, gluing loose particles together and forming a matrix that stabilizes and protects soil surfaces from erosive forces. These crusts occur in all hot, cool, and cold arid and semi-arid regions. They may constitute up to 70% of the living cover in some plant communities; however, biological soil crusts have only recently been recognized as having a major influence in terrestrial ecosystems.

Browse: (1) the part of shrubs, half shrubs, woody vines, and trees available for animal consumption; or (2) to search for or consume browse.

California Puff (CALPUFF): CALPUFF is an advanced non-steady-state meteorological and air quality modeling system adopted by the U.S. Environmental Protection Agency as the preferred model for assessing long range transport of pollutants and their impacts involving complex meteorological conditions.

Candidate Species: Plant and animal taxa for which the U.S. Fish and Wildlife Service has sufficient information on their status and threats to support proposing the species for listing as endangered or threatened under the Endangered Species Act but for which issuance of a proposed rule is currently precluded by higher priority listing actions. Separate lists for plants, vertebrate animals, and invertebrate animals are published periodically in the Federal Register.

Carrying capacity: The maximum population of a particular species a particular region can support without hindering future generations' ability to maintain the same population.

Casual Use: Mining activities that only negligibly disturb federal lands and resources. Casual use generally includes the collecting of geochemical, rock, soil, or mineral specimens using hand tools, hand panning, and non-motorized sluicing. It also generally includes use of metal detectors, gold spears, and other battery-operated devices for sensing the presence of minerals, and hand battery-operated dry washers. Casual use does not include use of mechanized earth-moving equipment, truck-mounted drilling equipment, suction dredges, motorized vehicles in areas designated as closed to off-road vehicles, chemicals, or explosives. It also does not include occupancy or operations where the cumulative effects of the activities result in more than negligible disturbance.

Class I area: Under the 1977 Clean Air Act amendments, all international parks, parks larger than 6,000 acres, and national wilderness areas larger than 5,000 acres that existed on August 7, 1977. This class provides the most protection to pristine lands by severely limiting the amount of additional air pollution that can be added to these areas.

Climax Plant Community (e.g. climax): The final or stable biotic community in a successional series; it is self-perpetuating and in equilibrium with the physical habitat.

Closed: Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 sets forth the specific meaning of “closed” as it relates to off-highway vehicle use, and 43 CFR 8364 defines “closed” as it relates to closure and restriction orders.

Code of Federal Regulations (CFR): A codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Collaboration: A cooperative process in which interested parties, often with widely varied interests, work together to seek solutions with broad support for managing public and other lands.

Collaborative Partnership and Collaborative Stewardship: Refers to people working together, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks.

Competition: The interaction between organisms as a result of the removal or reduction of a common, required resource from the environment. Resources may include water, nutrients, light, oxygen, carbon dioxide, food and shelter.

Community Recreation-Tourism Market: A community or communities dependent on public lands recreation and/or related tourism use, growth, and/or development. Major investments in facilities and visitor assistance are authorized within SRMAs where BLM’s strategy is to target demonstrated community recreation-tourism market demand. Here, recreation management actions are geared toward meeting primary recreation-tourism market demand for specific activity, experience, and benefit opportunities. These opportunities are produced through maintenance of prescribed natural resource and/or community setting character and by

structuring and implementing management, marketing, monitoring, and administrative actions accordingly.

Conditions of Approval: Conditions or provisions (requirements) under which an Application for a Permit to Drill or a Sundry Notice is approved.

Conformity or Conformance:

A resource management action shall be specifically provided for in the plan, or if not specifically mentioned, shall be clearly consistent with the terms, conditions, and decisions of the approved plan or plan amendment.

That a proposed action shall be specifically provided for in the land use plan or, if not specifically mentioned, shall be clearly consistent with the goals, objectives, or standards of the approved land use plan.

Conservation Agreement: A formal signed agreement between the USFWS or NOAA-Fisheries and other parties that implements specific actions, activities, or programs designed to eliminate or reduce threats to, or otherwise improve the status of a species. Conservation agreements can be developed at a state, regional, or national level and generally include multiple agencies at both the state and Federal level, as well as Tribes. Depending on the types of commitments the BLM makes in a conservation agreement and the level of signatory authority, plan revisions or amendments may be required prior to signing the conservation agreement, or subsequently in order to implement the conservation agreement.

Conservation Strategy: A strategy outlining current activities or threats that are contributing to the decline of a species, along with the actions or strategies needed to reverse or eliminate such a decline or threats. Conservation strategies are generally developed for species of plants and animals that are designated as BLM Sensitive species or that have been determined by the Fish and Wildlife Service or NOAA-Fisheries to be Federal candidates under the Endangered Species Act.

Consistency: Means that the proposed land use plan does not conflict with officially approved plans, programs, and policies of Tribes, other Federal agencies, and state and local governments (to the extent practical with Federal law, regulation, and policy).

Consultation: Exchange of information and interactive discussion; when the “C” in consultation is capitalized it refers to consultation mandated by statute or regulation that has prescribed parties, procedures, and timelines (e.g. Consultation under National Environmental Policy Act or Section 7 of the Endangered Species Act).

Contiguous: Lands or legal subdivisions having a common boundary; lands having only a common corner are not contiguous.

Cooperating Agency: An eligible governmental entity that has entered into a written agreement with the BLM establishing cooperating agency status in the planning and NEPA processes. BLM and the cooperating agency will work together under the terms of the agreement. Cooperating agencies will participate in the various steps of BLM's planning process as feasible, given the constraints of their resources and expertise.

Assists the lead Federal agency in developing an Environmental Analysis or Environmental Impact Statement. The Council on Environmental Quality regulations implementing NEPA

defines a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA. Any tribe of Federal, State, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. The selection and responsibilities of a cooperating agency are described in §1501.6. A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency.

Corridor: A wide strip of land within which a proposed linear facility could be located.

Council on Environmental Quality: An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effect on the environment, conducts environmental studies, and advises the president on environmental matters.

Criteria: Data and information that are used to examine or establish the relative degrees of desirability of alternatives or the degree to which a course of action meets an intended objective.

Criteria pollutants: Air pollutants designated by the U.S. Environmental Protection Agency as potentially harmful and for which ambient air quality standards have been set to protect the public health and welfare. The criteria pollutants are carbon monoxide, sulfur dioxide, particulate matter, nitrogen dioxide, ozone, hydrocarbons, and lead.

Critical Habitat: (1) the specific areas within the geographical area currently occupied by a species, at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features (i) essential to the conservation of the species, and (ii) that may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by a species a the time it is listed upon determination by the U.S. Fish and Wildlife Service and/or the NOAA-Fisheries that such areas are essential for the conservation of the species. Critical habitats are designated in 50 CFR Parts 17 and 226. The constituent elements of critical habitat are those physical and biological features of designated or proposed critical habitat essential to the conservation of the species, including, but not limited to: (1) space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and (5) habitats that are protected from disturbance or are representative of the historic geographic and ecological distribution of a species.

Criteria pollutants: Air pollutants designated by the U.S. Environmental Protection Agency as potentially harmful and for which ambient air quality standards have been set to protect the public health and welfare. The criteria pollutants are carbon monoxide, sulfur dioxide, particulate matter, nitrogen dioxide, ozone, hydrocarbons, and lead.

Cultural Resources: Nonrenewable evidence of human occupation or activity as seen in any area, site, building, structure, artifact, ruin, object, work of art, architecture, or natural feature, which was important in human history at the national, state, or local level.

Cultural Site: Any location that includes prehistoric and/or historic evidence of human use, or that has important sociocultural value.

Cumulative Impact: The impact on the environment that results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Designated Roads and Trails: Specific roads and trails identified by the BLM (or other agencies) where some type of motorized vehicle use is appropriate and allowed either seasonally or year-long.

Deferred-Rotation Grazing: Any grazing system, which provides for a systematic rotation of the deferment among pastures.

Deferment (deferred grazing, rotational deferred): The delay of grazing to achieve a specific management objective. A strategy aimed at providing time for plant reproduction, establishment of new plants, restoration of plant vigor, a return to environmental conditions appropriate for grazing, or the accumulation of forage for later use.

Desired Outcomes: A type of land use plan decision expressed as a goal or objective.

Desired Plant Community: Of the several plant communities that may occupy a site, the one that has been identified through a management plan to best meet the plan's objectives for the site. It must protect the site as a minimum.

Development Well: A well drilled within the known or proven productive area of an oil field with expectation of producing oil or gas from the producing reservoir.

Discretionary Closure: Those lands where the BLM has determined that fluid minerals leasing, even with the most restrictive stipulations, would not adequately protect other resources, values, or land uses.

Disturbance Zone: Area of influence around a disturbance causing a change in animal behavior such as: leaving the area, increased stress, abandoning young, not breeding, and aberrant behavior.

Draft Environmental Impact Statement (DEIS): The draft statement of the environmental effects of a major federal action which is required under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review.

Easement: A right afforded a person or agency to make limited use of another’s real property for access or other purposes.

Ecological Balance: The stability of an ecosystem resulting from interacting processes of its components.

Ecological Site: A kind of land with a specific potential natural community and specific physical site characteristics, differing from other kinds of land in their ability to produce distinctive kinds and amounts of vegetation and to respond to management. Ecological sites are defined and described with information about soil, species composition, and annual production.

Ecological Site Description: A written narrative of the description of soils, climate, vegetation, uses, and potential of a kind of land with specific physical characteristics to produce distinctive kinds and amounts of vegetation.

Ecological Site Inventory: A resource inventory that involves the use of soils information to map ecological sites and plant communities and the collection of natural resource and vegetation attributes. The sampling data from each of these soil-vegetation units, referred to a site write-up areas (SWAs), become the baseline data for natural resource management and planning.

Ecosystem: Includes all the organisms of an area, their environment, and the linkages or interactions among all of them; all parts of an ecosystem are interrelated. The fundamental unit in ecology, containing both organisms and abiotic environments, each influencing the properties of the other and both necessary for the maintenance of life.

Effect: Environmental change resulting from a proposed action. Direct effects are caused by the action and occur at the same time and place, while indirect effects are caused by the action but are later in time or further removed in distance, although still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems. Effect and impact are synonymous as used in this document.

Eligible Cooperating Agency:

A Federal agency other than a lead agency that is qualified to participate in the development of environmental impact statements as provided in 40 CFR 1501.6 and 1508.5 or, as necessary, other environmental documents that BLM prepares, by virtue of its jurisdiction by law as defined in 40 CFR 1508.15, or special expertise as defined in 40 CFR 1508.26; or

A federally recognized Indian tribe, a state agency, or a local government agency with similar qualifications.

Endangered species: Plant or animal species that are in danger of extinction throughout all or a significant part of their range.

Endemic species: Plants or animals that occur naturally in a certain region and whose distribution is relatively limited to a particular locality.

Environmental Assessment: A concise public document that analyzes the environmental impacts of a proposed federal action and provides sufficient evidence to determine the level of significance of the impacts.

Environmental Impact Statement: A detailed written statement required by the National

Environmental Policy Act when an agency proposes a major federal action significantly affecting the quality of the human environment.

Environmental Justice: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and

commercial operations or the execution of Federal, state, local, and Tribal programs and policies (see Executive Order 12898).

Ephemeral Stream-Flow: A stream that flows only in direct response to precipitation, and whose channel is above the water table at all times.

Erosion: The wearing away of the land/soil by water, wind, ice, or other geological agents. Often categorized into sheet erosion (even, overland flow), rill erosion (numerous but small channels), and gully erosion (less numerous but more major channels). Natural erosion is that which occurs under natural conditions (without the influence of man's activities).

Evaluation (plan evaluation): The process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented.

Exclusion Area: Areas with sensitive resource values where rights-of –way and 302 permits, leases, and easements would not be authorized.

Exotic species: Includes species introduced into an area that may have adapted to the area and compete with resident native (indigenous) species.

Exploration Well: A well drilled in the area where there is no oil or gas production (also known as wildcat well).

Extensive Recreation Management Area (ERMA): Public lands unit identified in land use plans containing all acreage not identified as a SRMA. Recreation management actions within an ERMA are limited to only those of a custodial nature.

Fauna: The vertebrate and invertebrate animals of the area or region.

Federal Land Policy and Management Act of 1976: Public Law 94-579. October 21, 1976, often referred to as the BLM's "Organic Act," which provides the majority of the BLM's legislated authority, direction, policy, and basic management guidance.

Federal Register: A daily publication, which reports Presidential and Federal, Agency documents.

Final Environmental Impact Statement (Final EIS): A revision of the Draft Environmental Impact Statement based on public and agency comments on the draft.

Fire Management Plan: A strategic plan that defines a program to manage wild land and prescribed fires and documents the fire management program in the approved land use plan; the plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fisheries habitat: Streams, lakes, and reservoirs that support fish populations.

Flood Plain: The land area adjacent to a stream which is periodically flooded; an important component of a riparian area.

Fluid Minerals: Oil, gas, and geothermal resources.

Forage: (1) All browse and herbaceous growth available and acceptable to grazing/browsing animals. (2) Vegetation eaten by animals, especially grazing and browsing animals.

Formal Consultation: A component of the consultation process under Section 7 of the ESA that commences with the BLM's written request for consultation after it has determined that its action may affect and is likely to adversely affect listed species or designated critical habitats.

Fossil: Mineralized or petrified form from a past geologic age, especially from previously living things.

Fragmentation (habitat): The break-up of a large land area (such as a forest) into smaller patches isolated by areas converted to a different land type.

Fuel (fire): Dry, dead parts of trees, shrubs, and other vegetation that can burn readily.

Geographic Information System: A computer system capable of storing, analyzing, and displaying data and describing places on the earth's surface.

Goal: A broad statement of a desired outcome. Goals are usually not quantifiable and may not have established time frames for achievement.

Grandfather, to: To exempt groups or individuals from provisions of laws or regulations because of preexisting conditions, such as exempting mining operations existing before new mining regulations are implemented from provisions of those new regulations.

Grazing: Consumption of forage from rangelands or pastures by livestock, wild horses and burros, or wildlife.

Grazing System: A specialization of grazing management which defines the periods of grazing and non-grazing. Descriptive common names may be used; however, the first usage of a grazing system name in a publication should be followed by a description using a standard format. This format should consist of at least the following: the number of pastures (or units); number of herds; length of grazing periods; length of non-grazing periods for any given unit in the system followed by an abbreviation of the unit of time used. Examples of grazing systems are deferred grazing, deferred-rotation, rotation, rest-rotation, and short duration grazing.

Groundwater: Subsurface water that is in the zone of saturation. The top surface of the groundwater is the "water table." Source of water for wells, seeps, and springs.

Guidance: Any type of written communication or instruction that transmits objectives, goals, constraints, or any other direction that helps the Field Managers and staff know how to prepare a specific resource management plan.

Guidelines: Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as best management practices. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision unless the plan specifies that they are mandatory. Guidelines for grazing administration must conform to 43 CFR 4180.2.

Habitat: (1) The natural abode of a plant or animal that provides food, water, shelter, and other biotic, climatic and soils factors necessary to support life. (2) The natural environment of a plant or animal, including all biotic, climatic, and soil conditions, or other environmental influences affecting living conditions. The place where an organism lives.

Herbaceous: (1) Non-woody plant growth. (2) Green and leaf-like in appearance or texture; includes grasses, grass-like plants, and forbs, with little or no woody component.

Herd Area (HA): The geographic area identified as having been used by a herd as its habitat in 1971.

Herd Management Area (HMA): (1) Public land under the jurisdiction of the BLM that has been designated for special management emphasizing the maintenance of an established wild horse herd. (2) Areas established for wild and free-roaming horses and burros through the land use planning process. The Wild Free-roaming Horse and Burro Act of 1971 requires that wild free-roaming horses and burros be considered for management where they were found at the time Congress passed the Act. The BLM initially identified 264 areas of use as herd management areas.

Herd Management Area Plan: The area within the HA established for the maintenance of wild horse and/or burro herds. BLM considers the appropriate management level for the herd, the habitat requirements of the animals, the relationships with other uses of the public and adjacent private lands, and the constrains contained within (43 CFR 4710.3-1). The HMA does not always include the complete acreage of an HA (and often does not), and depends on conditions surrounding each area.

Impact: A modification of the existing environment caused by an action (such as construction or operation of facilities).

Impacts (or Effects): Environmental consequences (the scientific and analytical basis for comparison of alternatives) as a result of a proposed action. Effects may be either direct, which are caused by the action and occur at the same time and place, or indirect, which are caused by the action and are later in time of farther removed in distance, but are still reasonably foreseeable, or cumulative.

Implementation Decisions: Decisions that take action to implement land use plan decisions.

They are generally appealable to Interior Board of Land Appeals.

Implementation Plan: A site-specific plan written to implement decisions made in a land use plan. An implementation plans usually selects and applies best management practices to meet land use plan objectives. Implementation plans are synonymous with “activity” plans. Examples of implementation plans include interdisciplinary management plans, habitat management plans, and allotment management plans.

Indian Tribe: Any Indian group in the conterminous United States that the Secretary of the Interior recognizes as possessing tribal status.

Indicator Species (key species): (1) Species that indicate the presence of certain environmental conditions, seral stages, or previous treatment. (2) One or more plant species selected to indicate a certain level of grazing use.

Indigenous: Living or occurring naturally in an area; native, endemic people, flora, or fauna.

Indirect effects: Impacts that are caused by an action, but are later in time or farther removed in distance, although still reasonably foreseeable.

Informal Consultation: a component of the consultation process that includes all discussions, correspondence, etc., between the FWS and/or NMFS and the BLM agency or the designated non-Federal representative, prior to formal consultation, to determine if a proposed action may affect

listed species or critical habitat and to use FWS and/or NMFS expertise, if necessary, to modify the proposed action to avoid potentially adverse effects.

Interdisciplinary Team: A group of individuals with different training, representing the physical sciences, social sciences, and environmental design arts, assembles to solve a problem or perform a task. The members of the team proceed to a solution with frequent interaction so that each discipline may provide insights to any stage of the problem and disciplines may combine to provide new solutions. The number and disciplines of the members preparing the plan vary with circumstances. A member may represent one or more discipline or Bureau program interest.

Intermittent or Seasonal Stream-Flow: A stream that flows only at certain times of the year when it receives water from springs or from some surface source such as meling snow in mountainous areas.

Invasive plants: Plants that are not part of (if exotic), or are a minor component of (if native), the original plant community or communities that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth is not actively controlled by management interventions, or are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g. short-term response to drought or wildfire) are not invasive plants.

Invertebrate: Small animals that lack a backbone or spinal column. Spiders, insects, and worms are examples of invertebrates.

Land Classification: A process for determining the suitability of public lands for certain types of disposal or lease under the public land laws or for retention under multiple use management.

Land Use Allocation: The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

Land Use Plan: A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan-level decisions developed through the planning process, regardless of the scale at which the decisions were developed. The term includes both RMPs and MFPs.

Land Use Plan Decision: Establishes desired outcomes and actions needed to achieve them.

Decisions are reached using the BLM planning process in 43 CFR 1600. When they are presented to the public as proposed decisions, they can be protested to the BLM Director. They are not appeal able to Interior Board of Land Appeals.

Landscape: All the natural features such as grasslands, hills, forest, and water, which distinguish one part of the earth's surface from another part; usually that portion of land that the eye can comprehend in a single view, including all of its natural characteristics.

Leaseable Minerals: Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulphur, potassium, and sodium minerals, and oil, gas, and geothermal.

Lease: (1) A legal document that conveys to an operator the right to drill for oil, gas; (2) the tract of land, on which a lease has been obtained, where producing wells and production equipment are located.

Lease Notice: Provides more detailed information concerning limitations that already exist in law, lease terms, regulations, and operational orders. A Lease Notice also addresses special items the lessee would consider when planning operations, but does not impose new or additional restrictions.

Lease Stipulation: A modification of the terms and conditions on a standard lease form at the time of the lease sale.

Lek: An assembly area where birds, especially sage grouse, carry on display and courtship behavior.

Limited: Generally denotes that an area or roads and trails are available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 defines the specific meaning of "limited" as it relates to off-highway vehicle use.

Limited (Areas or Trails) Designated areas or trails where the use of off-road vehicles is subject to restrictions, such as limiting the number or types or vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, or limiting use to designated roads and trails. Under the designated roads and trails designation, use would be allowed only on roads and trails that are signed for use. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year.

Local Government: Any political subdivision of the State and any general purpose unit of local government with resource planning, resource management, zoning, or land use regulation authority.

Locatable Minerals: Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

Major Construction Activity: A construction project (or other undertaking having similar physical effects) which is a major Federal action significantly affecting the quality of the human environment as referred to in the National Environmental Policy Act (NEPA, 42 U.S.C. 4332(2)(C)).

Management Decision: A decision made by the BLM to manage public lands. Management decisions include both land use plan decisions and implementation decisions

Management Opportunities: A component of the analysis of the management situation; actions or management directions that could be taken to resolve issues or management concerns.

Marsh (land): Flat, wet, treeless land usually covered by water and dominated by marsh grasses, indigenous rushes, sedges, or other grass-like plants.

Meadow (grassland, pasture, pastureland, rangeland): A tract of grassland where productivity of indigenous or introduced forage is modified due to characteristics of the

landscape position or hydrology. May be characterized as: hay meadow, native meadow, mountain meadow, wet meadow, or other designations.

Memorandum of Understanding (MOU): Usually documents an agreement reached amongst federal agencies.

Mineral: Any solid or fluid inorganic substance that can be extracted from the earth for profit.

Mineral Entry: The filing of a claim on public land to obtain the right to any minerals it may contain.

Mineral Estate: The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

Mineral Materials: Materials such as common varieties of sand, stone, gravel, pumice, pumicite, and clay, that are no obtainable under the mining or leasing laws but that can be acquired under the Mineral Materials Act of 1947, as amended.

Mineral Reserves: Known mineral deposits that is recoverable under present conditions but is as yet undeveloped.

Mineral Rights: Mineral rights outstanding are third-party rights, as interest in minerals not owned by the person or party conveying the land to the United States. It is an exception in a deed that is the result of prior conveyance separating title of certain minerals from the surface estate.

Mineral Withdrawal: A formal order that withholds federal lands and minerals from entry under the Mining Law of 1872 and closes the area to mineral location (staking mining claims) and development.

Minimize: (1) To reduce the adverse impact of an operation to the lowest practical level. (2) Apply best available technology, management practices, and scientific knowledge to reduce the magnitude, extent, and/or duration of impacts.

Mining Claim: A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. A single mining claim may contain as many adjoining locations as the locator may make or buy.

There are four categories of mining claims: lode, placer, mill site, and tunnel site.

Mitigation: Steps taken to: 1) avoid an impact altogether by not taking a certain action or parts of an action; 2) minimize an impact by limiting the degree or magnitude of the action and its implementation; 3) rectify an impact by repairing, rehabilitating, or restoring the affected environment; 4) reduce or eliminate an impact over time by preserving and maintaining operations during the life of the action; and, 5) compensate for an impact by replacing or providing substitute resources or environments.

Mitigation Measures: (1) Methods or procedures that reduce or lessen the impacts of an action. (2) Means taken to avoid, compensate for, rectify, or reduce the potential adverse impact of an action.

Monitoring (plan monitoring): The process of tracking the implementation of land use plan

decisions and collecting and assessing data/information necessary to evaluate the effectiveness of

land use planning decisions.

Multiple Use: The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the lands for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some lands for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long term needs of future generations for renewable and nonrenewable resources, including but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the lands and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or greatest unit output.

National Ambient Air Quality Standards (NAAQS): Standards set by the Environmental Protection Agency for the maximum levels of pollutants that can exist in the outdoor air without unacceptable effects on human health or the public welfare.

National Environmental Policy Act of 1969: An act that encourages productive and enjoyable harmony between man and his environment and promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding or the ecological systems and natural resources important to the Nation, and establishes the Council on Environmental Quality.

National Wild and Scenic Rivers: Rivers designated in the National Wild and Scenic Rivers System that are classified in one of three categories, depending on the extent of development and accessibility along each section. In addition to being free flowing, these rivers and their immediate environments must possess at least one outstandingly remarkable value: scenic, recreational, geologic, fish and wildlife, historical, cultural, or other similar values.

National Wild and Scenic Rivers System: A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in a free-flowing condition (Wild and Scenic River Act).

Native Species: Species that historically occurred or currently occur in a particular ecosystem and were not introduced.

Natural Community: An assemblage of organisms indigenous to an area that is characterized by distinct combinations of species occupying a common ecological zone and interacting with one another.

Natural Resources: Water, soil, plants and animals, nutrients, and other resources produced by the earth's natural processes.

Neotropical Migratory Birds: Birds that travel to Central America, South America, the Caribbean, and Mexico during the fall to spend the winter and then return to the United States and Canada During the spring to breed. These birds include almost half of the bird species that breed in the United States and Canada.

No action alternative: The most likely condition to exist in the future if current management direction were to continue unchanged.

No Surface Occupancy: A fluid minerals leasing constraint that prohibits occupancy or disturbance on all or part of the lease surface to protect special values or uses. Lessees may exploit the fluid mineral resources under the leases restricted by this constraint through use of directional drilling from sites outside the area.

No Surface Disturbance: In general, this applies to an area where an activity is allowed so long as it does not disturb the surface.

Noxious Weeds: A plant species designated by Federal of State law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States.

Objective: A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement.

Off-Highway Vehicle (off-road vehicle): Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding:

any nonamphibious registered motorboat;\

any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes;

any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved;

vehicles in official use; and

any combat or combat support vehicle when used in times of national defense emergencies.

One-Hundred-Year Flood: A hydrologic event with a magnitude that has a recurrence interval of 100 years.

Open: Generally denotes that an area is available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 defines the specific meaning of “open” as it relates to off-highway vehicle use.

Open (Areas and Trails): Designated areas and trails where off-road vehicles may be operated, subject to operating regulations and vehicle standards or an area where all types of vehicle use is permitted at all times, subject to standards set forth in BLM Manuals 8341 8343

Open Range: (1) Range which has not been fenced into management units. (2) All suitable rangeland of an area upon which grazing is permitted. (3) Untimbered rangeland. (4) Range on which the livestock owner has unlimited access without benefit of land ownership or leasing.

Operator: Any person who has taken formal responsibility for the operations conducted on the leased lands.

Outstandingly Remarkable River Values: Values among those listed in Section 1(b) of the Wild and Scenic Rivers Act are “scenic, recreational, geological, fish and wildlife, historical,

cultural, or other similar values. . . .” Other similar values which may be considered include botanical, hydrological, paleontological, or scientific. Professional judgment is used to determine whether values exist to an outstandingly remarkable degree (Wild and Scenic River Act).

Overgrazing (overuse): Continued heavy grazing which exceeds the recovery capacity of the community and creates a deteriorated range.

Paleontological Resources (Fossils): The physical remains of plants and animals preserved in soils and sedimentary rock formations. Paleontological resources are important for understanding past environments, environmental change, and the evolution of life.

Paleontology: A science dealing with the life forms of past geological periods as known from fossil remains.

Particulate Matter (PM): A complex mixture consisting of varying combinations of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These tiny particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil and dust.

Perennial: A plant that lives for at least 2 or more years.

Perennial Stream-flow: A stream that flows continuously. Perennial streams are generally associated with a water table in the localities through which they flow.

Period of Use: The time of livestock grazing on a range area based on type of vegetation or stage of vegetative growth.

Permit: A revocable authorization to use public land for a specified purpose to for up to 3 years.

Permitted Use: The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease; expressed in Animal Unit Months.

Petroglyph: An image recorded on stone, usually by prehistoric peoples, by means of carving, pecking or otherwise incised on natural rock surfaces.

pH: A measure of how acidic or alkaline (basic) a solution is on a scale of 0 to 14 with 0 being very acidic, 14 being very alkaline, and 7 being neutral. The abbreviation stands for the potential of hydrogen.

Pictograph: A symbol that represents an object or a concept by illustration.

Plan of Development: A mandatory plan, developed by an applicant of a mining operation or construction project, that specifies the techniques and measures to be used during construction and operation of all project facilities on public land. The plan is submitted for approval to the appropriate Federal agency before any construction begins.

Plan of Operations: A plan for mining exploration and development that an operation must submit to BLM for approval when more than 5 acres a year will be disturbed or when an operator plans to work in an area of critical environmental concern or a wilderness area. A plan of

Operations must document in detail all actions that the operator plans to take from exploration through reclamation.

Planning Analysis: A process using appropriate resource data and NEPA analysis to provide a

basis for decisions in areas not yet covered by an RMP.

Planning Area: A geographical area for which land use and resource management plans are developed and maintained.

Planning Criteria: The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis, and data collection during planning. Planning criteria streamline and simplify the resource management planning actions.

Plant community: A vegetation complex, unique in its combination of plants, which occurs in particular locations under particular influences. A plant community is a reflection of integrated environmental influences on the site, such as soils, temperature, elevation, solar radiation, slope aspect, and precipitation.

Population: Within a species, a distinct group of individuals that tend to mate only with members of the group. Because of generations of inbreeding, members of a population tend to have similar genetic characteristics.

Potential Natural Community (PNC): The biotic community that would become established if all successional sequences were completed without interference by man under the present environmental conditions. Natural disturbances are inherent in development. PNCs can include naturalized non-native species.

Preferred alternative: The alternative identified in an EIS that has been selected by the agency as the most acceptable resolution to the problems identified in the purpose and need.

Prescribed Fire: (1) The introduction of fire to an area under regulated conditions for specific management purposes. (2) A management ignited wildland fire that burns under specified conditions and in predetermined area, and that produces the fire behavior and fire characteristics required to attain fire treatment and resource management objectives.

Prey Base: Populations and types of prey species available to predators.

Principal or Major Uses: Includes, and is limited to, domestic livestock grazing, fish and wildlife development and utilization, mineral exploration and production, rights-of-way, outdoor recreation, and timber production.

Production Well: A well drilled in a known field that produces oil or gas.

Project Plan: A type of implementation plan (see *Implementation plan*). A project plan typically addresses individual projects or several related projects. Examples of project plans include prescribed burn plans, trail plans, and recreation site plans.

Project Area: The area of land upon which an operator conducts mining operations, including the area needed for building or maintaining of roads, transmission lines, pipelines, or other means of access.

Properly Functioning Condition (PFC): An attribute of a landform that indicates its ability to produce desired natural resources in a sustained way. When used to refer to a riparian area, expresses the ability of the ecosystem to dissipate energy, filter sediment, transfer nutrients, develop ponds and channel characteristics that benefit fish production, waterfowl, and other uses, improve water retention and ground-water recharge, develop root masses that improve

streambank stability, and support greater biodiversity. In upland landforms, an indication of the ecosystem' ability to sustain the natural, biotic communities.

Public: Affected or interested individuals, including consumer organizations, public land resource users, corporations and other business entities, environmental organizations and other special interest groups and officials of State, local, and Indian tribal governments.

Public Involvement: The opportunity for participation by affected citizens in rule making, decision making, and planning with respect to the public lands, including public meetings or hearings held at locations near the affected lands, or advisory mechanisms, or such other procedures as may be necessary to provide public comment in a particular instance.

Public Lands: Any lands or interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the Outer Continental Shelf, and land held for the benefit of Indians, Aleuts, and Eskimos.

Public scoping: A process whereby the public is given the opportunity to provide oral or written comments about the influence of a project on an individual, the community, and/or the environment.

Quarry: An open or surface working, usually for the extraction of stone, slate, limestone, etc.

Range Improvement: An authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore , protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes, but is not limited to structures, treatment projects and use of mechanical devices or modifications achieved through mechanical means.

Range Improvement Funds (BLM): A fund established by Congress in FLPMA comprised of 50 percent of the grazing fees collected by the U.S. Treasury. This fund is used for on-the-ground rehabilitation, protection, and improvement of the public lands that will arrest rangeland deterioration and improve forage conditions with resulting benefits to wildlife, watershed protection, and livestock production.

Rangeland Improvement Projects: Man-made manipulations and structures applied to ro built upon rangelands for the purpose of improving productivity or ecosystem function; generally reseedings, weed control, water retention structures, stream channel structures, erosion control structures, fences, etc.

Range Inventory: (v.) The systematic acquisition and analysis of resource information needed for planning and for management of rangelands. (n.) The information acquired through range inventory.

Rangeland (or Public Rangelands): Deserts, grasslands, shrublands, mountains, canyons, forests, woodlands, and riparian areas, that support an understory or periodic cover of herbaceous and woody vegetation amenable to production of tangible products such as forage, wildlife habitat, water, minerals, energy, plant and animal gene pools, recreational, opportunities, and other vegetative products, Also valuable for the production of intangible products such as open space, natural beauty, ands study of natural ecosystems. Rangeland includes revegetated

naturally or artificially to provide a plant community that is managed similarly to natural vegetation.

Rangeland Health: The degree to which the integrity of the soil, the vegetation, the water, and air as well as the ecological processes of the rangeland ecosystem is balanced and sustained. Integrity is defined as: Maintenance of the structure and functional attributes characteristic of a particular locale, including normal variability.

Raptor: Bird of prey with sharp talons and strongly curved beaks such as hawks, owls, vultures, and eagles.

Reasonably Foreseeable Development Scenario: The prediction of the type and amount of oil and gas activity that would occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

Record of Decision: (1) A document signed by a responsible official recording a decision that was preceded by the preparing of an environmental impact statement. (2) A document separate from, but associated with, an Environmental Impact Statement, which states the decision, identifies alternatives (specifying which were environmentally preferable), and states whether all practicable means to avoid environmental harm from the alternative have been adopted, and, if not, why not.

Recovery plan: Identifies, justifies, and schedules the research and management actions necessary to reverse the decline of a species and ensure its long-term survival.

Recreation Opportunity Spectrum (ROS): One of the existing tools for classifying recreation environments (existing and desired) along a continuum ranging from primitive, low-use, and inconspicuous administration to urban, high-use, and a highly visible administrative presence. This continuum recognizes variation among various components of any landscape's physical, social and administrative attributes; and resulting descriptions (of existing conditions) and prescriptions (of desired future conditions) define recreation setting character.

Recreational River Areas: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Recreation Settings: The collective, distinguishing attributes of landscapes that influence, and

sometimes actually determine, what kinds of recreation opportunities are produced.

Relict: A remnant or fragment of the climax plant community that remains from a former period when it was more widely distributed. Synonymous with pristine.

Resource Area or Field Office: A geographic portion of a Bureau of Land Management district. It is the administrative subdivision whose manager has primary responsibility for day-to-day resource management activities and resource use allocations and is, in most instances, the area for which resource management plans are prepared and maintained.

Research Natural Area: (1) An area where natural processes predominate and which is preserved for research and education. Research Natural Areas must meet the relevance and importance criteria of Areas of Critical Environmental Concern and are designated as Areas of Critical Environmental Concern. (2) Special management areas designated either by Congress or

by a public or private agency to preserve and protect typical or unusual ecological communities, associations, phenomena, characteristics, or natural features or processes for scientific and educational purposes. They are established and managed to protect ecological processes, conserve biological diversity, and provide opportunities for observation for research and education.

Resource Advisory Council: A council established by the Secretary of the Interior to provide advice or recommendations to BLM management.

Resource Use Level: The level of use allowed within an area. It is based on the desired outcomes and land use allocations in the land use plan. Targets or goals for resource use levels are established on an area-wide or broad watershed level in the land use plan. Site-specific resource use levels are normally determined at the implementation level, based on site-specific resource conditions and needs as determined through resource monitoring and assessments.

Resource Management Plan: A land use plan as described by the Federal Land Policy and Management Act. The resource management plan generally establishes in a written document:

Land areas for limited, restricted or exclusive use; designation, including ACEC designation; and transfer from Bureau of Land Management Administration;

Allowable resource uses (either singly or in combination) and related levels of production or use to be maintained;

Resource condition goals and objectives to be attained;

Program constraints and general management practices needed to achieve the above items;

Need for an area to be covered by more detailed and specific plans;

Support action, including such measures as resource protection, access development, realty action, cadastral survey, etc., as necessary to achieve the above;

General implementation sequences, where carrying out a planned action is dependent upon prior accomplishment of another planned action; and

Intervals and standards for monitoring and evaluating the plan to determine the effectiveness of the plan and the need for amendment or revision.

It is not a final implementation decision on actions which require further specific plans, process steps, or decisions under specific provisions of law and regulations.

Revegetation: Establishing or re-establishing desirable plants on areas where desirable plants are absent or of inadequate density, by management alone (natural revegetation) or by seeding or transplanting (artificial revegetation).

Revision: The process of completely rewriting the land use plan due to changes in the planning area affecting major portions of the plan or the entire plan.

Right-of-Way: A permit or an easement which authorizes the use of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc.; also, the lands covered by such an easement or permit.

Right-of-Way Corridor: A parcel of land that has been identified by law, Secretarial order, through a land use plan or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way which are similar, identical or compatible.

Riparian : (1) Referring to or relating to areas adjacent of water or influenced by free water associated with streams or rivers on geologic surfaces occupying the lowest position on a watershed. (2) Occurring adjacent to streams and rivers and directly influenced by water. A riparian community is characterized by certain types of vegetation, soils, hydrology, and fauna and requires free or unbound water or conditions more moist than that normally found in the area.

Riparian Ecosystems: (1) Those assemblages of plants, animals, and aquatic communities whose presences can be either directly or indirectly attributed to factors that are water-influenced or related. (2) Interacting system between aquatic and terrestrial situations identified by soil characteristics, and distinctive vegetation that requires or tolerates free or unbound water.

Riparian – Properly Functioning Condition (PFC) for Lotic Areas: Riparian/wetland areas are in PFC when adequate vegetation, landform, or woody debris is present to:

dissipate high-energy water flow

filter sediment, capture bedload, and aid floodplain development

improve floodwater retention and groundwater recharge

develop root masses that stabilize streambanks

develop diverse fluvial geomorphology (pool and channel complexes) to provide habitat for wildlife

support greater biodiversity

Riparian--Properly Functioning Condition (PFC) for Lentic Areas: Lentic riparian-wetland areas are functioning properly when adequate vegetation, landform, or debris is present to dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality;

filter sediment and aid floodplain development;

improve flood-water retention and ground-water recharge; and,

development root masses that stabilize islands and shoreline features against cutting action; restrict water percolation; develop diverse ponding characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, water-bird breeding, and other uses; and support greater biodiversity.

Riparian – Functioning at Risk (FAR): Riparian-wetland areas are considered to be in functioning condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

Riparian – Non-Functioning (NF): Riparian-wetland areas that are clearly not providing adequate vegetation, landform, or large wood debris to dissipate stream energy associated with high flows, and thus are not reducing erosion, improving water quality, etc. *Though a

comprehensive assessment of riparian functioning condition has not been conducted, the Vernal Field Office has identified four major invasive plants that are altering riparian communities. The BLM has identified tamarisk, Russian olive, tall whitetop, and Russian knapweed as plants that are changing the vegetation composition of the Green River System. Specifically, Russian olive and tamarisk are out-competing native cottonwoods and willows in the riparian zone. Cottonwood stands along the main river systems (the Green and the White) are becoming decadent with low recruitment of new trees.

Riprap: A layer, facing, or protective mound of rubble or stones randomly placed to prevent erosion, scour, or sloughing of a structure or embankment; also, the stone used for this purpose.

Riverine: A system of wetlands that includes all wetland and deep-water habitats contained within a channel that lacks trees, shrubs, persistent emergents, and emergent mosses or lichens.

Roadless: Refers to the absence of roads, which have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

Rock Art: Petroglyphs or pictographs.

Saleable Minerals: Common variety minerals on the public lands, such as sand and gravel, which are used mainly for construction and are disposed of by sales or special permits to local governments.

Scenic Byways: Highway routes, which have roadsides or corridors of special aesthetic, cultural, or historic value. An essential part of the highway is its scenic corridor. The corridor may contain outstanding scenic vistas, unusual geologic features, or other natural elements.

Scoping: The process of identifying the range of issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land-use planning document. It involves both internal and public viewpoints.

Season-long Use: Grazing throughout the growing period, with little or no effort to control the amount of distribution of livestock use in area/pasture/allotments.

Seasonal Grazing: Grazing restricted to one or more specific seasons of the year.

Section 7: The section of the Endangered Species Act of 1973, as amended, outlining procedures for interagency cooperation to conserve Federally listed species and designated critical habitats. Section 7(a)(1) requires Federal agencies to use their authorities to further the conservation of listed species. Section 7(a)(2) requires Federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat. Other paragraphs of this section establish the requirement to conduct conferences on proposed species and candidate species; allow applicants to initiate early consultation; require the U.S. Fish and Wildlife Service and NOAA-Fisheries to prepare biological opinions and issue incidental take statements. Section 7 also establishes procedures for seeking exemptions from the requirement of section 7(a)(2) from the Endangered Species Committee.

Section 7 Consultation: The various section 7 processes, including both consultation and conference if proposed or candidate species are involved.

Section 106 Compliance: The requirement of Section 106 of the National Historic Preservation

Act that any project funded, licensed, permitted, or assisted by the Federal Government by reviewed for impacts to significant historic properties and that the State Historic Preservation

Officer and the Advisory Council on Historic Preservation be allowed to comment on a project.

Sediment Yield: The amount of sediment produced in a watershed, expressed in tons, acre feet, or cubic yards, of sediment per unit of drainage are per year.

Seep: Wet areas, normally not flowing, arising from an underground water source.

Sensitive Lands: Any areas recognized in BLM land use or activity plans where BLM has determined that a Plan or Operation to provide detailed review of project effects on unique, irreplaceable, or outstanding historical, cultural, recreational, or natural resource values, such as threatened or endangered species or their critical habitat.

Sensitive species: Plant or animal species susceptible or vulnerable to activity impacts or habitat alterations. Species that have appeared in the Federal Register as proposed for classification or are under consideration for official listing as endangered or threatened species.

Seral Stage: The development stages of an ecological succession. Seral state is synonymous with successional stage.

Seral Community: One or a series of biotic communities that follow one another in time on any given area. Seral community is synonymous with successional community.

Significant: (1) An effect that is analyzed in the context of the proposed action to determine the degree or magnitude of importance of the effect, wither beneficial or adverse. The degree of significance can be related to other actions with individually insignificant but cumulatively significant impacts. (2) The description of an impact that exceeds a certain threshold level. Requires consideration of both context and intensity. The significance of an action must be analyzed in several contexts, such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts, which should weighted along with the likelihood of its occurrence.

Slope: A slant or incline of the land surface, measured in degrees from the horizontal, or in the percent (defined as the number of feet or meters change in elevation per 100 of the same units of horizontal distance); may be further characterized by direction (exposure or aspect).

Socioeconomic: Pertaining to, or signifying the combination or interaction of social and economic factors.

Soil: (1) The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants. (2) The unconsolidated mineral matter on the surface of the earth that has been subjected to and influenced by genetic and environmental factors of parent material, climate (including moisture and temperature effects), macro-and micro-organisms, and topography, all acting over a period of time and producing a product-soil that differs from the material from which it was derived in many physical, chemical, biological, and morphological properties and characteristics.

Special Recreation Management Area (SRMA): a public lands unit identified in land use plans to direct recreation funding and personnel to fulfill commitments made to provide specific,

structured recreation opportunities (i.e., activity, experience, and benefit opportunities). Both land use plan decisions and subsequent implementing actions for recreation in each SRMA are geared to a strategically identified primary market—destination, community, or undeveloped.

Special Status Species: Includes the following:

Proposed Species--species that have been officially proposed for listing as threatened or endangered by the Secretary of the Interior. A proposed rule for listing has been published din the Federal Register.

Listed Species--Species officially listed as threatened or endangered by the Secretary of the Interior under the provisions of the Endangered Species Act. A final rule for the listing has been published in the Federal Register.

Endangered Species--any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened Species--any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Candidate Species--species designated as candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service and/or NOAA-Fisheries. A list has been published in the Federal Register.

State Listed Species--Species listed by a State in a category implying but not limited to potential endangerment or extinction. Listing is either by legislation or regulation.

Sensitive Species--those species designated by a State Director, usually in cooperation with the State agency responsible for managing the species and State Natural heritage programs, as sensitive. They are those species that:

could become endangered in or extirpated from a State, or within a significant portion of its distribution;

are under status review by the U.S. Fish and Wildlife Service and/or NOAA-Fisheries;

are undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution;

are undergoing significant current or predicted downward trends in population or density such that federal listed, proposed, candidate, or Stste listed status may become necessary;

typically have small and widely dispersed populations;

inhabit ecological refugia or other specialized or unique habitats; or,

are State listed but which may be better conserved through application of BLM sensitive species status.

Species: Any species or subspecies of fish or wildlife or plants (and in the case of plants, any varieties), and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.

Species Diversity: The number, different kinds of, and relative abundances of species present in a given area.

Spring: Flowing water originating form an underground source.

Standard: A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (e.g., Land Health Standards). To be expressed as a desired outcome (goal).

Stipulations: Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all Federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources and uses.

Stock Pond (catchment, guzzler, trick tank): A water impoundment made by constructing a dam or by excavating a dugout or both, to provide water for livestock and wildlife.

Stocking Rate: The relationship between the number of animals and the grazing management unit utilized over a specified time period. May be expressed as animal units per unit of land area (animal units over a described time period/area of land).

Strategic Plan: A plan that establishes the overall direction for the BLM. This plan is guided by the requirements of the Government Performance and Results Act or 1993, covers a 5-year period, and is updated every 3 years. It is consistent with FLPMA and other laws affecting the public lands.

Succession: The progressive replacement of plant communities on a site which leads to the potential natural plant community; i.e., attaining stability. Primary succession entails simultaneous succession of soil from parent material and vegetation. Secondary succession occurs following disturbances on sites that previously supported vegetation, and entails plant succession on a more mature soil.

Suspended Nonuse: Temporary withholding of a grazing preference from active use.

Sustainability: The concept that natural processes are functioning in a way that assures the sustained yield or commodities and public values to the extent possible considering the capability of the land to do so.

Sustained Yield: The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

Take: As defined by the Endangered Species Act, "to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect, or attempt to engage in any such conduct." The term applies only to fish and wildlife.

<u>incidental take</u> Any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out an otherwise lawful activity.

<u>harm</u> as used in the definition of take means to commit an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering.

<u>harass</u> as used in the definition of take means to commit an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to

significantly disrupt normal behavior patterns, which include but are not limited to breeding, feeding, or sheltering.

Threatened species: A plant or animal species likely to become an endangered species throughout all or a significant portion of its range within the foreseeable future.

Timing Limitation (Seasonal Restriction): A fluid minerals leasing constraint that prohibits surface use during specified time periods to protect identified resource values. The constraint does not apply to the operation and maintenance of production facilities unless analysis demonstrates that such constraints are needed and that less stringent, project-specific constraints would be insufficient.

Total Preference: The total number of animal units of livestock grazing on public lands, apportioned and attached to base property owned of controlled by a permittee of lessee. The active preference and suspended preference are combined to make up the total grazing preference.

Trend: The direction of change in ecological status or in resource value ratings observed over time. Trend in ecological status is described as "toward" or "away from" the potential natural community or as "not apparent." Appropriate terms are used to describe trends in resource value ratings. Trends in resource value ratings for several uses on the same site at a given time may be in different directions, and there is no necessary correlation between trends in resource value ratings and the trend in ecological status.

Unallotted Lands: Public lands open to grazing which currently have no livestock grazing authorized.

Understory: Plants that grow beneath the canopy of other plants. Usually refers to grasses, forbs, and low shrubs under a tree or shrub canopy.

Undertaking: A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency.

Undesirable plants: Species classified as undesirable, noxious, harmful, exotic, injurious, or poisonous under state or federal law, but not including species listed as endangered by the Endangered Species Act, or species indigenous to the planning area.

User Day: Any calendar day, or portion thereof, for each individual accompanied or serviced by an operator or permittee on the public lands of related waters; synonymous with passenger day or participant day.

Utilization: The proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). Utilization may refer either to a single plant species, a group of species, or the vegetation as a whole. Utilization is synonymous with use. This process requires a comparison of the amount of herbage left compared with the amount of herbage produced during the year.

Valid Existing Rights: Locatable mineral development rights that existed when the Federal Land Policy and Management Act were enacted on October 21, 1976. Some areas are

segregated from entry and location under the Mining Law to protect certain values or allow certain uses. Mining claims that existed as of the effective date of the segregation may still be valid if they can meet the test of discovery of a valuable mineral required under the Mining Law. Determining the validity of mining claims located in segregated lands requires BLM to conduct a validity examination and is called a "valid existing rights" determination.

Vascular plants: Plants that have specialized tissues which conduct nutrients, water, and sugars along with other specialized parts such as roots, stems, and reproductive structures. Vascular plants include flowering plants, ferns, shrubs, grasses, and trees.

Vegetation Manipulation Practices: Practices that are directed at changing vegetation production, species composition, and erosion control. These practices include root plowing, seeding, pitting, chaining, prescribed fire, herbicide application, prescribed grazing and livestock exclusion.

Vegetation Type: A kind of existing plant community with distinguishable characteristics described in terms of the present vegetation that dominates the aspect or physiognomy of the area.

Vertebrate: An animal with a backbone. Fishes, amphibians, reptiles, birds, and mammals are vertebrates.

Visual Resources: The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Visual Resource Management Classes: Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape.

Waiver: Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

Water Quality: (1) The chemical, physical, and biological characteristics of water with respect to its suitability for a particular use. (2) The interaction between various parameters that determines the usability or non-usability of water for on-site and downstream uses. Major parameters that affect water quality include: temperature, turbidity, suspended sediment, conductivity, dissolved oxygen, pH, specific ions, discharge, and fecal coliform.

Watershed: (1) A total area of land above a given point on a waterway that contributes runoff water to the flow at that point. (2) A major subdivision of a drainage basin.

Weed: A plant considered undesirable and that interferes with management objectives for a given area at a given point in time.

Wetlands: (1) Areas characterized by soils that are usually saturated or ponded, i.e., hydric soils, that support mostly hydrophytic plants. (2) Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include habitats such as swamps, marshes, and bogs.

Wild Horses and Burros: All unbranded and unclaimed horses and burros using public lands as all or part of their habitat.

Wild, Scenic or Recreational River: The three classes of what is traditionally referred to as a "Wild and Scenic River." Designated river segments are classified as wild, scenic and/or recreational, but the segments cannot overlap.

Wilderness Characteristics: Features of the land associated with the concept of wilderness that specifically deal with naturalness and opportunities for solitude and primitive and unconfined recreation. These characteristics may be considered in land use planning when BLM determines that those characteristics are reasonably present, of sufficient value (condition, uniqueness, relevance, importance), and need (trend, risk), and are practical to manage (from IM-2003-275, Change 1, Considerations of Wilderness Characteristics in LUP, Attachment 1)

Wilderness Study Area: A roadless area or island of undeveloped federal land that has been inventoried and found to possess wilderness characteristics described under Title VI, Section 603 of FLPMA and Section 2C of the Wilderness Act of 1964.

Wilderness: A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (1) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value.

Wildfire: Any unwanted wild land fire.

Wildland Fire: Any nonstructural fire, other than prescribed fire, that occurs in the wild land.

Winter Range: Range that is grazed during the winter months.

Withdrawal: Withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of Federal land, other than "property" governed by the Federal Property and Administrative Services Act, as amended (40 U.S.C. 472) from one department, bureau or agency to another department, bureau or agency.

Woodland: A land area occupied by trees; a forest, woods.

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