



# United States Department of the Interior

## EL CAMINO REAL DE TIERRA ADENTRO NATIONAL HISTORIC TRAIL

BUREAU OF LAND MANAGEMENT  
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NATIONAL PARK SERVICE  
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Santa Fe, New Mexico 87504-0728  
(505) 988-6717

October 1, 2002

Dear Reader:

Enclosed for your review is the draft, El Camino Real de Tierra Adentro National Historic Trail Comprehensive Management Plan /Environmental Impact Statement (CMP/EIS), and Map Supplement. This draft CMP/EIS focuses on the trail's purpose and significance, issues and concerns related to current conditions along the trail, resource protection, visitor experience and use, and long-term administrative and management objectives. Elements of the proposed plan have been developed in cooperation with Federal, State, and local agencies, as well as nonprofit and non-Governmental organizations, the entities that will form the core of partnerships with the national historic trail.

The plan provides alternative visions for managing the trail between El Paso, Texas, and San Juan Pueblo, New Mexico. This plan also addresses amendments to the Bureau of Land Management's Taos, White Sands, and Mimbres Resource Management Plans related to protection of scenic values. Your careful review and comments are needed at this time to ensure that your concerns or ideas have been considered in the planning process. We are particularly interested in comments that address: (1) any new information that could affect the analysis; (2) suggestions for clarifying the proposed management direction; and (3) ideas for improving the analysis.

If you wish to comment, you may submit your comments by any one of several methods:

- You may mail comments to Team Leaders Harry Myers, and Sarah Schlanger at: El Camino Real de Tierra Adentro National Historic Trail, P.O. Box 728, Santa Fe, New Mexico 87504-0728. (Please use this address for requesting additional information on materials referenced in the draft CMP/EIS.)
- You may also comment via the Internet to [www.elcaminoreal.org](http://www.elcaminoreal.org). Please submit Internet comments as an ASCII (text) file, avoiding the use of special characters and any form of encryption. Please also include your name and return address in your Internet message. If you do not receive a confirmation from the system that we have received your Internet message, contact us directly at (505) 988-6717 or (505) 438-7454.
- Finally, you may hand-deliver comments to the Long Distance Trails Office, 2968 Rodeo Park Drive West, Santa Fe, New Mexico.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address

from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

The Environmental Protection Agency will publish a Notice of Availability for the draft El Camino Real de Tierra Adentro National Historic Trail CMP/EIS in the *Federal Register* on October 18, 2002. Comments must be received within 90 days of the *Federal Register* Notice of Availability. Written comments must be postmarked no later than January 15, 2003.

This draft El Camino Real de Tierra Adentro National Historic Trail CMP/EIS is available in limited numbers in printed copy. It is also readily available on CD-ROM in an Adobe Acrobat format that can be read by computer regardless of operating system. Copies can be requested from the team leaders at the National Park Service address and phone number listed in the letterhead above. This same document is available at [www.elcaminoreal.org](http://www.elcaminoreal.org).

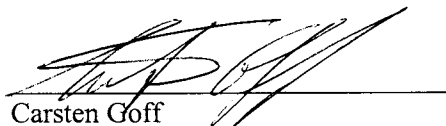
We will be holding a series of public open houses to discuss the draft plan and answer your questions. Meetings will be announced through press releases and the news media at least 15 days in advance.

Thank you very much for your interest in El Camino Real de Tierra Adentro NHT. Your continued interest will assist in creating effective management guidelines for the trail.

Sincerely,



Jere Krakow  
Acting Superintendent,  
NPS Long Distance Trails Office, Santa Fe, NM



Carsten Goff  
Deputy State Director,  
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United States Department of the Interior  
National Park Service • Bureau of Land Management

El Camino Real de Tierra Adentro National Historic Trail  
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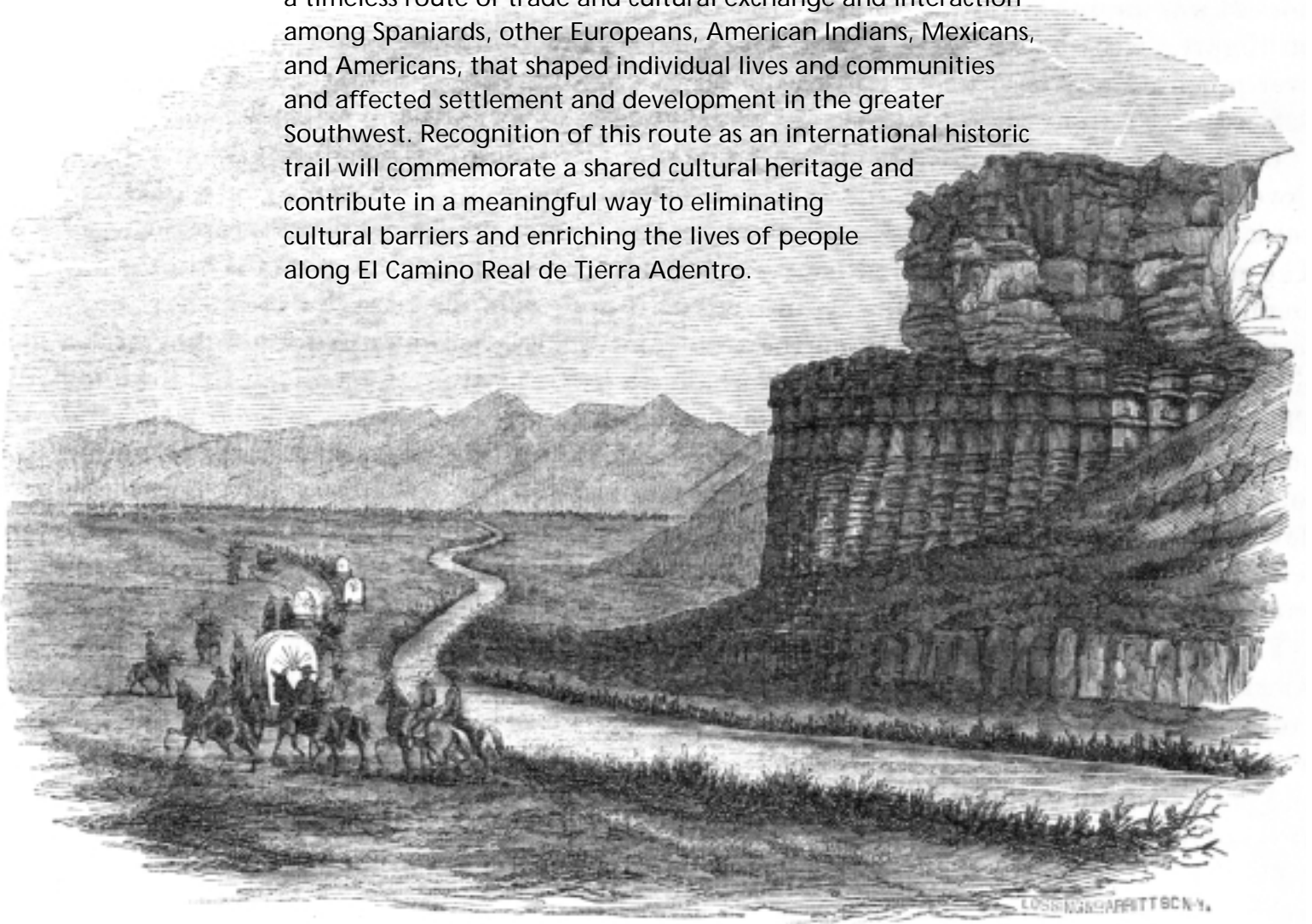
# El Camino Real de Tierra Adentro National Historic Trail

Draft Comprehensive Management Plan/  
Environmental Impact Statement



## VISION

El Camino Real de Tierra Adentro is recognized throughout the United States of America and Los Estados Unidos de México as a timeless route of trade and cultural exchange and interaction among Spaniards, other Europeans, American Indians, Mexicans, and Americans, that shaped individual lives and communities and affected settlement and development in the greater Southwest. Recognition of this route as an international historic trail will commemorate a shared cultural heritage and contribute in a meaningful way to eliminating cultural barriers and enriching the lives of people along El Camino Real de Tierra Adentro.



# EL CAMINO REAL DE TIERRA ADENTRO NATIONAL HISTORIC TRAIL

Draft  
Comprehensive Management Plan/  
Environmental Impact Statement



Prepared by  
Long Distance Trails Group - Santa Fe  
National Park Service

New Mexico State Office  
Bureau of Land Management

August 2002

National Park Service  
Bureau of Land Management  
U.S. Department of the Interior

**El Camino Real de Tierra Adentro NHT  
Draft Comprehensive Management Plan  
and  
Environmental Impact Statement**

Draft (X)      Final ( )

United States Department of the Interior, Bureau of Land Management (BLM) and National Park Service (NPS)


1.      Type of Action: Administrative (X)      Legislative ( )
2.      This draft Comprehensive Management Plan/Environmental Impact Statement (CMP/EIS) describes alternative visions for managing the National Historic Trail between El Paso, Texas and San Juan Pueblo, New Mexico. Three alternatives have been analyzed in detail: Alternative A (no action); Alternative B, with a focus on protection and off-site interpretation; and Alternative C (preferred alternative), emphasizing resource protection and coordinated programming and activities to enhance the visitor experience. The impacts expected from implementing each of the alternatives are discussed in Chapter 4.
3.      Comments have been requested from the individuals, groups, and agencies shown on the distribution list in Chapter 5. Comments will be accepted for 90 days following the date that the Environmental Protection Agency publishes the Notice of Filing of this draft CMP/EIS in the Federal Register.
4.      For further information please contact:

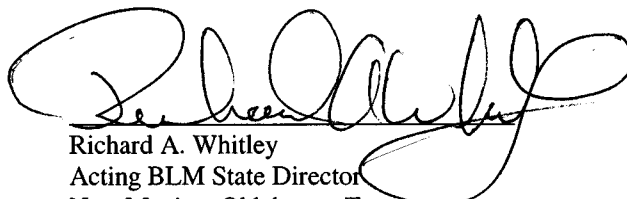
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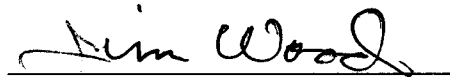
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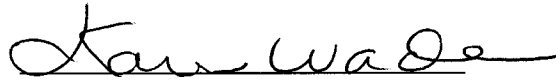
RECOMMENDED:

APPROVED:

for   
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*Fort Craig, New Mexico on the Camino Real.*

# EXECUTIVE SUMMARY

Added to the National Trails System in October 2000, El Camino Real de Tierra Adentro (Royal Road of the Interior) National Historic Trail (NHT) recognizes the primary route between the colonial Spanish capital of Mexico City and the Spanish provincial capitals at San Juan de Los Caballeros (1598-1600); San Gabriel (1600-1609); and then Santa Fe (1610-1821). The NHT, as designated, extends 404 miles from El Paso, Texas, to San Juan Pueblo, New Mexico. Bureau of Land Management (BLM) and National Park Service (NPS) are charged with joint planning and administration of the trail.

The draft El Camino Real de Tierra Adentro National Historic Trail Comprehensive Management Plan/Environmental Impact Statement (CMP/EIS) responds to the trail's congressional designation and the requirements of the National Trail System Act. This document evaluates strategies to address identified issues and to meet determined goals.

## ISSUES

Initial scoping for the plan identified issues, which are summarized in the following questions:

- How will the historic, scenic, and natural resources of the trail be preserved?
- How do people's activities and uses affect the trail?
- How will trail management be integrated with tribal and other government agency and community plans?
- What opportunities are available to provide visitor services, education, and/or recreation?
- How do we incorporate international interest in the trail?

## GOALS

Goals describing future conditions were developed for:

- A high-quality visitor experience
- Coordinated interpretation and education
- Effective administration
- Active resource protection

## ALTERNATIVES

### The Preferred Alternative

The Preferred Alternative would implement the provisions of the National Trail Systems Act and it would also reflect the public's vision for the administration and management of the trail.

Under this alternative, an ambitious program of resource protection and visitor use would be implemented. Trail administration and partners would work cooperatively to provide coordinated programming and activities that integrate themes, resources, and landscapes at certified sites on private land or protected sites on public land. Resources that best illustrate the trail's significance would be identified and protected on both public and private land (high-potential historic sites and segments). Certification priorities would be placed upon sites and segments supporting interpretive and educational programming and protecting significant resources. An auto-tour route would be established. A binational approach with Mexico would promote activities such as interpretation, events, and signage. The BLM's Mimbres, White Sands, and Taos Resource Management Plans would be amended to protect important scenic values.

## **Alternative A**

This is the no-action alternative, which serves as the baseline for evaluating the changes and impacts of the other action alternatives. Under Alternative A, federal agencies would continue to manage their lands (through which the trail passes) based upon their existing management plans. There would be no overall administration or coordination of the NHT. Coordination of the activities of an NHT association, private landowners, and federal, state, and local agencies and resource protection would be limited to efforts of the International Heritage Center and others, subject to funding. Current visitor and recreational activities commemorating or interpreting the trail would continue.

## **Alternative B**

Collaborative efforts by trail administration and partners would be directed toward the protection of trail resources (historical, cultural, and natural) on both private and public land. Active stewardship and certification priorities would protect threatened trail resources. A coordinated visitor experience along El Camino Real de Tierra Adentro NHT would be provided and

structured to promote public understanding and appreciation of NHT-related resources. Existing recreational opportunities that are not trail-related, but are provided by private landowners and various agencies and organizations, would continue. An auto-tour route would be established.

### **Actions common to All Alternatives:**

Grandfathered and valid existing rights would be recognized on public lands. The International Heritage Center would serve as a focal point for interpretation and education.

Joint NPS/BLM administration of the trail would occur, involving budget, staffing, trail marking standards, and encouragement of volunteers, partnerships, and an advisory council. International relations would be established with Mexico to exchange trail information and research, to foster trail preservation, to foster educational programs, and to cooperate in the potential bi-national designation of El Camino Real de Tierra Adentro International Historic Trail. Cooperation with tribal organizations and entities would be encouraged.

## COMPARISON OF ALTERNATIVES

Preferred Alternative	Alternative A	Alternative B
CONCEPT		
<p>Visitors would understand the trail's significance and appreciate its history and cultural heritage through participation in coordinated programming and activities that integrate themes, resources, and landscapes at certified or protected components.</p> <p>Resources that best illustrate the trail's significance would be identified and protected on both public and private land (high-potential historic sites and segments). Integrated interpretive and educational programming would be tied to on-the-ground trail resources. Information concerning trail-related interpretive/educational programming and activities would be promoted and shared. Certification priorities would be placed upon sites and segments supporting interpretive/educational programming and protecting significant resources. A bi-national approach with Mexico would promote activities such as interpretation, events, and signage.</p> <p>The mission of the National Historic Trail and the Camino Real International Heritage Center are closely linked. The Heritage Center would serve as a focal point for education interpretation, information, and marketing along with others along the trail. The National Historic Trail and the International Heritage Center would have a close working relationship that complements each other's mission</p>	<p>Current management would be maintained. Interpretive and recreational opportunities, and access to physical resources related to the trail would be limited to those developed by the International Heritage Center and others.</p> <p>Management of federal lands would continue the present course of action. Certification of sites on non-federal lands would not occur. Sharing of interpretive and educational information would be limited to the International Heritage Center and others. There would be no directed strategy for preservation or visitor use/interpretation.</p>	<p>Trail resources (historical, cultural, natural, and viewsheds) would be protected through on-going stewardship efforts. Visitors would have the opportunity to experience trail resources in an off-site setting.</p> <p>Trail resources (natural, cultural, historical, and viewsheds) would be identified and protected on federal land. Significant trail resources on private land would be protected through certification, and volunteer efforts at high potential sites and segments. Administration would be directed toward resource protection activities. Certification priorities would protect threatened trail resources.</p> <p>The mission of the National Historic Trail and the Camino Real International Heritage Center are closely linked. The Heritage Center would serve as a focal point for education interpretation, information, and marketing along with others along the trail. The National Historic Trail and the International Heritage Center would have a close working relationship that complements each other's mission.</p>
ADMINISTRATION		
<p>1. Bureau of Land Management, Corps of Engineers, U.S. Fish and Wildlife Service and USDA Forest Service and certified site owners/managers would manage their lands along the trail corridor to protect trail resources, support visitor understanding, and provide a wide range of visitor use opportunities.</p>	<p>1. Bureau of Land Management, Corps of Engineers, U.S. Fish and Wildlife Service and USDA Forest Service would manage their respective publicly administered lands along the corridor based upon existing management plans.</p>	<p>1. Bureau of Land Management, Corps of Engineers, U.S. Fish and Wildlife Service, USDA Forest Service and certified site owners/managers would manage their lands along the trail corridor to protect trail resources.</p>

## COMPARISON OF ALTERNATIVES continued

Preferred Alternative	Alternative A	Alternative B
<b>ADMINISTRATION</b> <small>continued</small>		
<p><b>2.</b> Formal and informal partnerships would be developed and cooperative agreements would be negotiated with federal, state, tribal, international, and local agencies, museums, schools/universities/colleges, non-governmental organizations, neighborhood groups, historical societies, trail organizations, civic business organizations, and others to support trail-related interpretive/educational programming, visitor information, and provide a range of activities along the trail. Non-federal sites and segments would be certified to provide a wide range of learning activities.</p> <p><b>3.</b> A uniform system of signage would be provided for certified sites, segments, and federal protection components, and at developed interpretive/educational facilities.</p>		<p><b>2.</b> Formal and informal partnerships would be developed with federal, state, tribal, international, and local agencies, museums; schools/universities/colleges; non-governmental organizations; neighborhood groups; historical societies; trail organizations; civic business organizations; and others to protect trail-related resources and for the identification/protection of trail-related resources. Certification of non-federal sites and segments would take place to protect resources.</p> <p><b>3.</b> A uniform system of signage would be provided for certified sites, segments, and federal protection components.</p>
<b>RESOURCE PROTECTION</b>		
<p><b>1.</b> Archaeological and historic sites and visible trail route segments would be identified and protected. High potential historic sites &amp; segments would be proactively managed by willing owners in partnership with trail administration. Protection on private lands would be voluntary and would be accomplished through a variety of means including but not limited to: certification, cooperative agreements, and acquisition or exchange by willing sellers where lands could be efficiently managed. A site steward program could provide for the active monitoring and patrolling of important sites and segments on BLM-administered lands and certified sites.</p> <p><b>2.</b> Research Needs: Interdisciplinary research program would be coordinated to support visitor use and interpretive/educational programming and activities.</p> <p><b>3.</b> Routes (areas) on BLM-administered lands where the physical integrity of high potential sites and segments and the surrounding visible landscape would be negatively</p>	<p><b>1.</b> No special efforts would be made to identify archaeological and historic sites and visible trail route segments.</p> <p><b>2.</b> Research Needs: There would be no directed strategy for research related to the trail.</p> <p><b>3.</b> Use of off-highway vehicles (OHVs) on BLM-administered lands would continue under the present course of action.</p>	<p><b>1.</b> Archaeological and historic sites and visible trail route segments would be identified and protected. Protection on private lands would be accomplished through a variety of means including but not limited to: certification, cooperative agreements, and acquisition by willing sellers where lands could be efficiently managed. Provide for scheduled site monitoring of important sites on BLM-administered lands and certified sites by agency personnel.</p> <p><b>2.</b> Research Needs: There would be no directed strategy for research related to the trail.</p> <p><b>3.</b> Routes (areas) on BLM-administered lands where protected archaeological and historic sites and trail route segments would be negatively impacted would be closed to unauthorized vehicles.</p>

## COMPARISON OF ALTERNATIVES continued

Preferred Alternative	Alternative A	Alternative B
<b>RESOURCE PROTECTION</b> <small>continued</small>		
<p>impacted would be closed to unauthorized vehicles.</p> <p><b>4.</b> Those areas on BLM-administered lands that are visible within approximately 5 miles of high potential historic sites and segments and also in relatively undisturbed areas would be designated Visual Resource Management (VRM) Class II as shown in Maps 4A-C and 5. The area surrounding the International Heritage Center would remain VRM Class I &amp; II.</p>	<p><b>4.</b> Management of visual resources on BLM-administered lands would continue under the present course of action.</p>	<p><b>4.</b> Management of visual resources on BLM-administered lands would continue under the present course of action.</p>
<b>VISITOR EXPERIENCE - RECREATION</b>		
<p><b>1.</b> Activities with interpretive/educational components would be encouraged and supported; companion trails would be established; and recreational uses, through directional and interpretive signage and brochures, would be encouraged. Access to the trail route or viewpoints would be developed.</p> <p><b>2.</b> An auto tour route as identified on Map 3A-G; accompanying interpretive materials designed to enhance education and visitor understanding would be provided.</p> <p><b>3.</b> Special/cultural events directly tied to trail significance would be promoted and supported.</p>	<p><b>1.</b> Coordinated recreational development of the trail would not occur.</p> <p><b>2.</b> An auto tour route would not be designated.</p> <p><b>3.</b> Special events would only be encouraged by the International Heritage Center and others, subject to funding.</p>	<p><b>1.</b> Recreational development of the trail would not be encouraged.</p> <p><b>2.</b> An auto tour route as identified on Map 3A-G; accompanying interpretive materials would be provided.</p> <p><b>3.</b> Special/cultural events that focus on resource protection would be promoted.</p>
<b>VISITOR EXPERIENCE - INTERPRETATION AND EDUCATION</b>		
<p><b>1.</b> New facilities such as visitor centers or museums developed by the private sector would be supported. New interpretive and educational programming would be encouraged; extant facilities and programming at high-potential historic sites and segments would be strengthened. Kiosks, trailheads, and trails to support recreation development would be encouraged.</p> <p><b>2.</b> A range of media such as tapes, maps, and oral histories would be developed; media at high-potential sites and segments would be coor-</p>	<p><b>1.</b> Facilities and programs would only be encouraged by the International Heritage Center and others.</p> <p><b>2.</b> Interpretive media would only be encouraged by the International Heritage Center and others.</p>	<p><b>1.</b> New facilities would not be encouraged. Existing facilities and a local/regional emphasis on content/history/culture would be improved. A broad protection and advocacy strategy through activities such as partnerships and media programs would be encouraged.</p> <p><b>2.</b> A range of interpretive media would be developed to enhance visitor understanding offsite.</p>

## COMPARISON OF ALTERNATIVES continued

Preferred Alternative	Alternative A	Alternative B
VISITOR EXPERIENCE - INTERPRETATION AND EDUCATION <small>continued</small>		
<p>dinated and integrated. A bi-national approach to interpretation would be taken.</p> <p><b>3.</b> Hands -on activities directly tied to trail-related resources at high-potential sites and segments would be emphasized and supported; responsible recreation on public lands and respect for private land ownership would be emphasized and supported. Educational packages that align with TX and NM standards would be developed. A website that centralizes educational resources around the trail would be developed. Opportunities to engage communities along El Camino Real in cultural education and interpretation would be encouraged such as the following: Habitat Chat among sister communities along NHT using interactive media, history, culture, science, and math with hands-on museum activities. The pursuit of grants to write and publish local history documents along the trail would be encouraged.</p>	<p><b>3.</b> Educational programs would be encouraged by the International Heritage Center and others.</p>	<p><b>3.</b> Resources, stewardship, and off-site interpretation would be emphasized. Visitors would be encouraged to visit off-trail facilities to lessen impact; such as auto, bus, or train tour programs. Use of a wide variety of media (including oral histories) would be encouraged.</p>

## ENVIRONMENTAL CONSEQUENCES

This draft environmental impact statement is programmatic, and addresses El Camino Real de Tierra Adentro NHT management. It considers impacts to the visitor experience along the trail; impacts to cultural resources associated with the trail, including landscapes and ethnography; impacts to natural resources and threatened and endangered species; and socioeconomic impacts in terms of landownership and visitor use. More detailed environmental analysis for specific trail projects will follow in appropriate environmental documents. The following table provides a summary of the impacts under each alternative.

COMPARISON OF IMPACTS			
Impact Topic	Preferred Alternative	Alternative A	Alternative B
North American Indians	<p>The impacts from both Alternatives B and the Preferred would have a neutral or positive impact upon the North American Indian tribes associated with El Camino Real. There would be no evident social or cultural impact upon the tribes.</p> <p>During implementation of the Preferred Alternative additional consultation with affected North American Indian tribes would likely lead to positive impacts by providing them with the opportunity to present their stories from the tribal point of view in exhibits and documents. North American Indian tribes that participate in the voluntary certification of sites and segments would be eligible for technical assistance and challenge cost-share monies for preservation, interpretive exhibits, and signage.</p> <p>Where developments take place (roadside pull-outs and interpretive wayside exhibits as proposed in the Preferred Alternative), a site-specific analysis would take place to ensure that historic resources are not disturbed, or if resources will be impacted, mitigation measures would take place in consultation with the tribes.</p>	<p>A continued lack of public awareness and appreciation could result in increased potential for inadvertent destruction of trail resources.</p>	<p>The impacts from both the Preferred and Alternatives B would have a neutral or positive impact upon the North American Indian tribes associated with El Camino Real. There would be no evident social or cultural impact upon the tribes.</p> <p>During implementation of the Preferred Alternative, additional consultation with affected North American Indian tribes would likely lead to positive impacts by providing them with the opportunity to present their stories from the tribal point of view in exhibits and documents. Tribes that participate in the voluntary certification of sites and segments would be eligible for technical assistance and challenge cost-share monies for preservation, interpretive exhibits, and signage.</p>

## COMPARISON OF IMPACTS continued

Impact Topic	Preferred Alternative	Alternative A	Alternative B
Archeological/ Historical Resources	Use of partnerships (site stewardship) and educational efforts would mitigate the potential for inadvertent destruction of trail resources. Proactive management of high-potential historic sites and segments would maintain the physical integrity of the resources.	A lack of public awareness and appreciation could result in increased potential for inadvertent destruction of trail resources.	Use of partnerships (site stewardship) and educational efforts, and would mitigate the potential for inadvertent destruction of trail resources. Proactive management of high-potential historic sites and segments would maintain the physical integrity of the resources.
Energy and Minerals	<p>New leases within a designated Visual Resource Management (VRM) Class II area would include a stipulation requiring conformance to Class II objectives. Restrictions on lease development could result in an operator not drilling at the most geologically desirable location or during the most desirable time period. If the operator is not able or willing to conform to the restrictions, drilling could be precluded.</p> <p>The issuance of new mineral material contracts would be at the discretion of the BLM, provided that the mining conformed to the management objectives of VRM Class II, or BLM could eliminate the visual intrusion entirely by reclaiming the site after the expiration of any outstanding contracts. Discontinuing the issuance of mineral material contracts could force those desiring to obtain the materials to go to another less desirable or more expensive source.</p> <p>A VRM Class II designation would not affect the status of existing mining claims, approved plans, or notices for operations or prohibit future prospecting and mining claim location under the Mining Law. New surface-disturbing activities could be affected by the VRM Class II designation.</p>	<p>New leasing, lease development, and contracts would be subject to existing management plans and site-specific environmental assessments.</p> <p>Mineral material contracts would continue to be managed under existing terms and conditions and management plans.</p> <p>Prospecting and mining claim location would continue to be allowed in areas open under the Mining Law.</p>	<p>Same as Alternative A</p> <p>Same as Alternative A</p> <p>Same as Alternative A</p>

## COMPARISON OF IMPACTS continued

Impact Topic	Preferred Alternative	Alternative A	Alternative B
Livestock - grazing	New range improvements within the Jornada del Muerto section of the trail proposed for VRM Class II guidelines would have to meet the new classification standard. Large construction projects could be restricted, although no range improvement projects have been identified in these areas.	Livestock-grazing would continue to be administered under existing terms and conditions and management plans.	Same as Alternative A
	Increasing visitor use of and publicity regarding the trail could lead to vandalism of rangeland improvements, and could lead to a greater number of visitors seeking assistance from ranchers for directions or search and rescue.	Since visitor use associated with the trail is expected to slightly increase as a result of on-going initiatives, there could be increases in vandalism of rangeland improvements and the number of visitors seeking assistance from ranchers for directions or search and rescue.	Same as Alternative A
Land and Realty Uses	Additional visitors to the designated sites would increase traffic in the area and could cause some impacts to existing rights-of-way. Land -use prescriptions for visual resource protection could inhibit or restrict some rights-of-way actions.	Additional visitors to the designated sites would increase traffic in the area and could cause some impacts to existing rights-of-way.	Same as Alternative A
Recreation/Visitor Experience/ Interpretation	<p>Visitors would benefit from this opportunity to follow the approximate trail route and to visit related resources and interpretive facilities. Visitor use on BLM-administered lands could increase in Jornada del Muerto from 900 to 5,500 visits annually and at the Teypama site from 200 to 400 visits annually.</p> <p>Additional opportunities to experience the trail corridor through recreation on BLM-managed lands would increase visitor enjoyment of the NHT. The ability to drive or hike in the trail corridor, to receive interpretive messages on site, and to see trail-related cultural, natural, and landscape resources would be beneficial and would result in memorable experiences.</p>	Visitors would not be offered experiences on El Camino Real de Tierra Adentro NHT. Some visitors would continue to be confused about the location and availability of visits to trail-related resources and sites. Other visitors, particularly those from out of state or other countries, would not be provided with trail orientation, information, and interpretation. Visitor use in Jornada del Muerto would not be expected to exceed 1,500 annual visits under this alternative, and use at the Teypama site would probably not change from existing levels of use.	Development of a coordinated interpretive and educational program emphasizing resource protection on the NHT would benefit visitors, increasing their awareness of resource values and threats. Visitors may be disappointed by the lack of a comprehensive, trail-wide interpretive and education overview, or by the relative inability to have experiences in the trail corridor. Levels of recreation use would be expected to be similar to those expected under Alternative A.

## COMPARISON OF IMPACTS continued

Impact Topic	Preferred Alternative	Alternative A	Alternative B
Recreation/Visitor Experience/ Interpretation continued	<p>Certification of sites, segments, and interpretive facilities would benefit the visitor experience through the increased identification, interpretation, and use of trail-related resources. Standards of quality reaches through the certification process would contribute to the development of accurate and consistent media and programming, and would increase visitor enjoyment and understanding of the trail's history and significance.</p> <p>Developing, marking, and interpreting an auto-tour route would contribute to increased public awareness of the NHT. Visitors would benefit from this opportunity to follow the approximate trail route, and to visit related resources and interpretive facilities.</p> <p>Off-highway-vehicle opportunities on public lands could be restricted in the immediate vicinity of historic or cultural sites for resource protection.</p> <p>Development of an interpretive plan would assist Camino Real Administration and partners to present a cohesive, integrated interpretive and educational program, and would result in public understanding and appreciation for the trail.</p>	<p>Off-highway-vehicle opportunities on public lands could be restricted in the immediate vicinity of historic or cultural sites for resource protection</p> <p>Interpretive services and products would not be provided.</p>	<p>Certification of sites, segments, and interpretive facilities would benefit the visitor experience through the increased identification, interpretation, and use of trail-related resources. Standards of quality reached through the certification process would contribute to the development of accurate and consistent media and programming, and would increase visitor enjoyment and understanding of the trail's history and significance.</p> <p>Developing, marking, and interpreting an auto-tour route would contribute to increased public awareness of the NHT. Visitors would benefit from this opportunity to follow the approximate trail route, and to visit related resources and interpretive facilities.</p> <p>Off-highway-vehicle opportunities on public lands could be restricted in the immediate vicinity of historic or cultural sites for resource protection.</p> <p>Development of an interpretive plan would assist Camino Real Administration and partners in presenting a cohesive, integrated interpretive and educational program, and would result in increased public understanding and appreciation for the trail.</p>
Scenery	<p>The Mimbres and White Sands Resource Management Plans would be amended as follows to ensure that activities would be limited to those that would not attract attention, and the level of change to the characteristic landscape would be low in the Jornada del Muerto area: Amend 58,892 acres of existing VRM Class IV public land to VRM Class II along 7.6 miles of high-potential historic segments and near select high-potential historic sites; amend 7,533 acres</p>	<p>There would be no change in visual resource management classifications.</p>	<p>Same as Alternative A</p>

## COMPARISON OF IMPACTS continued

Impact Topic	Preferred Alternative	Alternative A	Alternative B
Scenery continued	of VRM Class III public lands along 0.6 mile of high-potential historic trail segments and high-potential historic sites to VRM Class II. The Taos Resource Management Plan would also be amended as follows in the Santa Fe river canyon area: Assign VRM Class II to 998 acres of previously unassigned public lands within the foreground/ middle-ground viewshed, including 0.3 mile of high-potential historic trail segments and extending through the Santa Fe River Canyon.		
Socioeconomics/Social Values/ Environmental Justice	Economic improvements and additional service and hospitality-industry jobs generated by increased visits would enhance the economic stability of adjacent communities, especially those with higher rates of unemployment. Other benefits would include improved governmental services resulting from increased tax revenues, and avoidance of future social costs that might otherwise result from continued economic problems. Low-moderate-income families and individuals, at-risk youth, and the Hispanic and North American Indian communities may be expected to find new employment in the service sector. Proportionately, the greatest improvements can be expected in the poorer counties of New Mexico, and to a lesser extent in El Paso County and the Mexican "gateway communities."	The current "baseline" socioeconomic effects and benefits to the local and regional economy would continue.	Additional visitation would improve the viability of individual interpretive sites along the trail, primarily on nonfederal lands. This would contribute to the economic activity of the surrounding communities through increased visitor expenditures, to a lesser extent than under the Preferred Alternative.
Vegetation/Soils/ Noxious Weeds/Water	Damage to soils and vegetation would be minimal, and mitigated by proper design of trails and pullouts. The change in visual classification is not expected to be a barrier to vegetation-management activities on public lands. Soils would be disturbed on approximately 0.4 acre where the pullout parking areas are constructed and interpretive	Continuing the existing situation should result in little change in the vegetation, soil erosion, or introduction of noxious weeds near the trail.	Same as Alternative A.

## COMPARISON OF IMPACTS continued

Impact Topic	Preferred Alternative	Alternative A	Alternative B
Vegetation/Soils/ Noxious Weeds/Water continued	signs placed near the Upham Exit, the Paraje de San Diego, the Ojo de Perrillo/Point of Rocks, and the Yost Escarpment. An additional 0.5 acre would be disturbed if a companion trail were constructed. Due to the absence of potential habitat, there would be no impacts to threatened and endangered species.		
Wildlife	Disturbance to wildlife would be short-term during construction. Dispersed recreational activity within the planning area, such as camping, climbing, hiking, and biking, would result in site-specific, short-term negative impacts on the microbiological, small mammal, and avian components of the localized fauna. There would be no impacts to threatened and endangered species, since the project areas do not possess habitat required for listed species.	Continuation of the existing situation would not result in additional modification of wildlife habitat or disturbances to wildlife.	Same as Alternative A

# CONTENTS

## EXECUTIVE SUMMARY *vi*

ISSUES *vi*

GOALS *vi*

ALTERNATIVES *vi*

COMPARISON OF ALTERNATIVES *vii*

COMPARISON OF IMPACTS *xi*

## CHAPTER 1: PURPOSE/PROCESS/ISSUES *I*

PURPOSE/NEED FOR ACTION *I*

BACKGROUND/LOCATION *I*

RELATIONSHIP TO LEGISLATION/BUREAU OF LAND MANAGEMENT  
AND NATIONAL PARK SERVICE POLICIES, PLANS, AND PROGRAMS *4*

ADMINISTRATION/MANAGEMENT *5*

MANAGEMENT GOALS *6*

ISSUES TO BE RESOLVED *8*

PLANNING CRITERIA *9*

RELATIONSHIP TO OTHER PLANNING EFFORTS *10*

COORDINATION WITH MEXICO *11*

## CHAPTER 2: ALTERNATIVES *13*

INTRODUCTION *13*

PROCESS USED TO FORMULATE ALTERNATIVES *13*

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY *13*

CONTINUING MANAGEMENT GUIDANCE *13*

PREFERRED ALTERNATIVE: DESCRIPTION *14*

Preferred Alternative: Administration *15*

Preferred Alternative: Resource Protection *19*

Preferred Alternative: Visitor Experience *36*

ALTERNATIVE A: DESCRIPTION *40*

Alternative A: Administration *41*

Alternative A: Resource Protection *41*

Alternative A: Visitor Experience *41*

ALTERNATIVE B: DESCRIPTION *41*

Alternative B: Administration *41*

Alternative B: Resource Protection *42*

Alternative B: Visitor Experience *43*

## CHAPTER 3: EXISTING ENVIRONMENT *47*

OVERVIEW *47*

LANDOWNERSHIP/LAND USE *48*

HUMAN USES AND VALUES *50*

RESOURCE VALUES *57*

Cultural Environment *57*

Ethnographic Resources *57*

Archeological and Historic Resources *69*

Geology *78*

Scenery *78*

Soils/Vegetation/Noxious Weeds	80
Visitor Experience/Information and Education	82
Historic Sites/Parks/Cultural Facilities	84
Scenic Byway/Millennium Legacy Trail/Highway Markers	87
Public Art and Activities	87
Water/Air Quality	88
Wildlife/Fishery	88
RESOURCE USES	89
Energy/Minerals	89
Legal Disposition of Mineral Resources	90
Livestock-grazing	92
Lands/Realty	93
Recreation Use	95
National Forests	95
National Wildlife Refuges	95
Public Domain Lands	96
State Game Refuge	97
State Monuments	97
State Parks	97
North American Indian Pueblos	98

## **CHAPTER 4: ENVIRONMENTAL CONSEQUENCES** 101

INTRODUCTION	101
PREFERRED ALTERNATIVE	102
North American Indians	102
Cultural Resources (Archeological/Historical)	103
Energy and Minerals	103
Livestock-grazing	105
Land and Realty Uses	105
Recreation	105
Visitor Experience/Information and Education	106
Scenery	106
Socioeconomics/Social Values/Environmental Justice	106
Vegetation/Noxious Weeds/Soils/Water	108
Wildlife	108
Cumulative Impacts	109
ALTERNATIVE A	109
North American Indians	109
Cultural Resources (Archeological/Historical)	109
Energy and Minerals	110
Livestock-grazing	110
Land and Realty Uses	110
Recreation	110
Visitor Experience/Information and Education	111
Scenery	111
Socioeconomics/Social Values/Environmental Justice	111

Vegetation/Noxious Weeds/Soils/Water	III
Wildlife	II2
Cumulative Impacts	II2
ALTERNATIVE B	II2
North American Indians	II2
Cultural Resources (Archeological/Historical)	II2
Energy and Minerals	II2
Livestock-grazing	II3
Land and Realty Uses	II3
Recreation	II3
Visitor Experience/Information and Education	II3
Scenery	II3
Socioeconomics/Social Values/Environmental Justice	II4
Vegetation/Noxious Weeds/Soils/Water	II5
Wildlife	II5
Cumulative Impacts	II5
IRREVERSIBLE AND IRRETRIEVABLY COMMITMENT OF RESOURCES	II6
RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE	
OF THE ENVIRONMENT AND THE MAINTENANCE	
AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY	II6
UNAVOIDABLE ADVERSE IMPACTS	II6

## **CHAPTER 5: CONSULTATION/COORDINATION** II7

INTRODUCTION	II7
FORMAL CONSULTATION	II7
CONSISTENCY WITH OTHER PLANS	II7
STAKEHOLDERS/DOCUMENT RECIPIENTS	II8
PUBLIC PARTICIPATION	120
NORTH AMERICAN INDIAN CONSULTATION	120
PREPARERS OF THE PLAN	121

## **APPENDIXES** 123

A: EL CAMINO REAL DE TIERRA ADENTRO NATIONAL HISTORIC TRAIL	
ESTABLISHMENT ACT (P.L. 106-307)	125
B: NATIONAL TRAILS SYSTEM ACT (P.L. 90-543), AS AMENDED	129
C: ADMINISTRATIVE RESPONSIBILITY FOR	
EL CAMINO REAL DE TIERRA ADENTRO NATIONAL HISTORIC TRAIL	145
D: COMMUNITY MEETING RESULTS	149
E: HIGH-POTENTIAL HISTORIC SITES	151
F: HIGH-POTENTIAL ROUTE SEGMENTS	193
G: TRAIL MARKING AND SIGNS	221
H: VISUAL RESOURCE MANAGEMENT CLASSES AND OBJECTIVES	
FOR BUREAU ON LAND MANAGEMENT-ADMINISTERED LANDS	223
I: CERTIFICATE AGREEMENTS	233

## **GLOSSARY** 239

## **BIBLIOGRAPHY** 253

## LIST OF FIGURES

- 1: Population Growth, U.S. Counties, 1950-2000 56
- 2: Historic tribal territories of north-central Mexico 59
- 3: Apachean-speaking tribal locations 60
- 4: Mescalero tribal territory about 1830 61
- 5: Agave (Century Plant: *Agave arizonica*: USDA) 62
- 6: Mid-19th century maps of Chiricahua Apache land territories 62
- 7: Jicarilla territory with band locations circa 1850 63
- 8: Approximate Navajo settlement area about 1600 64
- 9: Original royal land grants and modern reservations. 66
- 10: Early 19th-century territory of Ute bands in Colorado, Utah, and New Mexico 68

## LIST OF MAPS

- 1 National Trails System 2
- 2 El Camino Real United States and México 3
- 3A Auto Tour Route and High-potential Sites, Section 1 of 7 21
- 3B Auto Tour Route and High-potential Sites, Section 2 of 7 23
- 3C Auto Tour Route and High-potential Sites, Section 3 of 7 25
- 3D Auto Tour Route and High-potential Sites, Section 4 of 7 27
- 3E Auto Tour Route and High-potential Sites, Section 5 of 7 29
- 3F Auto Tour Route and High-potential Sites, Section 6 of 7 31
- 3G Auto Tour Route and High-potential Sites, Section 7 of 7 33
- 4A Jornada Area VRM Class II Alternative C, section 1 of 3 225
- 4B Jornada Area VRM Class II Alternative C, section 2 of 3 227
- 4C Jornada Area VRM Class II Alternative C, section 3 of 3 229
- 5 Santa Fe River Canyon VRM Class II Alternative C 231

## LIST OF TABLES

- 1: Landownership 48
- 2: Land Uses 49
- 3: Trail Mileage on Federal Components 49
- 4: Socioeconomic Data Summary, North American Indian Reservations 54
- 5: Comparison of Selected Economic Indicators - State of Chihuahua 55
- 6: Comparison of Population Growth in El Camino Real de Tierra Adentro NHT ESA 56
- 7: Visual Resource Management Classifications for BLM-Administered Lands 81
- 8: Areas with Moderate Potential for Discovery/Development 90
- 9: Federal Mineral Estate 91
- 10: Federal Mineral Resource Activities 92
- 11: Partial List: Stakeholders/Document Recipients 118
- 12: Public Meetings 120
- 13: North American Indian Meetings 120
- 14: List Of Preparers 121

## MAP SUPPLEMENT 257

## Chapter 1

### PURPOSE/PROCESS/ISSUES

#### PURPOSE/NEED FOR ACTION

The purpose of the draft Comprehensive Management Plan/Environmental Impact Statement (CMP/EIS) is to establish the administrative objectives, policies, processes, and management actions needed to fulfill the preservation and public use goals for El Camino Real de Tierra Adentro National Historic Trail (NHT). El Camino Real de Tierra Adentro (The Royal Road of the Interior) was added to the National Trails System by P.L. 106-307 on October 13, 2000 (see Appendix A), pursuant to the National Trails System Act, P.L. 90-543, of October 2, 1968, as amended (see Map 1 and Appendix B).

The draft CMP/EIS will also provide a framework for managing and allocating uses of BLM-administered lands along the trail in New Mexico. The plan will be comprehensive in nature, and will describe future conditions, set goals, and address and resolve issues along El Camino Real de Tierra Adentro NHT that have been identified through agency, interagency, and public scoping efforts. The plan is needed in order to comply with the requirements of the National Trails System Act; and to address the management issues and concerns related to administration and management, resource protection, interpretation and visitor experience, uses of the NHT, and site development and marking.

National historic trails are set aside to identify and protect a historic route and its remnants for public use and enjoyment. These are extended trails that follow as closely as possible and practicable original routes of travel that are of national historical significance.

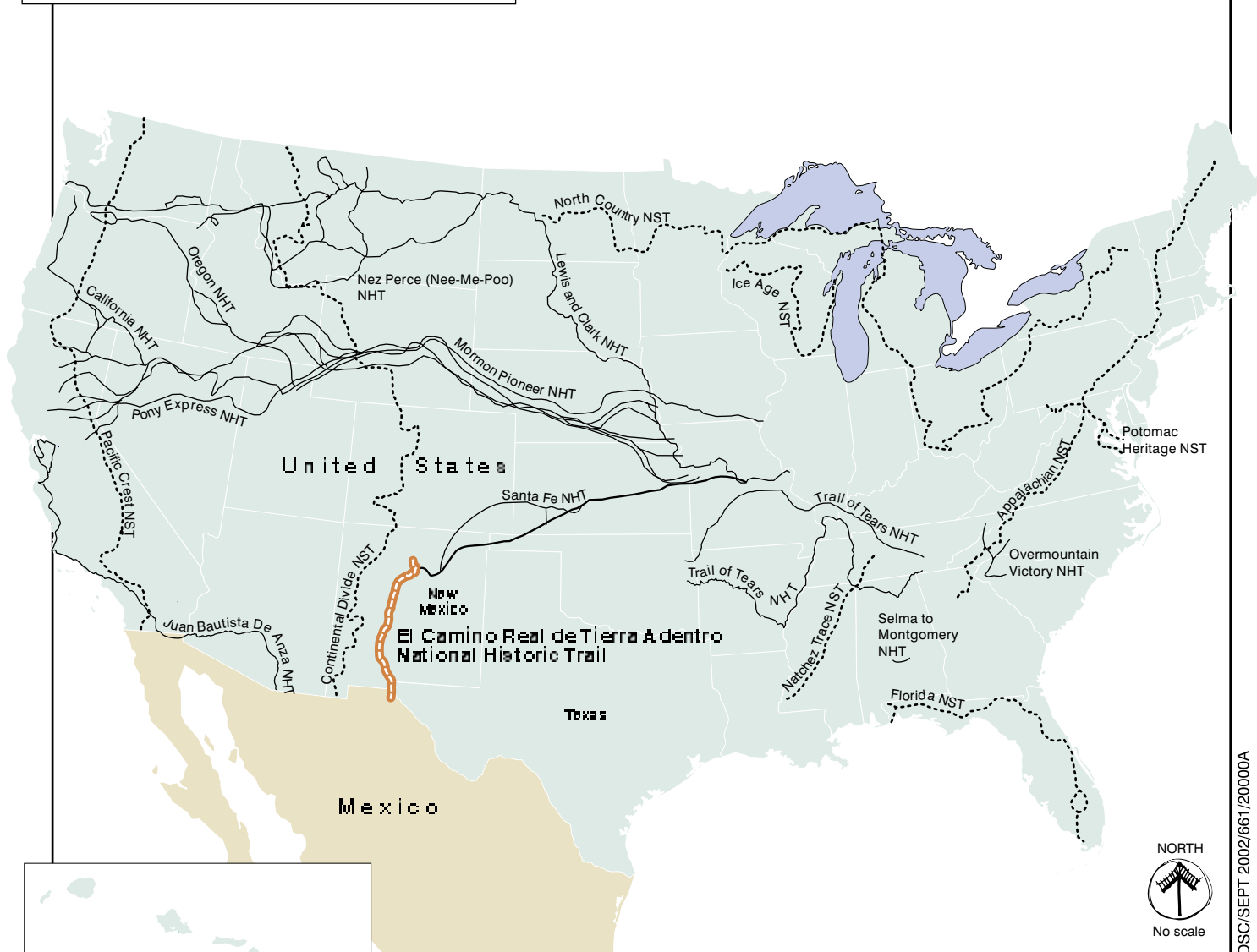
Existing trail segments already in federal ownership will become the initial components of El Camino de Tierra Adentro NHT. Other trail

segments could be developed and protected through various means, such as cooperative and certification agreements and/or easements and actions by state and local government and private organizations. There would be little or no federal acquisition of private lands. Acquisition would be on a willing-seller basis.

This draft CMP/EIS identifies and explains the desired future conditions to be maintained or achieved, and administrative and management actions necessary to achieve objectives. Through these actions, El Camino Real de Tierra Adentro NHT will be administered and managed according to the intent of Congress as expressed in the establishing legislation and the National Trails System Act.

#### BACKGROUND/LOCATION

The NPS prepared a feasibility study in 1997 that subsequently led to the designation of the 404-mile El Camino Real de Tierra Adentro NHT from El Paso, Texas, to San Juan Pueblo, New Mexico (see Map 2). The study documented the international significance of the entire route from Mexico City to New Mexico's respective Spanish colonial capitals at San Juan Pueblo (1598-1600), San Gabriel (1600-1609), and Santa Fe (1609-1821). During that period, the road formed part of a network of royal roads throughout Mexico that ran from Spanish capital to Spanish capital. When Mexican independence was achieved, El Camino Real ceased to be a royal road, because the Spanish crown had been ousted. However, the route continued in use during the Mexican National Period, as Mexican and Indian travelers, traders, settlers, soldiers, clergymen, and Anglo-American merchants continued their activities along it. Significance has also been found for succeeding periods, including the Mexican National



— National Historic Trail  
 - - - National Scenic Trail

# National Trails System

## El Camino Real de Tierra Adentro National Historic Trail

United States Department of the Interior  
 National Park Service  
 Bureau of Land Management



# El Camino Real United States and Mexico El Camino Real de Tierra Adentro National Historic Trail

United States Department of the Interior  
National Park Service  
Bureau of Land Management

Period (1821- 1848), and part of the U.S. Territorial Period of New Mexico (1848- 1882). San Juan Pueblo was the terminus of the trail because it was the first provincial capital of the northern province of New Spain.

The NHT passes through four BLM Field Office administrative areas with five existing RMPs. The following RMPs were reviewed for consistency with goals, objectives, and actions proposed under the various alternatives for the NHT: (1) Taos RMP, (2) Rio Puerco RMP, (3) Socorro RMP, (4) White Sands RMP, and (5) Mimbres RMP. The trail runs through 16.9 miles of public lands in the Taos Field Office; 14.2 miles of public lands in the Socorro Field Office; and 28.6 miles of public lands in the Las Cruces Field Office (mileages include duplicate, or variant, routes).

Approximately 33.3 miles of the NHT pass through the Sevilleta National Wildlife Refuge, and 56.8 miles pass through the Bosque del Apache National Wildlife Refuge—both of these administered by the U.S. Fish & Wildlife Service (FWS). Approximately 7.7 miles of the NHT pass through the Santa Fe National Forest, administered by the USDA Forest Service (USFS); and approximately 4.6 miles of trail cross lands administered by the U.S. Army Corps of Engineers. The remainder of the trail passes through 376.7 miles of private lands; 24.7 miles of state- administered lands; and 89.5 miles of North American Indian tribal lands.

## **RELATIONSHIP TO LEGISLATION/BUREAU OF LAND MANAGEMENT AND NATIONAL PARK SERVICE POLICIES, PLANS, AND PROGRAMS**

Public Law 106- 307, titled “A Bill to amend the National Trails System Act to designate El Camino Real de Tierra Adentro as a National Historic Trail,” was signed into law on October 13, 2000. The legislation recognizes a 404- mile-long trail from the Río Grande near El Paso, Texas, to San Juan Pueblo, New Mexico, as generally depicted on the maps entitled “A United

States Route: El Camino Real de Tierra Adentro,” contained in the March 1997 *El Camino Real de Tierra Adentro National Historic Trail Feasibility Study and Environmental Assessment*. The Secretary of the Interior is directed to administer the trail, and land acquisition may only take place with the consent of willing sellers.

This draft CMP/EIS complies with applicable federal laws, regulations, and planning direction. This includes, but is not limited to, the establishing legislation; the National Trails System Act (NTSA); the National Environmental Policy Act (NEPA); the National Historic Preservation Act (NHPA); the Federal Land Policy and Management Act (FLPMA); the Native American Graves Protection and Repatriation Act (NAGPRA); the American Indian Religious Freedom Act (AIRFA) regarding affirmative consultation with North American Indian Tribes; Executive Order No. 12898 on Environmental Justice; Executive Order No. 13007 (Indian Sacred Sites), May 24, 1996, 61 FR 26771, 42 USC 1996; Executive Order No. 13175, Consultation and Coordination with Indian Tribal governments, November 6, 2000, 65 FR 67249, 25 USC 450; Executive Order 13195, Trails for America in the 21st Century; the Architectural Barriers Act of 1968, and the Rehabilitation Act of 1973; BLM Land Use Plan policy; and NPS Management Policies and Director’s Orders. In accordance with NPS Director’s Order 12, the environmental impact statement (EIS) is being prepared as a part of the plan.

This draft CMP/EIS will address and integrate, to the degree possible, management plans related to management of the lands in or adjacent to the NHT, including, but not limited to, fire management plans, livestock grazing allotment management plans, wildlife habitat management plans, and recreation management plans. It will also include guidance for natural and cultural resources, interpretation and education, trail marking, the certification process, financial and technical assistance, logo marker use and protection, relationships with other conservation programs, facilities management, research and

monitoring, lands and rights-of-way, event coordination, communication, and visitor management. On public lands, the document will address both potential RMP-level amendments and site-specific management actions.

Section 5(f) of the National Trails System Act provides that, within two complete fiscal years of the date of enactment (in this case, September 2003), the Secretary of the Interior shall submit the draft CMP/EIS for the management and use of El Camino de Tierra Adentro NHT to the U.S. Congress, House Resources Committee, and the Senate Committee on Energy and Natural Resources.

The National Trails System Act provides legal mandates, policy, and general guidance for the national system of recreation, scenic, and historic trails. The National Trails System was established to provide for the ever-increasing outdoor recreation needs of an expanding population, and to promote the preservation of, public access to, travel within, and enjoyment and appreciation of, the open air, outdoor areas and historic resources of the nation.

## ADMINISTRATION/MANAGEMENT

Administration of national historic trails rests with the Secretary of Agriculture and the Secretary of the Interior. In a landmark decision on January 19, 2001, the Secretary of the Interior directed that administrative responsibility for El Camino Real de Tierra Adentro NHT be assigned jointly to the BLM and the NPS, based on the joint memorandum of the two agencies to the Secretary of January 9, 2001 (see Appendix C). Because the two agencies are the joint administrators, they will also cooperatively prepare the draft CMP/EIS. The joint administration of the trail will be referred to in this document as the Camino Real Administration.

A Memorandum of Understanding for the Administration and Management of National Historic and National Scenic Trails signed by the BLM, NPS, USFS, Federal Highways Administration, and National Endowment for

the Arts on January 19, 2001, defines administration and management as follows:

- **Administration** - Each national trail, established by law, is assigned for administration to a specific federal agency by either the Secretary of the Interior or the Secretary of Agriculture, as designated by Congress. Subject to available funding, the administering agency exercises trail-wide responsibilities under the act for that specific trail. Such responsibilities include coordination among and between agencies and partnership organizations in planning, marking, certification, resource preservation and protection, interpretation, cooperative/interagency agreements, and financial assistance to other cooperating government agencies, landowners, interest groups, and individuals.
- **Management** - Various government and private entities own or manage lands along each national trail. Management responsibilities often include inventorying of resources; mapping, planning, and development of trail segments or sites; compliance; provision of appropriate public access; site interpretation; trail maintenance; marking; resource preservation and protection; watershed protection; and management of visitor use.

Executive order 13195 dated January 18, 2001 - Trails for America in the 21st Century - provides direction for achieving a common goal of improving America's national system of trails.

This is the first time that a component of the National Trails System has been assigned to two agencies for joint administration. The Long Distance Trails Group Office of the NPS in Santa Fe, New Mexico, and the New Mexico State Office of the BLM are leads for preparation of the plan, and both are responsible for administering the trail as per agency agreement. They will coordinate with the public, various federal agencies, tribal offices, and local and state governments in the plan's development.

Consultation will be an important factor in the process, and should be an integral part of the planning team's efforts.

The joint BLM/NPS administration of El Camino Real de Tierra Adentro NHT must rely on the cooperative management efforts and support of state, local, and private interests, including landowners, to ensure the protection of trail-related resources, to provide outdoor recreational opportunities, and to accomplish the objectives of interpretive programs.

Section 5 (d) of the National Trails System Act calls for the establishment of an advisory council of not more than 35 members, chartered for 10 years. The advisory council will be informed and consulted at appropriate steps in the planning process for the NHT. The council will be an important part of the process, and will contribute valuable information to the plan. It will serve as an excellent source of communication with member publics and the public in general. Once the advisory council has been formed, the study team will work closely with that body. The charter and list of nominating organizations has been forwarded to the Secretary of the Interior.

## MANAGEMENT GOALS

### Visitor Experience

Visitor experience goals help define actions that should be taken to ensure that visitors would have the opportunity to have specific experiences while visiting El Camino Real de Tierra Adentro NHT. The term "visitor" is used very broadly, and includes people of local, national, and international origin. "Visitor" can also apply to people who visit the NHT through technologies such as the Internet, and it is recognized that visitors are individuals who have different needs and interests.

The visitor experience goals below define the collective range of opportunities that Camino Real Administration and its partners would provide for visitors along the NHT in the future.

Visitors would:

- Feel welcome, be aware of safety, and be satisfied with facilities, services, and recreational opportunities.
- Be able to visit historic and archeological sites, museums, and visitor centers offering interpretation and education.
- Understand and appreciate the trail's history and significance.
- Be able to use the trail corridor in ways that conserve significant values and resources. This includes opportunities to drive sections of the historic trail, and to walk, bike, and hike along portions of the trail and/or Rio Grande Valley.
- Have opportunities to participate in cultural activities associated with the trail.
- Be able to obtain scholarly research and interpretive materials to learn more about the trail's history and significance.
- Be able to participate in both formal and informal educational programs dealing with the trail.
- Be able to recognize place names and landscapes associated with the trail.
- Be able to access all trail-related facilities and programs, regardless of ability.
- Appreciate and respect the rights of landowners.
- Experience meeting people whose life ways were, and continue to be, influenced by the trail.
- Gain an appreciation for different perspectives about the trail's legacy.

## Interpretation and Education

Camino Real Administration and partners along the NHT would develop a high- quality program of information, interpretation, and education for all visitors.

Camino Real Administration and partners would:

- Promote, develop, and support a variety of interpretive and educational materials appealing to visitors with diverse abilities, interests, and learning styles.
- Work together to ensure that interpretive and educational materials, programs, and media are accurate, consistent, and complimentary among the various sites and facilities along the NHT.
- Work cooperatively to provide training for interpreters and educators designed to set and meet high- quality standards.
- Provide trip- planning and other information about the trail to support visitation to trail- related sites and interpretive facilities.

## Resource Protection

Camino Real Administration and its partners would:

- Encourage the identification, evaluation, and preservation of Camino Real resources.
- Identify research needs and coordinate research.
- Assist in the development of models for determining the impacts on historic resources from excessive visitor use (using concepts such as carrying capacity); natural processes (such as erosion); incompatible uses (such as mineral development); and others.

- Protect certified NHT segments and historic sites from over- use, inappropriate use, and vandalism.
- Protect scenic values related to historical resources.
- Identify and protect ethnographic resources (those cultural and natural resources of ongoing significance to contemporary peoples, especially North American Indians and Hispanics).
- Encourage uses of adjacent lands that complement the protection and interpretation of NHT resources.
- Encourage research to improve knowledge, understanding, and appreciation of the NHT and related resources, and their significance in history.

## Administration

Camino Real Administration would:

- Implement the National Trails System Act in conjunction with other authorities through partnerships, whenever possible.
- Develop an efficient, professional, and effective organization to administer the NHT.
- Achieve the spirit of the interagency memorandum of understanding.
- Promote the management and development of the entire NHT as one integrated system.
- Certify trail segments and sites that meet the criteria described in this management plan, consistent with the purposes of the National Trails System Act as amended.
- Mark the NHT route and auto tour route with standardized and recognizable markers.

- Encourage a unified design theme for signs, exhibits, and public use facilities.
- Work with partners to provide access to trail resources through certification or other means such as easements.

## ISSUES TO BE RESOLVED

A planning issue is a matter of controversy or dispute over resource management activities or land use that is well defined or topically discrete, and entails alternatives among which to choose. This definition suggests that one or more entities are interested in a resource on public land, that each entity may have different values for the resource, and that there are different ways (alternatives) in which to resolve the competition or demand.

Management concerns are topics or points of dispute that involve a resource management activity or land use. While some concerns overlap issues, a management concern is generally more important to an individual or a few individuals, as opposed to a planning issue that has a more widespread point of conflict. Addressing management concerns along the NHT helps to ensure a comprehensive examination of federal and state land use management.

Through phone calls, e-mails, letters, and several meetings conducted over the summer of 2001, issues and management concerns have been identified by BLM and NPS personnel; tribal members; local, state and other federal other agencies; and individuals and user groups. The major issue themes that are addressed in the draft CMP/EIS are listed below. Each issue theme, in turn, has a number of different planning questions and management concerns that address more specific uses and resources related to the issue theme.

### ***How will the historic, scenic, and natural resources of the trail be preserved?***

- Where are important cultural and historic resources located?

- What management actions are needed to protect and preserve the historic features of the trail while offering visitors a recreational opportunity?
- How will historic and scenic values be protected against impacts from authorized or unauthorized uses?
- Are changes in off-highway-vehicle designations necessary to protect historic resources?
- Will human activities result in the displacement of wildlife; changes to vegetation, including invasive species; or changes in water quality?

### ***How do people's activities and uses affect the trail?***

- How will interpretation be used as an education tool to increase the public's awareness and appreciation of the trail's cultural resources?
- What range of recreational opportunities should be provided?
- What methods will be used to determine appropriate levels of visitor use?
- What new uses, trends, or future use levels are anticipated?
- How will livestock management activities affect management of the trail?
- How will rights-of-way or land-tenure adjustments affect management of the trail?
- How will mineral-related activities affect management of the trail?
- Will plan proposals affect floodplains or wetlands?
- Will plan proposals affect threatened and endangered species?

***How will trail management be integrated with tribal and other government agency and community plans?***

- What agreements exist and/or need to be established to promote preservation and interpretation of the trail?
- What opportunities are available to provide visitor services, education, and/or recreation?
- What opportunities, partnerships, and facilities can be capitalized upon to efficiently provide services?
- How do we incorporate international interest in the trail?
- How can we tell the whole story of the trail, given that 1,200 miles of the trail lie within Mexico?
- From what historical perspective does Mexico view the trail?
- From what historical perspective does Spain view the trail?

***How do we incorporate international interest in the trail?***

- How can we tell the whole story of the trail, given that 1,200 miles of the trail lie within Mexico?
- From what historical perspective does Mexico view the trail?
- From what historical perspective does Spain view the trail?

An administrative issue was discussed by the planning team regarding the location of the Camino Real Administration Office. It was determined that locating the office in Santa Fe, New Mexico would be appropriate to take advantage of BLM and NPS staffing and resources and provide a "seamless" operation for the benefit of the public.

**PLANNING CRITERIA**

Both BLM planning regulations (43 CFR 1610) and NPS planning policies and guidance (Director's Order 2) require the preparation of planning criteria to guide development of all resource management plans or amendments. Planning criteria are the constraints or ground rules that guide and direct the development of the plan, and that determine how the planning team approaches the development of alternatives, and, ultimately, selection of a preferred alternative. They ensure that plans are tailored to the identified issues, and ensure that unnecessary data collection and analyses are avoided. Planning criteria are based on standards prescribed by applicable laws and regulations; agency guidance; the results of consultation and coordination with the public, other federal, state, and local agencies, and governmental entities, and North American Indian tribes; the analysis of information pertinent to the planning area; and professional judgment.

The following proposed criteria were developed internally and public review was requested during the scoping process:

- Although Spain developed and owned the Camino Real 1540- 1821, the historic period of significance for El Camino Real in the United States extends from 1598 to 1882.
- The draft CMP/EIS should be completed in compliance with Section 5(a) of the National Trails System Act and all other applicable laws. It will meet the requirements of Public Law 106- 307 to protect the trail's natural and historic resources and recreation opportunities.
- The planning team should work cooperatively with the State of New Mexico; tribal governments; county and municipal governments; other federal agencies; and all other interested groups, agencies, and individuals. Public participation will be encouraged throughout the process.

- The planning process will include an EIS that will comply with NEPA and CEQ guidelines.
- The plan will emphasize the protection and enhancement of the historic values of the trail, while providing the public with opportunities for compatible recreation activities.
- Development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple-use plans for the specific area, in order to ensure continued maximum benefits from the land (Section 7 (a)(2)).
- The lifestyles and concerns of area residents, including the activities of grazing and hunting, will be recognized in the plan.
- Any lands or interests in lands located along the trail that are acquired by federal agencies from willing sellers to accomplish purposes for which the trail was designated will be managed consistent with the National Trails System Act.
- The planning process will involve tribal governments, and will provide strategies for the protection of recognized traditional uses.
- Decisions in the plan should strive to be compatible with the existing plans and policies of adjacent local, state, tribal, and federal agencies, as long as the decisions are in conformance with congressional direction and federal laws, regulations, and policies. The following BLM RMPs will be amended as necessary: (1) Taos RMP, (2) Socorro RMP, (3) White Sands RMP, and (4) Mimbres RMP.
- The location of the trail has been determined on the basis of historical information and actual field surveys, and will be further refined to meet the direction of the activation memo that Geographic

Information Systems (GIS) will be used as an invaluable aid in administering the trail, and as a means by which the public can be provided with accurate trail mapping as quickly as possible.

- Private landowner rights will be respected. Land or interest in private land will only be acquired on a willing-seller basis.
- United States and Mexican public and non-governmental organizations and academic institutions will be consulted. In cooperation with the Secretary of State, consultation will take place with the government of Mexico and its political subdivisions, for the purpose of exchanging trail information and research, fostering trail preservation and education programs, providing technical assistance, and working to establish an international historic trail.

## RELATIONSHIP TO OTHER PLANNING EFFORTS

There are several other planning efforts that have either just recently taken place or are in the stages of planning that are related to El Camino Real de Tierra Adentro NHT:

- ***Camino Real National Scenic Byway*** - A "Camino Real Scenic Byway Project Corridor Management Plan" was completed in September 1997. The New Mexico State Highway and Transportation Department administers the program, which highlights the cultural and natural experiences along the designated route. The corridor management plan describes those assets.
- ***El Camino Real Historic Corridor Management Plan for the Rio Abajo (May 2001)***- This plan is in conjunction with the Camino Real National Scenic Byway and is a component of El Camino Real International Heritage Center. This plan covers the route between Los Lunas and Las Cruces, New Mexico. The plan makes recommendations for preserving

and protecting the integrity and value of the trail's qualities. The plan provided a wealth of opportunities for cooperation between the NHT and the International Heritage Center to benefit communities along the corridor.

- ***El Camino Real International Heritage Center*** - A joint project between New Mexico State Monuments and the BLM, this center will house exhibits, information, and interactive programs related to the Camino Real. A variety of outreach activities are also planned. Facility and exhibit planning, as well as planning for the management of the center, is underway. The International Heritage Center and the NHT will closely cooperate to implement the individual and joint goals of each program. A Resource Management Plan Amendment/Environmental Assessment for the center was completed in March 2001.
- ***Fort Selden State Monument*** - Fort Selden is an established park in the New Mexico State Monuments system. A general management plan is being developed. The Camino Real is associated with Fort Selden, and the planning will take the trail into consideration.
- ***Fort Craig*** - Fort Craig is a unit of the BLM Socorro Field Office. Planning is under way for additional interpretive exhibits and waysides. Fort Craig is associated with the Camino Real, and current efforts will take the trail into account.
- ***San Gabriel*** - San Gabriel is on San Juan Pueblo, and is the location of the first capitol in New Mexico. It is the first terminus of the Camino Real in New Mexico. Planning is under way to develop a "First Capitol" visitor center and possibly some associated facilities.
- ***El Camino Real River Connection, Santa Fe*** - Planning is under way between a number of public and private agencies and organizations to restore and

preserve a portion of the Santa Fe River. The Camino Real is in close proximity to the River Connection project. They are planning trails and interpretive exhibits in conjunction with their work on the river.

- ***El Paso Rio Grande Riverpark*** - The city and county of El Paso, Texas, in conjunction with a number of public and private organizations, are in the process of planning a series of over 42 miles of trails along the Rio Grande, within the corridor of the Camino Real. The planning is taking into account the route, history, and traditions of the Camino Real.
- ***El Camino Real de Tierra Adentro Trail Association*** - The New Mexico Historical Society is sponsoring the formation of El Camino Real de Tierra Adentro Trail Association. A committee has been formed to organize the association. It is envisioned that the association will be open to any interested parties.

## COORDINATION WITH MEXICO

Because 1,200 miles of the NHT lie within Mexico, the enabling legislation authorizes cooperation among United States and Mexican public and non-governmental organizations; academic institutions; and, in consultation with the Secretary of State, the government of Mexico and its political subdivisions. This cooperation is for the purpose of exchanging trail information and research; fostering trail preservation and educational programs; providing technical assistance; and working to establish an international historic trail with complementary preservation and education programs in each nation.

Since 1995, BLM and NPS have coordinated with the Instituto Nacional de Antropología e Historia (INAH) of the government of Mexico on Camino Real de Tierra Adentro projects. Although there is no legislation in Mexico comparable to the National Trails System Act, INAH

has been active in documenting and preserving sites related to El Camino Real de Tierra Adentro. BLM, NPS, and INAH have several bi-national agreements in place, and have developed a strategy for trail coordination.

The bi-national agreements include:

- Memorandum of understanding between the National Park Service of the Department of the Interior of the United States of America and the National Council for Culture and the Arts through the National Institute of Anthropology and History of the United Mexican States on cooperation in the identification, conservation, management, and research in cultural heritage sites (June 29, 1998).
- Letter of cooperation on the Camino Real de Tierra Adentro between the National Council for Culture and Arts through the National Institute of Anthropology and History of the Mexican United States, the National Park Service, and the Bureau of Land Management of the Department of Interior of the United States of America (July 11, 1998).
- Joint declaration of the Bureau of Land Management and the Culture and Arts Board for the United Mexican States through the Institute of Anthropology and History in order to realize common cooperative programs to improve the management, interpretation, and conservation of cultural patrimony (March 22, 2000).

Collaborative trail coordination among BLM, INAH, and NPS representatives will include:

- Communication with national and international representatives to ensure that all entities are up to date regarding El Camino Real de Tierra Adentro activities, issues, and concerns in both the U.S. and Mexico.
- Participation in quarterly and/or annual meetings to share information on El Camino Real activities, issues, and concerns in the respective countries.
- Coordination and participation in established international forums such as El Camino Real de Tierra Adentro Colloquium and the International Cultural Workshop on El Camino Real de Tierra Adentro.
- Designing and implementing joint international activities that enhance the development of strong partnerships between educational, federal, state, local, and private non-governmental entities in both countries.
- Developing and implementing opportunities for BLM, NPS, and INAH employees and partners that focus on cultural sensitivity, such as workshops, professional development, retreats, and international visits.
- Providing sufficient funding to support the various joint activities relative to El Camino Real de Tierra Adentro.

## **Chapter 2**

### **ALTERNATIVES**

#### **INTRODUCTION**

This chapter contains a description of the actions and prescriptions proposed to resolve issues and concerns under the three management alternatives for El Camino Real de Tierra Adentro National Historic Trail (hereafter referred to as “the NHT” and “the trail”). The Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) requires the identification of a preferred alternative.

#### **PROCESS USED TO FORMULATE ALTERNATIVES**

The public involvement process for this planning effort began with scoping meetings held in June, July, and August 2001 in several communities along the trail. The BLM and NPS gathered the wishes, concerns, and opportunities for the NHT that were expressed during formal and informal community and governmental meetings. Also collected were ideas that were mailed or sent electronically. A series of meetings was held in October 2001 to develop possibility statements (the desired future condition) and identify ways to achieve the desired conditions for the NHT. The meetings were well attended, and resulted in the formation of several community stakeholder groups. (See Appendix D for a summary of the community meetings.)

After reviewing all of the information collected at the community meetings, the planning team developed draft versions of the purpose and significance statements. Using the purpose and significance statements, issue summary and information gathered during the community, tribal, and governmental meetings, the team developed draft alternative strategies to achieve desired conditions, set goals, and resolve issues and

concerns. A no action alternative is basically a continuation of the present course of action, and is a requirement of NEPA. The no action alternative, Alternative A, serves as a baseline for comparison with other alternatives. Alternative B would protect trail resources through a long-term stewardship program. This alternative would focus on protecting historic resources, with off-site interpretation but few opportunities for trail-based recreational activities. The Preferred Alternative would emphasize visitor understanding and appreciation of the trail’s significance, protection of high-potential sites and segments, and opportunities for trail-based recreational activities.

#### **ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY**

No additional alternatives were identified or considered by the public or study team.

#### **CONTINUING MANAGEMENT GUIDANCE**

Management of BLM-administered public lands is directed by federal laws, regulations, policy and guidelines, Executive orders, and planning documents developed with public involvement to focus on specific areas, resources, or uses. Land use allocation decisions are made at the Resource Management Plan level. Changes to land use allocations require a plan amendment. Components of the Preferred Alternative and Alternative B, as described below, relating to visual resource classifications, would amend the Taos, Mimbres and White Sands resource management plans. Grandfathered and valid existing rights would continue to be recognized on public lands.

High- potential historic sites and segments are referenced in the Preferred Alternative and Alternative B. Known high- potential historic sites are shown on Maps 3A- C, and listed in Appendix E. The historic sites were identified based upon the following definition derived from the National Trails System Act: “Those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use.” Criteria for consideration as high- potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion. Future research will identify and provide confirming information for possible additional high- potential sites. Known high- potential route segments are described in Appendix F. The segments were identified based upon the following definition from the National Trails System Act: “Those segments of a trail which would afford a high- quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route.” See Table 3 for a summary of high- potential route mileage.

## **PREFERRED ALTERNATIVE: DESCRIPTION**

The Preferred Alternative would implement the provisions of the National Trails System Act and it would also reflect the public’s vision for the administration and management of the trail.

Camino Real Administration and its partners would undertake an ambitious program to enhance and balance resource preservation and visitor use. These actions would satisfy the dual purposes of the National Trails System Act “to provide for the outdoor recreation needs of an expanding population” and “to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open- air outdoor areas and historic resources of the nation.”

In order to accomplish the desired degree of resource protection and enhanced public experience through education and direct retracing of trail segments, it is imperative for all agencies and entities associated with these trails to coordinate their work. Camino Real Administration would strive to achieve as high a level of cooperation among federal, state, and local agencies, trail associations, and private landowners as possible. Together, Camino Real Administration and its partners would establish a historic trails partnership to assist in implementing a comprehensive strategy for the administration of the NHT.

To ensure increased efficiency, closer communications, and more strategic resource protection, current federal programs would continue to be used in the administration of trail resources, but in a more formally coordinated and effective manner.

Visitors would understand the trail’s significance and appreciate its history and cultural heritage through participation in coordinated programming and activities that integrate themes, resources, and landscapes at certified or protected components. Resources that best illustrate the trail’s significance would be identified and protected on both public and private lands (high- potential historic sites and segments). Integrated interpretive and educational programming would be tied to on- the- ground trail resources. Information concerning trail- related interpretive/educational programming and activities would be promoted and shared. Certification priorities would be placed upon sites and segments supporting interpretive/educational programming and protecting significant resources. A bi- national approach with Mexico would promote activities such as interpretation, events, and signage.

The mission of the National Historic Trail and the Camino Real International Heritage Center are closely linked. The Heritage Center would serve as a focal point for education interpretation, information, and marketing along with others along the trail. The National Historic Trail and the International Heritage Center would have a close working relationship that complements each other's mission.

## **Preferred Alternative: Administration**

**Administration** - As directed by the Secretary of the Interior, BLM and NPS would co-manage the NHT. Camino Real Administration of the trail would occur from a centralized office based in Santa Fe, NM, taking advantage of interdisciplinary subject-matter experts in the NPS's Long Distance Trails Group Office and the BLM's Division of Resource Planning, Use, and Protection. This would also allow for the equitable distribution of agency efforts along the 404 miles of the trail. The NPS Long Distance Trails Group Office would provide support services, and the BLM New Mexico State Office would provide communications (computer electronic mail, telephone services), office supplies, mail, photocopying, and graphics. Professional and support staff would encompass several disciplines, including resource management, interpretation, and design.

**Information Repository** - Camino Real Administration office would become the central repository for all information related to the administration of the trail. All the partners would be encouraged to submit copies of all pertinent documentation to this office, which would make these materials available upon request. When resource threats became known, information would be shared by all federal, state, and local partners, as well as by the trail associations.

**Annual Operating Costs** - The estimated annual operating costs for Camino Real Administration office to administer the trail would be \$475,000, based on 2002 dollars. This amount would provide for co-administrators, administrative support, and interdisciplinary staff, including interpretation and resource management. This amount would be used for site certification, cooperative agreements, technical assistance, partner support, travel, Challenge Cost-Share projects and support, and special projects such as mapping and media production. Operational costs such as trail marking, brochure development and printing, newsletters, and other publications and interpretive media would also be covered. BLM and NPS would support efforts to enable a coordinated budget process for the NHT.

**Funding** - Funding for Camino Real Administration office would principally come from the base operation budget of NPS and BLM. Special funding sources would be sought for particular projects, such as technical assistance, resource preservation, and planning.

**Coordination of Activities** - Successful administration of the trail will require enhancing and more effectively coordinating the activities of a trail association; private landowners; and federal, state, and local agencies. Efficient cooperation would result in a historic trail partnership that would assist in implementing the comprehensive strategy for resource protection.

**Federal-level Partners** - Federal agencies would manage their lands for the protection and interpretation of trail-related resources. Use of trail-related resources would be restricted to necessary protection and monitoring activities. Interpretation and public appreciation of the resources would be encouraged through site displays, activities, and educational opportunities.

**State-level Partners** - State resource management agencies, including state historic preservation offices, would support ongoing trail preservation efforts by assisting with the various elements of the protection plan, particularly the identification of high-potential sites and segments, the inventory of trail resources, the identification of research needs and the coordination of research projects, the identification of management units, and opportunities for interpretation and visitor understanding. These management agencies would also help monitor commemorative events and develop action plans to address potential threats.

**Local-level Partners** - Initiatives at the local level could greatly enhance trail resource protection. These initiatives might include commenting on utility licensing, cell towers, surface and subsurface mineral extraction permits, cultural and natural resource preservation laws, ordinances, and related measures. Counties and cities would be encouraged to support resource protection by integrating nearby NHT designations in local land management and interpretive plans. For example, farmland at certain points

along the routes of the trails might meet the requirements for agricultural preservation zones established under state or county regulations. These preservation zones have been set up to keep prime farmland assessed at a low valuation or in active agricultural production, or to keep grazing land in continued use. Efforts by local governments and private parties to acquire land would be essential tools for preserving trail resources. These efforts would supplement land protection efforts by federal agencies.

#### **Non-governmental Organization Partners -**

Land preservation groups would also be encouraged to work closely with state and federal agencies to preserve undeveloped areas while maintaining such areas under private ownership. Owners and communities could both benefit from potential tax advantages available through cooperative efforts to preserve open space. Lands would remain on the local tax rolls, but would be taxed at the lower undeveloped- parcel rate. Thus, landowners would not be forced by rising taxable property values to sell to developers or to subdivide and develop land that was suitable for farming or ranching. Working with land preservation groups, such as The Nature Conservancy, could provide a great opportunity to preserve trail resources. The acquisition of properties, purchases of conservation easements, or other arrangements could produce important results.

**Trail Association -** A trail association would be essential for the successful administration of the NHT. An association such as El Camino Real de Tierra Adentro Association would provide a powerful and effective constituency for trail resource preservation. Association support and involvement would be an essential element of the historic trails partnership. A trail association would be encouraged to assist Camino Real Administration by sharing information on historic routes, significant historic archeological resources, historic diaries, and other pertinent data. A trail association could further help land managers in the administration of the trail by creating cooperating associations, friends groups, or similar organizations to help protect and enhance lands under the jurisdiction of these federal agencies. This organization could also encourage volunteer activity to assist with

trail corridor monitoring, and protection and interpretation, and they could help build greater public support for historic trail preservation and use, as well as persuading local landowners who own significant trail resources to participate in the trails' certification program. A trail association would also be encouraged to assist federal, state, and local parks and museums in acquiring important objects for their collections, such as journals, letters, and travelers' personal effects.

**Recognition Programs -** Such programs would also be an important tool for rewarding special partners, and would provide an incentive for others to join in the cooperative effort.

**Trail Mapping -** Currently, paper maps exist at varying scales ranging from 1:24,000 to 1:1,000,000. As part of this alternative, Geographic Information System (GIS) maps would continue to be generated at 1:100,000 scale, with protection sites and segments identified for each quadrangle. Even though the digitized routes and some of the site locations have not been field- tested, this effort constitutes the first attempt to bring together route information for this trail. Maps at this scale are limited in their locational accuracy for trail resources and their applicability for on- the- ground management, yet the mapping project demonstrates the need to systematize current information and to make it available to all the partners and other interested parties.

Effectively integrating GIS into the management of NHT resources requires long- term technical support, with additional funding and staffing. The database generated for this project can be effectively integrated with databases from other agencies and partners to provide easy access to one reliable source of information for all trail-related resources.

Camino Real Administration would require long- term technical support to develop a GIS database. Obtaining GIS information would be a priority. Professional support for the GIS database for the trails would be provided by Camino Real Administration staff, or by specialists under contract. This would not only require GIS professionals, but computer workstations equipped with appropriate software.

### **Memorandum of Understanding -**

Cooperative actions related to the Memorandum of Understanding (2001) among the NPS, BLM, USDA Forest Service, Federal Highways Administration, and National Endowment for the Arts would emphasize a concerted effort on the part of trail managers to effectively implement as many provisions as possible.

### **Cooperative Management Agreements -**

Camino Real Administration would develop memorandums of understanding, cooperative agreements, and interagency agreements. A cooperative agreement among the federal agencies would be developed and implemented that specifically related to the trail. (See sample agreement in Appendix I.)

**Site Certification** - Trail segments and trail-related historic sites on federal land are included as federal protection components of the NHT. Trail segments and trail-related sites on non-federal lands are officially included as part of a designated NHT if they are certified as protected segments. Certification would help ensure that historic sites or segments outside federal jurisdiction meet the basic preservation, interpretation, or recreation functions described in the National Trails System Act (Sec. 3(a)(3)) and any other prescribed criteria. The certification program is one of the most important ways in which federal administering agencies can foster partnerships with non-federal landowners throughout the trail corridor. (See sample certification agreement in Appendix I.)

Under this alternative, certification emphasis would be directed toward protection and interpretation. The proposed certification process for El Camino Real de Tierra Adentro NHT is as follows:

- Camino Real Administration would pursue early coordination with potential applicants to ensure that they fully understand site/segment certification procedures, and to aid in their application efforts.
- Applicants would be required to document their resources and interpretive

programs. Environmental or other compliance procedures would have to be completed.

- Camino Real Administration would provide technical assistance on issues related to cultural or natural resource compliance.
- Camino Real Administration and the applicants would determine management objectives for the site/segment, and management responsibilities would be outlined. For smaller sites/segments, the application could replace more detailed management planning and formal cooperative agreements.
- In addition to historic sites and segments, extant interpretive facilities would be certified as components of the NHT. Potential facilities include, but are not limited to, the Geronimo Springs Museum in Truth or Consequences, New Mexico; National Hispanic cultural Center in Albuquerque, New Mexico; New Mexico Farm and Ranch Heritage Museum in Las Cruces; and El Camino Real International Heritage Center south of Socorro, New Mexico.

On completion of official certification, the public would be informed through appropriate trail information programs that the site or segment was available for public use and enjoyment. Certification is not permanent; it can be renewed subject to satisfactory performance of the terms of the agreement. De-certification would result in the removal of a site or segment from trail information programs and the removal of trail logo markers. Other actions might be taken as well, depending on the terms of certification.

**Challenge Cost-Share Programs** - Challenge cost-share programs were developed to increase and strengthen partnerships in the preservation and improvement of cultural, natural, and recreational resources for which federal land-managing agencies are responsible. Each agency's program is slightly different. Camino Real Administration would provide federal cost-

sharing funds according to policy and regulation to expedite and complete mutually beneficial projects. The program requires the partner to provide matching share contributions, such as funds, equipment, supplies, and in-kind labor, from non-federal sources. Partners include non-federal entities such as individuals, educational institutions, private non-profit organizations, philanthropic organizations, charitable groups, or non-federal (i.e., state, local, or tribal) agencies or governments. The current maximum amount that can be awarded to a project in any given year is \$30,000.

**Public Awareness** - Raising public awareness about trails, and building support for their continued protection would continue to be important goals of the trail partners. The higher level of cooperation between Camino Real Administration and its partners under this alternative would allow for new and better opportunities to achieve these goals.

Some of the following proposals and opportunities would go beyond those that could be achieved under current management conditions.

**NHT Website** - This Internet website would provide news and information on the Camino Real NHT, and it would be shared by the various trails organizations and any affected federal or state agencies that wished to participate. Specific items available to users of the website would include: information on certified sites and segments, auto tour routes, historic-trail and auto-tour, interpretive materials and programs, resource threats, and trail-related special events. This site would link to other Camino Real and appropriate tourism and visitor information websites.

**Trail Promotion** - Camino Real Administration would encourage the development of a promotion plan to foster public awareness of the trail and its resources. This action would be consistent with the intent of the National Trails System Act to “provide for the ever-increasing outdoor recreation needs of an expanding population” and “the enjoyment and appreciation of the open-air outdoors areas and historic resources of the Nation.” Recreational opportunities for visitors would be

coordinated in a trail promotional strategy with local, regional, and state tourism bureaus. Local chambers of commerce, convention and visitor bureaus, and other interested parties would be encouraged to work together in the development of a tourism plan.

If interest were strong, Camino Real Administration would encourage the establishment of an interstate trail-promotion task force. Its role would be to promote appropriate activities and events along the NHT to local and state communities, as well as to out-of-state and foreign visitors. If established, Camino Real Administration would negotiate an agreement with the task force to address how the agency and the task force could assist one another. Actions that might be undertaken by Camino Real Administration include the following:

- Coordinate interpretive efforts with the promotional activities of the task force.
- Provide assistance so that the task force would have accurate information for promotional efforts.
- Provide the task force with trail brochures or other materials.
- Inform task force members how to obtain permission to use the official trail marker symbol for appropriate purposes.

Actions that might be undertaken by the task force to assist Camino Real Administration include the following:

- Assist the land-managing entities to encourage visitor respect for the appropriate use of trail resources, especially those on private property
- Help control trail and site promotion to protect less developed or fragile resources from overuse and adverse impacts.
- Help protect and enhance visual quality along the trail.

The task force would work to promote the NHT as a single, integrated trail system. Within that overall system, the task force might also provide for a coordinated series of regionally oriented auto- tour- route brochures that provide visitors with more detailed information about activities and support services. A videotape or slide show could be produced to interpret the trails and related sites for use at travel shows, group meetings, schools, and other occasions.

In cooperation with local managers, Camino Real Administration might authorize the limited use of trail markers for select special events, if the event would help advance the objectives of the trails in a substantial way and if there were no liability consequences.

Camino Real Administration would encourage all NHT advocates to stress trail protection and conservation in their promotions. Local promotional efforts might involve state historic register plaques, plaques for local historic sites, walking or driving tours of state and local areas of interest, and special events fashioned around themes relating to the NHT.

Corporations might be encouraged to “adopt- a- site,” contributing funding and volunteers to work on resource preservation, to develop sites, and to promote high- potential sites or segments. Such sponsors would be expected to adhere to all local management and NPS and BLM standards for development and interpretation, and to comply with federal resource preservation statutes.

**Volunteers and Liability** - Federal partners would develop a coordinated program to enhance the efficiency of volunteer activities. Volunteers would be of particular assistance in protecting NHT resources by entering data and updating information related to the trail’s RMPs. They could also assist with NHT marking and with other activities associated with the administration and protection of trail resources. The Volunteers in the Parks and in the Forests Act of 1969 and the Volunteer Protection Act of 1997 would continue to provide a means for the federal government to protect cooperating landowners and other partners from liability claims.

**Trail Marking / Signage** - Camino Real Administration and its partners would cooperate to complete a sign plan for certified sites, segments, and federal protection components. This plan would enable NHT administration and partners to reduce the amount of existing sign clutter, and would ensure that new signs were placed in appropriate locations. The plan would also foster the use of consistent materials and designs (see Appendix G).

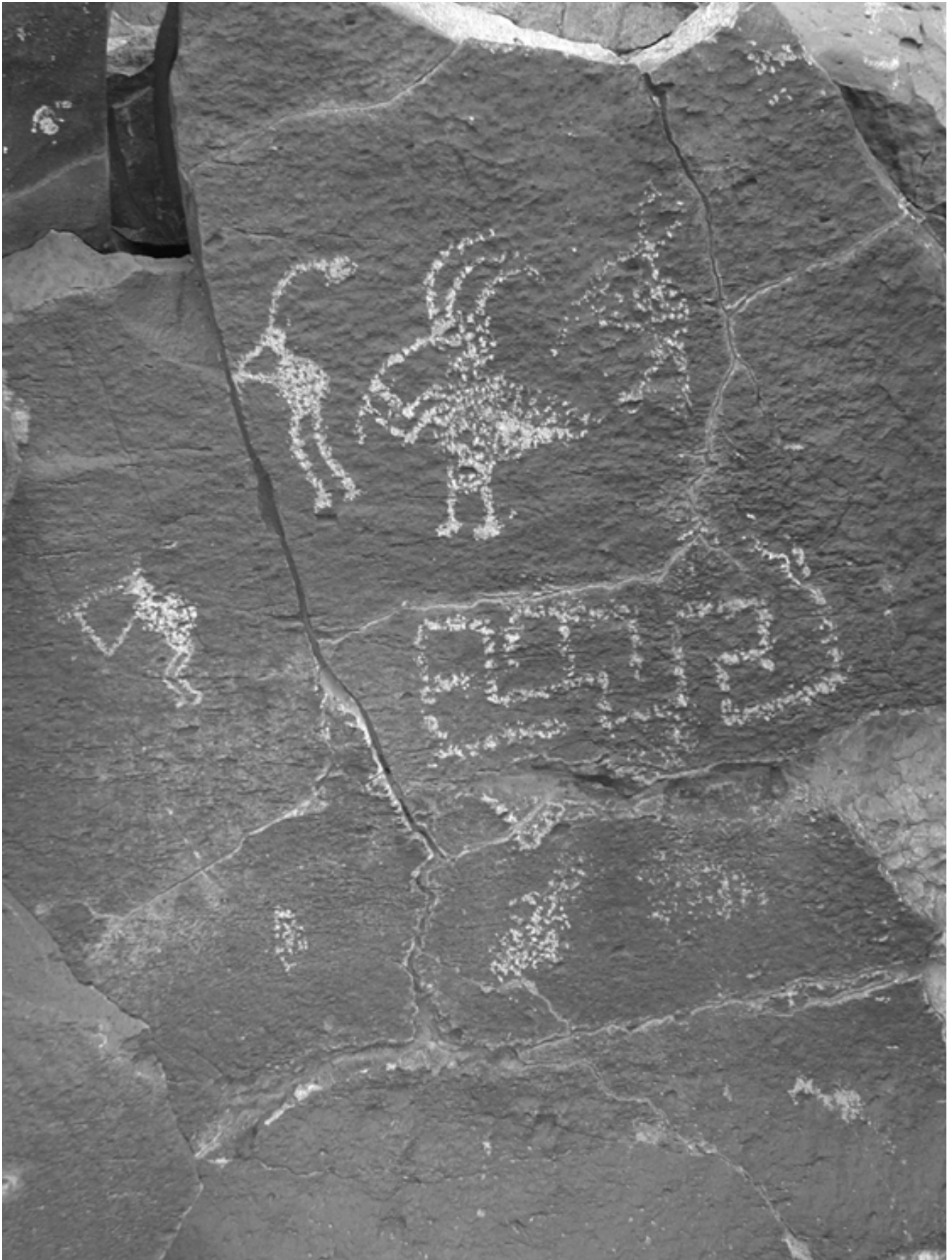
**Research** - A research- needs plan will be developed by Camino Real scholars to direct future historical, social, and route location aspects of the NHT.

### **Preferred Alternative : Resource Protection**

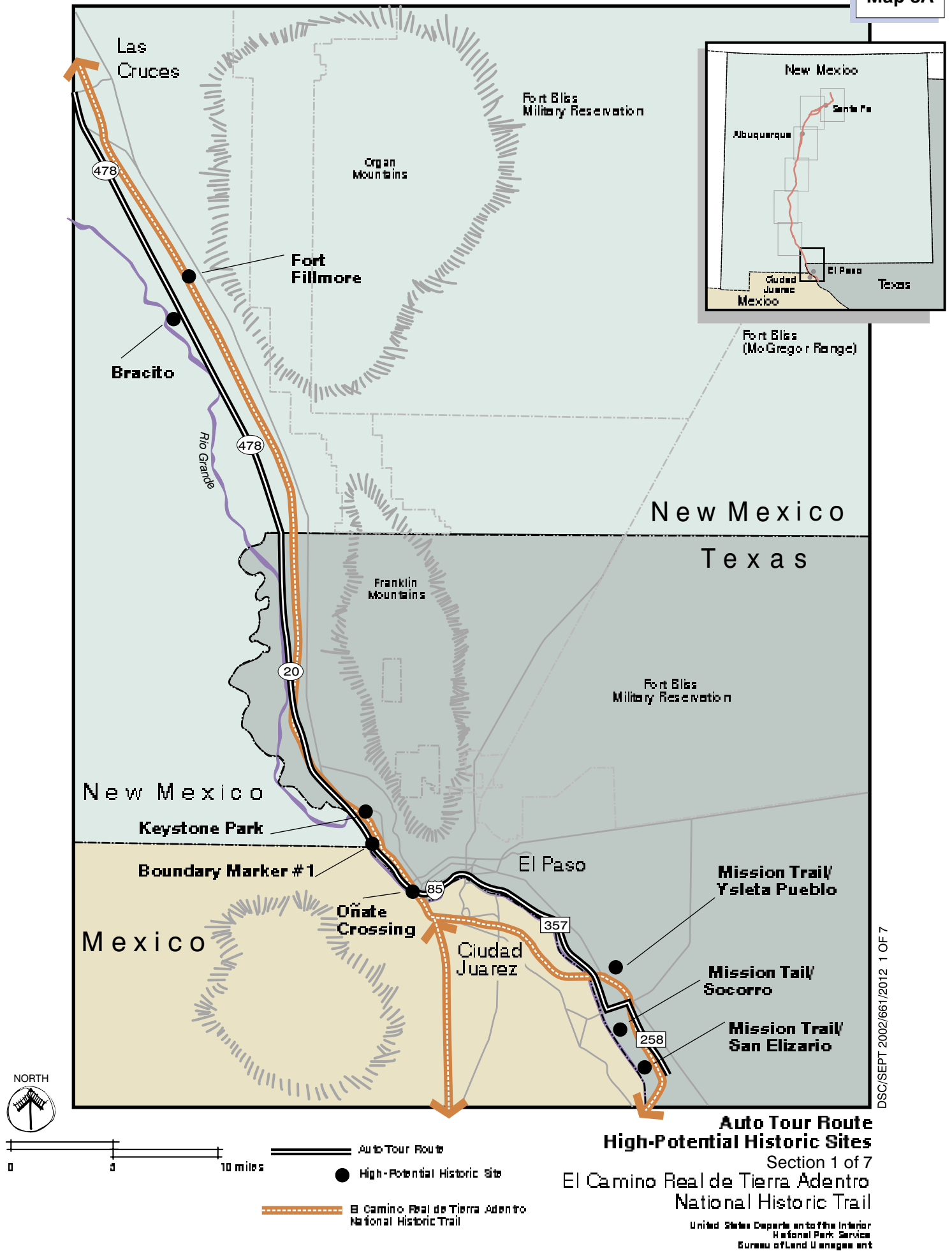
Section 5 of the National Trails System Act requires “a protection plan for any high- potential historic sites or high- potential route segments.” Protection would be limited largely to the identification of sites and segments, with general recommendations for their administration. The following criteria, based on the National Register of Historic Places and the National Trails System Act, would be used to identify additional resources:

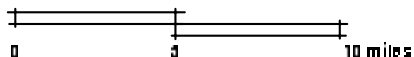
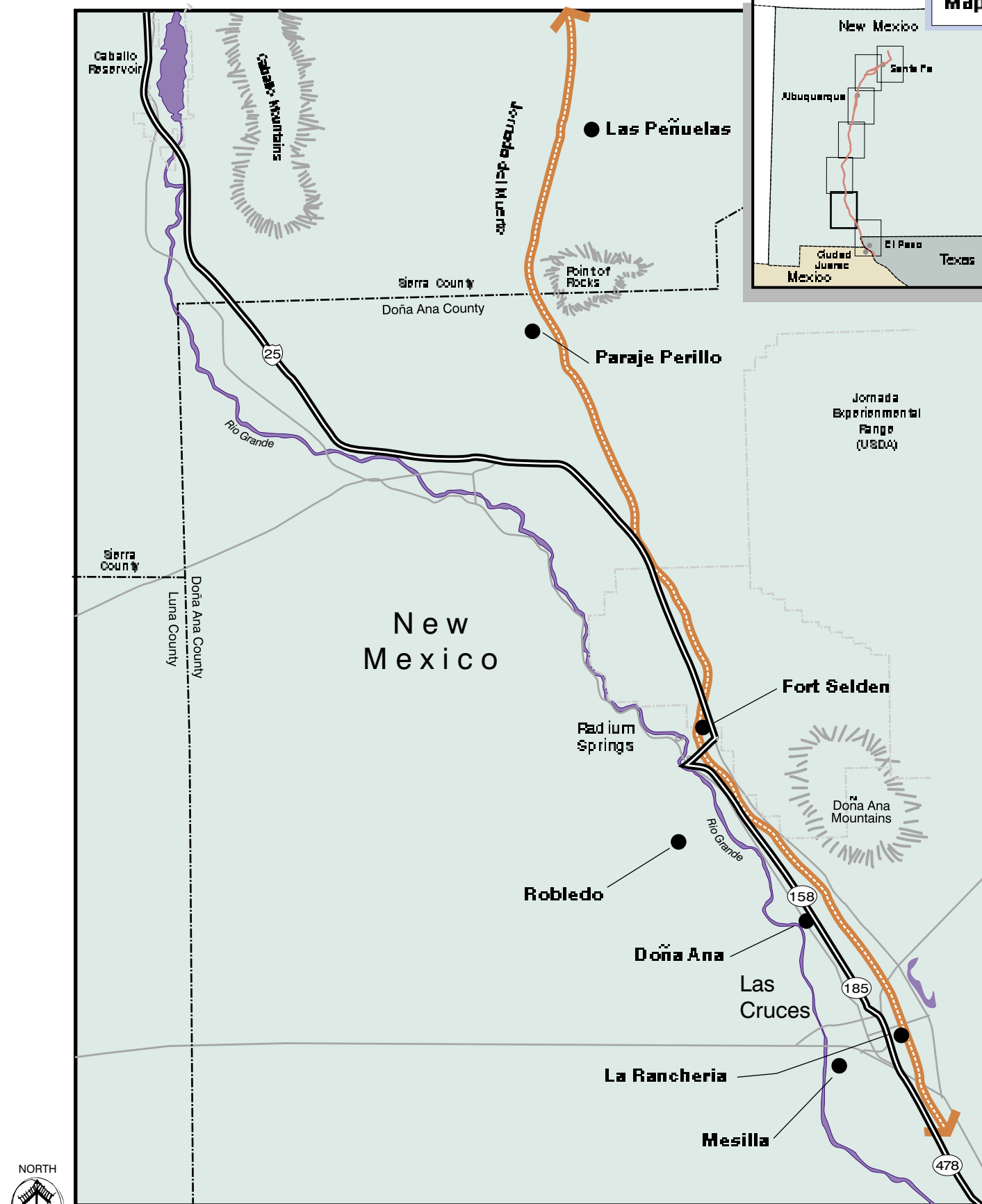
- Significance to the trail (based on documentation and/or archeological research)
- Integrity of the physical remains
- Integrity and quality of the setting
- Opportunity for high- quality recreation evoking the historic trail experience
- Opportunity to interpret the primary period of trail use

Camino Real Administration would gather new information on additional high- potential historic sites and segments, and would cooperate with other federal managers, trail associations, trail scholars, and state historic preservation offices in adding, deleting, or modifying the list of sites. The criteria used to identify the initial list of high- potential historic sites would also be



*Petroglyphs along Camino Real.*





Auto-Tour Route

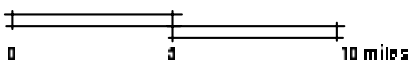
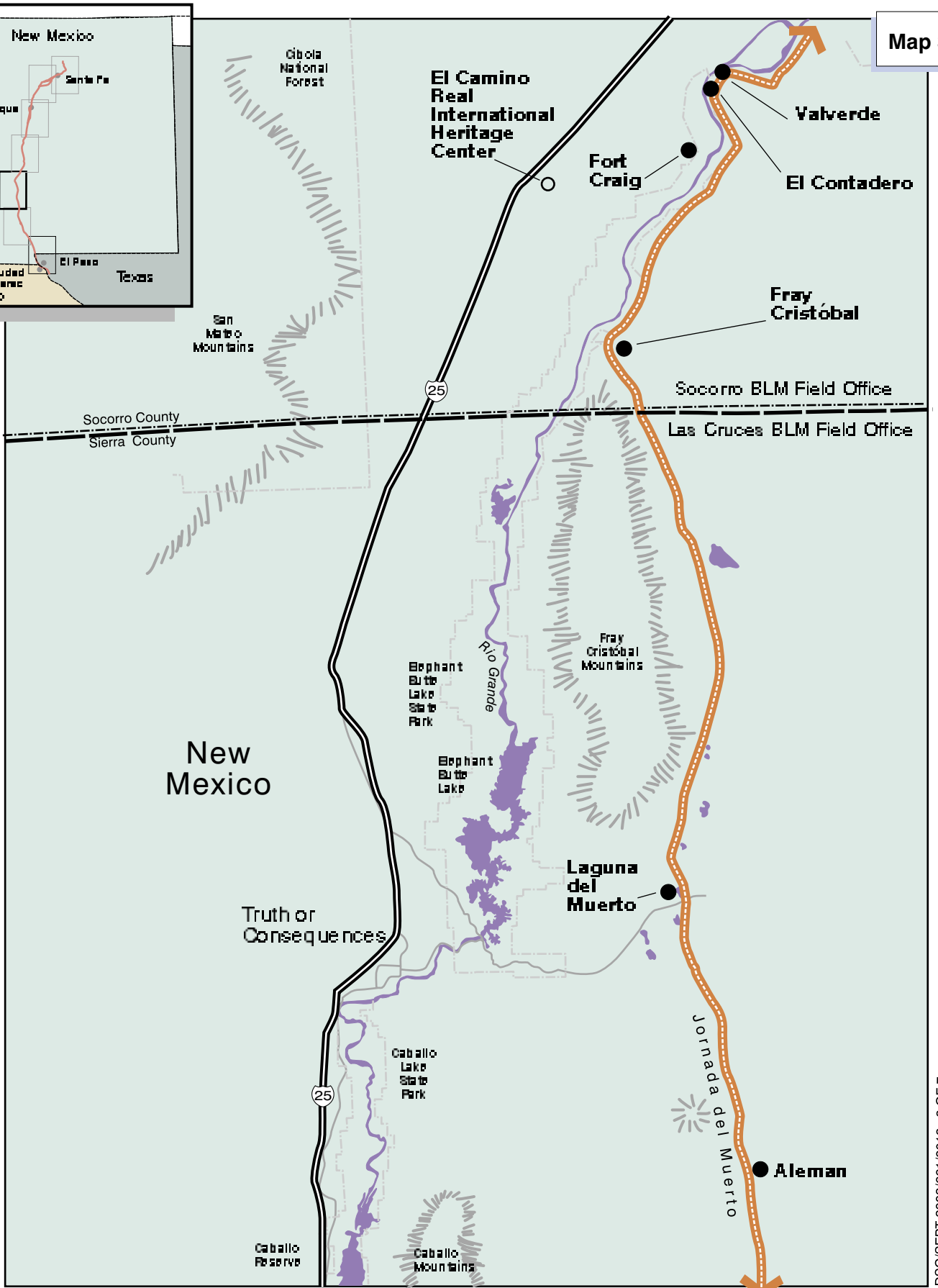
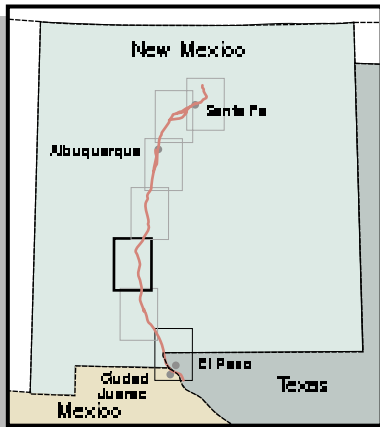
High-Potential Historic Site

El Camino Real de Tierra Adentro  
National Historic Trail

## Auto Tour Route High-Potential Historic Sites

Section 2 of 7  
El Camino Real de Tierra Adentro  
National Historic Trail

United States Department of the Interior  
National Park Service  
Bureau of Land Management

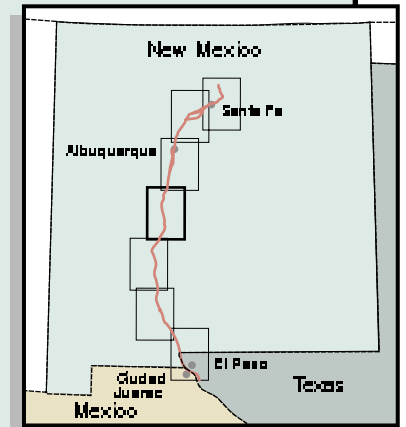
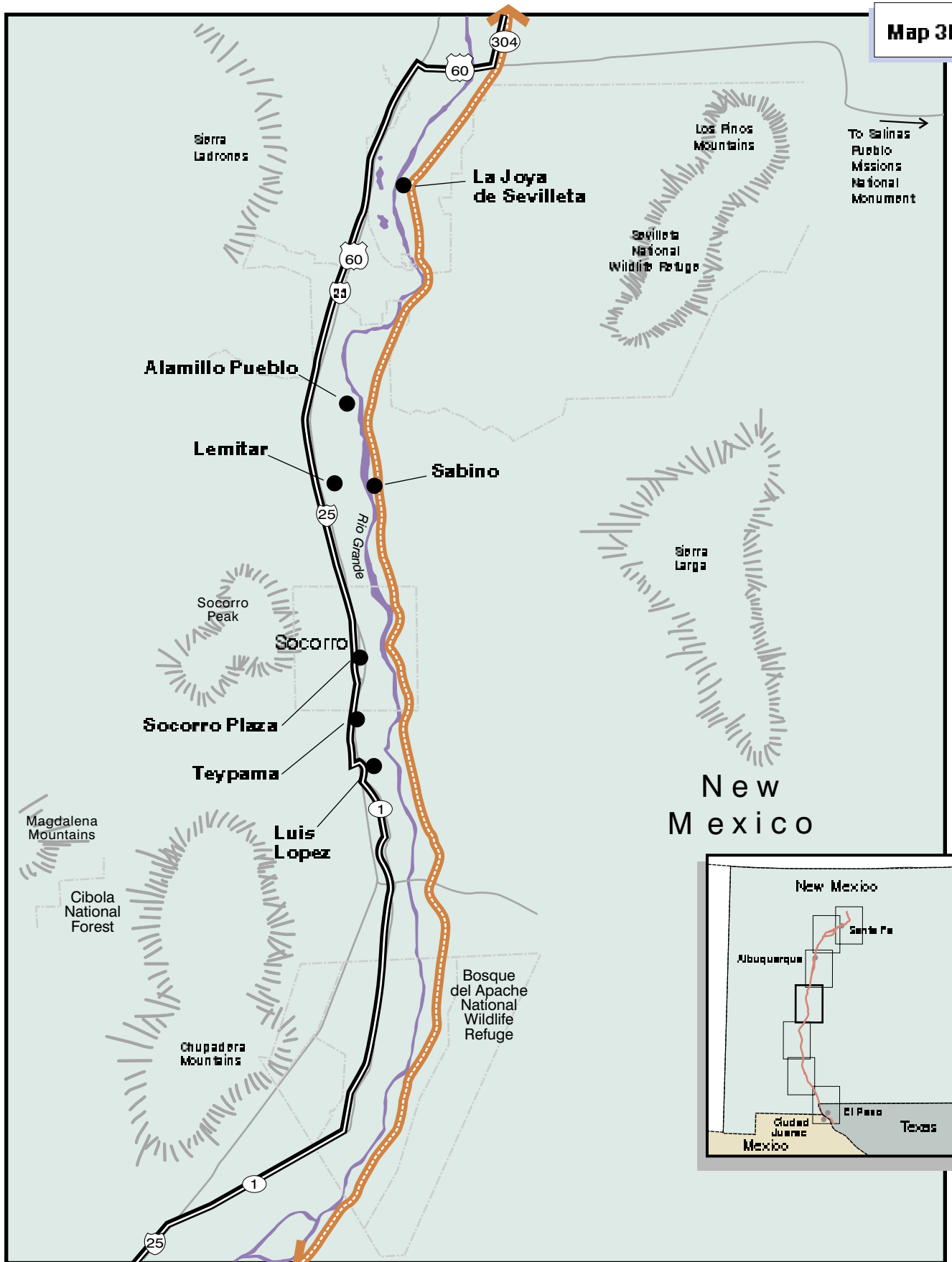


- Auto Tour Route
- High-Potential Historic Site
- El Camino Real de Tierra Adentro National Historic Trail

## Auto Tour Route High-Potential Historic Sites

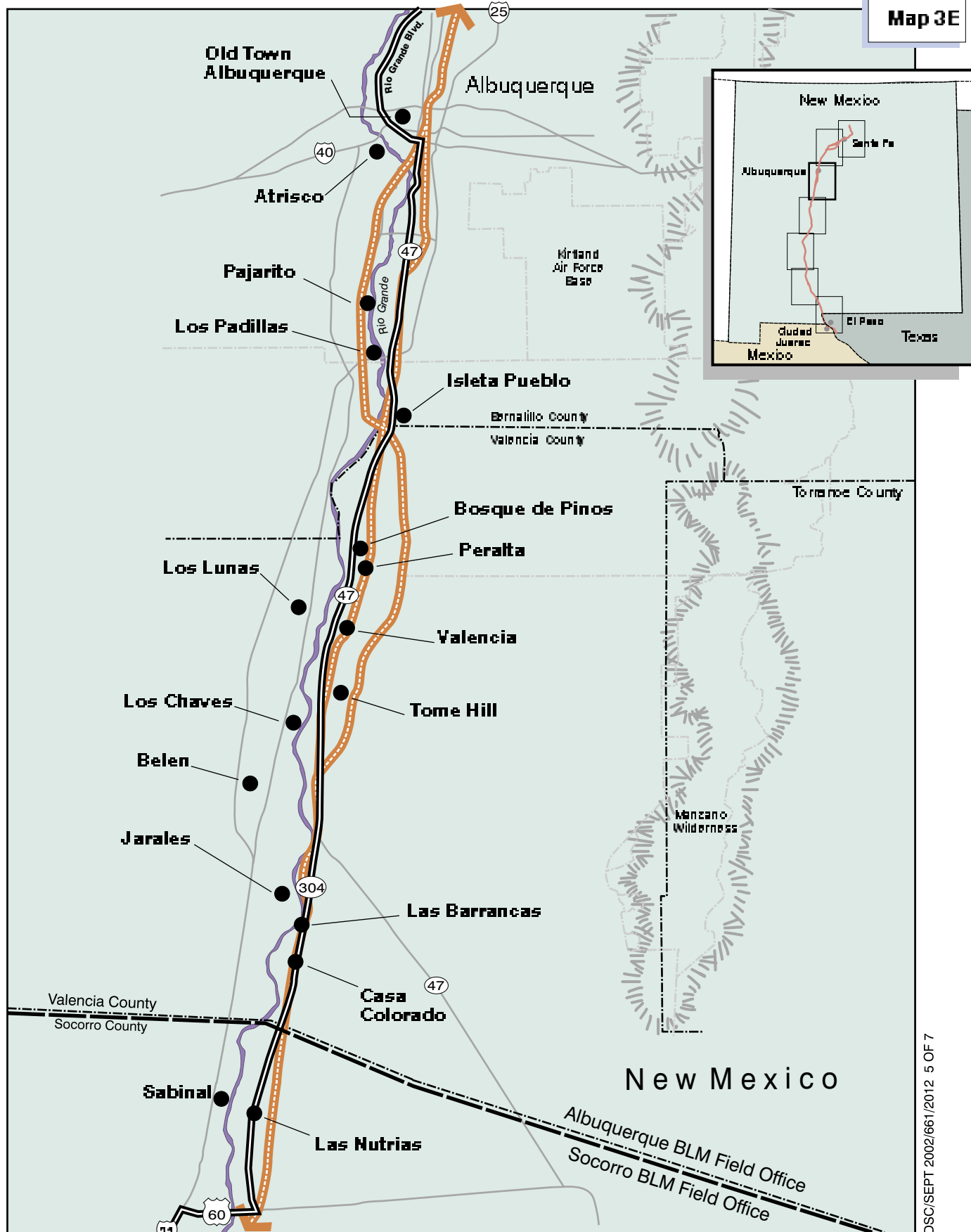
Section 3 of 7  
El Camino Real de Tierra Adentro  
National Historic Trail

United States Department of the Interior  
National Park Service  
Bureau of Land Management



# **Auto Tour Route** **High-Potential Historic Sites** Section 4 of 7 **El Camino Real de Tierra Adentro** **National Historic Trail**

United States Department of the Interior  
 National Park Service  
 Bureau of Land Management



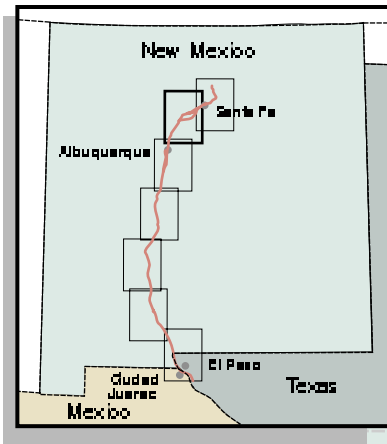
0 5 10 miles

- Auto Tour Route
- High-Potential Historic Site
- El Camino Real de Tierra Adentro National Historic Trail

## Auto Tour Route High-Potential Historic Sites Section 5 of 7

El Camino Real de Tierra Adentro  
National Historic Trail

United States Department of the Interior  
National Park Service  
Bureau of Land Management



0 5 10 miles

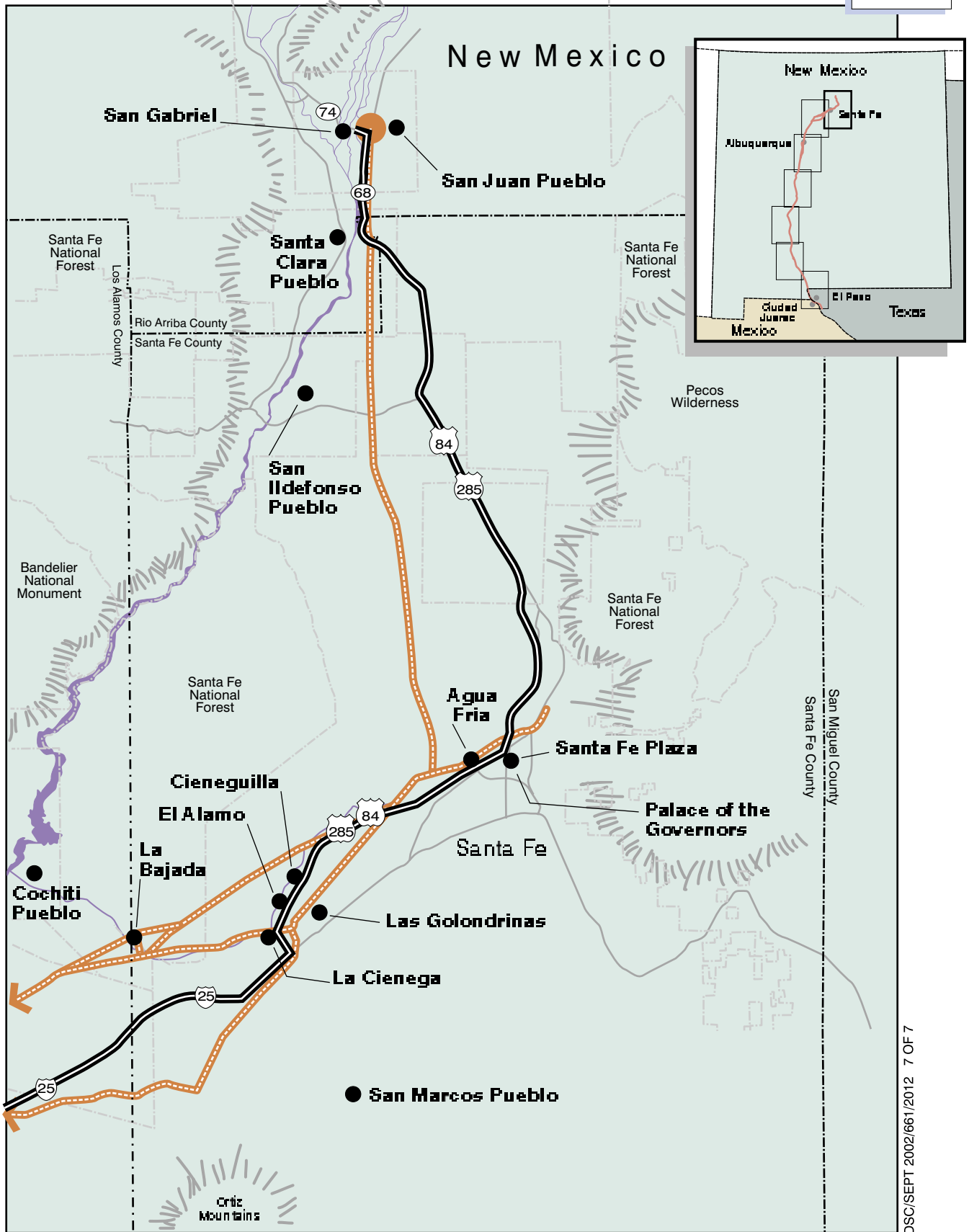
- Auto Tour Route
- High-Potential Historic Site
- El Camino Real de Tierra Adentro National Historic Trail

## Auto Tour Route High-Potential Historic Sites

Section 6 of 7

El Camino Real de Tierra Adentro  
National Historic Trail

United States Department of the Interior  
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DSC/SEPT 2002/661/2012 7 OF 7



0 5 10 miles

Auto-Tour Route

High-Potential Historic Site

El Camino Real de Tierra Adentro National Historic Trail

## Auto Tour Route High-Potential Historic Sites

Section 7 of 7

El Camino Real de Tierra Adentro  
National Historic Trail

United States Department of the Interior  
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used to make these changes. In addition, Camino Real Administration would work with interested trail associations to convene representatives of the various historic trail communities, as well as federal, state, and local managers, state historic preservation offices, and individual scholars, to review and make recommendations regarding additions, deletions, and modifications to the lists of high-potential sites and segments.

Some trail resources might not meet the criteria for inclusion on the lists of high-potential sites and segments. Their visual integrity might be compromised, they might have incomplete historic documentation, or there might not be enough evidence to assess their significance. As the status of these resources is reassessed or clarified, they could be considered for additional protection measures.

High-potential historic sites and segments would be proactively managed by willing owners in partnership with trail administrators. Protection on private lands would be accomplished through a variety of means, including, but not limited to: certification, cooperative agreements, easements, local regulations, and fee simple purchases or exchange by willing sellers where lands could be efficiently managed. A site steward program could provide for the active monitoring and patrolling of certified sites and segments, and sites and segments on BLM-administered lands.

Protection efforts would help ensure that resources related to the NHT are preserved and sections of the historic route are maintained as natural or cultural landscapes. Camino Real Administration would encourage management of the historic and recreational trail routes to preserve scenic values and qualities, thereby helping to ensure high-quality recreational and interpretive experiences. Camino Real Administration would encourage protection of the remaining historic landscape settings that are not now protected under federal, state, or local management, in cooperation with land managers along the route and with the review of the state historic preservation offices.

An interdisciplinary research program would be coordinated to support visitor use and interpretive/educational programming and activities. Camino Real Administration would continue to inventory and analyze cultural and natural resources along the trail route to determine appropriate preservation techniques and the potential to accommodate visitor use and interpretation. Priorities would be established for protecting additional sites, trail segments, scenic and natural values according to their significance, potential for visitor use, contribution to linking trail segments, interpretive value, and threats to integrity.

Due to the complex landownership crossing through both rural and urban areas, resource protection techniques would vary from area to area and between the states of New Mexico and Texas. Ties would be established with local agencies and support groups to monitor activities along the route. Several resource protection techniques are available to address goals and objectives for the NHT, as addressed above in the "Administration" section.

Routes (areas) on BLM-administered lands where the physical integrity of high-potential sites and segments and the surrounding visible landscape would be negatively impacted would be closed. No specific route closures are proposed under this alternative. Although no immediate threat has been identified, OHV designations will be reviewed in the upcoming RMP revisions or upgrades. Those areas on BLM-administered lands that are visible within approximately 5 miles of high-potential sites and segments, and also in relatively undisturbed areas, would be designated Visual Resource Management (VRM) Class II as shown on Maps 4A-C and 5 (see Appendix H for management class definitions). Five (5) miles is considered the foreground/middle-ground visual zone. Approximately 7,533 acres of VRM Class III and 58,892 acres of VRM Class IV within La Jornado del Muerto area would be converted to VRM Class II; 998 acres in the Santa Fe River canyon area that are currently unclassified would be converted to VRM Class II (see Maps 4 and 5). These changes in VRM classes would amend the Taos and Mimbres, and White Sands

resource management plans. The area surrounding the International Heritage Center would continue to be managed under VRM Class I and II guidelines.

### **Preferred Alternative : Visitor Experience**

There would be a unified effort by Camino Real Administration and partners to provide a developed, coordinated visitor experience along El Camino Real de Tierra Adentro NHT. The visitor experience would be comprised of activities and programming emphasizing the trail's significance, history, and natural and cultural heritage. Visitors would be able to participate in coordinated programming that brings themed interpretation/education together with trail resources and landscapes—on the ground along the NHT at federal protection components and certified sites, segments, and interpretive facilities. The availability and number of options for trail-related facilities, media, and interpretive/educational programming would increase through strong partnerships.

**Recreation** - Under this alternative, recreational activities with interpretive and/or educational components would be encouraged and supported on the NHT. Companion trails for hiking, biking, or horseback use would be established on appropriate trail segments. These would offer representative experiences of original trail travelers in settings similar to those once existing along the Camino Real.

Trail-related recreational uses would be encouraged through directional and interpretive signage and brochures. Kiosks, trailheads, and trails to support recreation development would be encouraged, and access to the trail route or viewpoints would be developed. Messages regarding responsible recreation on public lands and respect for private landownership would be emphasized and supported.

Proposed projects on BLM-administered lands in New Mexico include:

- **Jornada del Muerto** - Several sites along this desert passage would be developed for public use:

I- 25 at Upham Exit - A small pullout parking area would be developed along the county road, and information would be provided about travel conditions to the north. Visitors would be alerted that travel on the county road is not recommended for trailers over 15 feet, motor homes, or low-clearance vehicles, and that no water or other services are available for 35 miles.

- **San Diego** - The Paraje de San Diego is the southernmost camping site in the Jornada del Muerto. The Cerro San Diego was a landmark on the trail. A pullout parking area with interpretive signs would be developed on a county road away from the site. A trail would be developed to a short segment of the Camino Real, just north of the Detroit Well site. Interpretation of San Diego could also be offered at the Interstate 25 rest stop.
- **Ojo de Perrillo/Point of Rocks** - The paraje of Perrillo got its name from a dog sighting during the Oñate expedition in May 1598. Its muddy feet indicated nearby water. A pullout parking area would be developed, with a short trail with interpretive signs to an overlook of the paraje area.
- **Yost Escarpment** - There are Camino Real trail ruts in this area. A pullout parking area would be developed. A short trail with interpretive signs would lead to an overlook of the ruts.
- **Companion Trail** - A 5- to 10-mile companion trail for hiking, biking, and horseback riding could be developed in the Jornada, parallel to the Camino Real along a county road. Safety and interpretive messages would be provided. This development would be demand-driven only.
- **Teypama Site** - A pullout parking area would be developed with interpretive signs near the pueblo ruin.

- **La Cieneguilla** - The BLM is currently working with community members and North American Indian Pueblos to plan for visitor use and resource protection at the site. No actions are proposed at this time in connection with the NHT.
- **Auto Tour Route** - An auto- tour route generally following the course of the Camino Real would be developed to encourage visitation and promote the trail, and to provide a “user- friendly” avenue for visitors to find trail- related resources. This activity would occur on all- weather roads for two- wheel- drive use year- round. Highway and road signs would identify the route, and maps would be provided for visitors. An array of accompanying interpretive materials would be provided, including tour- route guides identifying trail- related resources and interpretive facilities. Camino Real Administration would consult with the state departments of transportation in both New Mexico and Texas, and would coordinate the auto- tour route’s development in partnership with tourism, historic preservation agencies and groups, chambers of commerce, and other civic organizations. Close coordination would also take place with New Mexico State Highway and Transportation Department and Texas Department of Transportation with respective scenic byway programs. The route would be identified subsequently on state and commercial highway maps.
- **Special Events** - Special and cultural events directly tied to trail significance would be promoted and supported. The NHT logo could be used on a request- permission basis in association with such events.

**Interpretation/Education** - Under this alternative, trail- related interpretation and education opportunities would emphasize the full range of interpretive themes. Development of new facilities such as visitor centers or museums by the

private sector would be supported. Interpretive and education programs currently being provided along the trail would continue and be strengthened, and new interpretive and educational programming would be developed and provided on federal protection components, and at certified sites, segments, and interpretive facilities. New kiosks and trailheads along interpretive trails would be encouraged to support recreation development. Trail guides would identify and interpret Camino Real resources.

**Interpretive Themes:** The establishment of El Camino Real de Tierra Adentro NHT provides an opportunity to interpret and educate visitors to the rich history of New Mexico and western Texas in relation to the Camino Real. Historic sites and interpretive facilities along the trail can tell stories that illustrate the evolving relationship between landscape and cultures.

Themes are the key ideas for visitor understanding of the trail’s history and significance. They serve as broad unifying concepts about the trail that form the foundation of interpretive and educational programs and media. They will apply regardless of the agency, organization, group, or individual responsible for developing interpretive and educational materials in association with the NHT.

The following themes are not a comprehensive listing of possible interpretive topics, and are not in any priority order. Under Alternative C, an overview of all the themes would be presented to visitors through a variety of educational programs and interpretive media and programs.

- For centuries, indigenous peoples used trails linking Pueblo and other tribal villages for trade, agriculture, and exchange of food; the Camino Real incorporated portions of these trails thus continuing patterns of human interaction.
- The Camino Real was the primary route for the settlement, trade, conquest, military operations, and supply of northern Mexico and the southwestern United States for more than 300 years; the people who traveled this lifeline between

Mexico City and northern New Mexico changed the course of North American history.

- The Pueblo peoples of the Rio Grande Valley were transformed through contact with European diseases, religion, warfare, material culture, and domestic crops and animals introduced via the Camino Real.
- The physical nature of the trail routing evolved with time due to weather and river movement, as well as with hanging conditions and the needs of north-south trade and traffic; today, remaining evidence of Camino Real routes reflects both past use and the on-going shifting of landscape.
- The Camino Real facilitated cultural exchange and change among North American Indians, Spaniards, Mexicans, and Anglos, and represents the shared patrimony of nations and cultures.
- Human activity, movement, and settlement along the Camino Real forever altered the physical environment of the Rio Grande Valley and uplands.
- Activities and personal interaction along the Camino Real (Interstate 25) continue to eliminate cultural barriers and enrich the lives of people on both sides of the American/Mexican border.
- Camino Real resources link the past with the present; tangible artifacts, structures, and landscapes, together with intangible aspects of cultural heritage, represent fragile connections that require vigilance and foresight to protect, preserve, and perpetuate for the generations to come.

In this alternative, all the themes would be emphasized and would be presented to visitors through a variety of educational programs and interpretive media and programs.

A bi-national approach (American, Mexican, and possibly Spanish) to interpretation would be

taken. Multiple points of view and perspectives would be presented, and wherever possible, interpretive messages would be presented in both the Spanish and English languages.

**Interpretive Media:** Under this alternative interpretive media would be developed through coordinated, collaborative efforts (Camino Real Administration and partners) to interpret all of the trail's themes and promote visitor understanding of the trail's significance and resources. Media would be provided at federal protection components, as well as certified sites, segments, and interpretive facilities off the trail. Use of a wide range of media (including oral histories) would be encouraged to engage visitors and stimulate interest in the trail and its history:

- **Audiovisual Media** - Appropriate audiovisual productions would be used to orient visitors to the NHT and its resources. Camino Real Administration would lend assistance to partners proposing to develop new audiovisual programs to be presented on federal protection components, and at certified sites, segments, and interpretive facilities. These programs would present aspects of the trail's themes best conveyed by this media type.
- **Indoor Exhibits** - Museum and visitor center exhibits would assist with providing visitors with context and meanings associated with the Camino Real's significance and resources. Camino Real Administration would provide interpretive assistance for the development of any new or revised exhibits on federal protection components, and at certified sites, segments, and interpretive facilities. Exhibit text would provide an overall view of all the trail's themes.
- **Wayside Exhibits** - Under this alternative, Camino Real Administration would support an interpretive wayside exhibit system for use at appropriate places on the NHT. The use of a standardized exhibit design (following wayside exhibit guidelines and standards) would reflect

the flavor of the Camino Real, and would promote the integration of interpretive messages offered along the NHT. The Camino Real's name and logo would be used on all NHT- related wayside exhibits. Camino Real Administration would coordinate with private landowners and public land managers to promote the development of a consistent wayside exhibit system to blend with existing signs.

- **Traveling Exhibits** - Traveling exhibits would be developed to present various interpretive and educational materials off- site. Under this alternative, traveling exhibits would offer an overview of the trail's themes, and would reach many people beyond the bi- state area.
- **Publications** - Camino Real Administration and partners would develop brochures and other publications. An overview of all the trail's themes would be provided. An official map and guide would be developed to provide overall orientation and information about the significance and resources of the NHT.
- **Websites** - The development of new interpretive websites about the Camino Real would be encouraged, and all the trail's themes would be emphasized. New site development would be coordinated to prevent repetitive information; extant sites would remain on- line. A possibility exists for the development of a website that centralizes educational resources along the trail.
- **Interpretive Facilities** - Camino Real Administration would work with the supporters and staff of new interpretive facilities desiring to become official interpretive components of the NHT. Assistance with interpretive planning to provide quality visitor experiences and to ensure the consistency and accuracy of interpretive content would be provided. Camino Real Administration would

not construct or operate facilities; however, BLM and the Museum of New Mexico State Monuments Division would continue to develop a new interpretive facility that is being constructed south of Socorro, New Mexico. El Camino Real International Heritage Center will offer interpretive media and educational programs about the trail. The heritage center is a separate project from the NHT but would serve as a focal point for trail- related interpretation and education along the southern portion of the trail.

- **Programs** - Support would be provided for developing new interpretive programs to bring together themes, resources, and landscapes for visitor understanding. The possibilities for theme- related programs to be available both on and off the trail are endless. Hands- on activities directly tied to trail- related resources on federal protection components, and at certified sites, segments, and interpretive facilities, would be emphasized and supported.

**Community Involvement** - Opportunities to engage community people along the Camino Real in cultural education and interpretation would include:

- Habitat Chat among sister communities along the NHT, using interactive media
- Study of history, culture, science, and math through hands- on museum activities
- Grant writing to obtain funding for writing and publishing local history documents along the trail

**Interpretive Plan** - Camino Real Administration and trail partners would prepare an interpretive plan for the length of El Camino Real de Tierra NHT. The plan would describe the desired visitor experiences, and set goals, articulate trail- long and regional themes and sub- themes, and ensure that programs at related

sites complemented each other. The interpretive plan would prescribe the appropriate interpretive services, including possibilities for non-personal services such as museum exhibits, traveling exhibits, audiovisual programs, wayside exhibits, and publications, as well as personal services such as guided interpretive walks and talks, and educational programs. A strategy for implementation would be developed.

#### **Educational Programs - Camino Real**

Administration would support the development of new educational programs for the trail, and would encourage programs to meet state teaching standards in New Mexico and Texas.

Under this alternative, new education materials and packages would be based on all of the trail's themes, and would promote understanding of and appreciation for the trail's significance and history

**Heritage Tourism -** Heritage tourism would entail traveling to historic and cultural attractions to learn about the past in an enjoyable manner, but would not allow for the decline of the very resources that attracts visitors in the first place. Heritage tourism would be strongly encouraged as a new type of visitor use opportunity, as well as an excellent tool to assist in the promotion of historic trails. Heritage tourism would be sensitive to environmental issues, and would be designed to allow people to experience resources with an ecologically and culturally sensitive frame- of- mind and a leave- no- trace emphasis.

Camino Real Administration, in cooperation with state departments of tourism, would encourage and assist trail communities in becoming gradually involved in the National Trust for Historic Preservation's heritage tourism program. Camino Real Administration would also be available to facilitate and guide the development of local or regional tourism programs that followed the general principles of heritage tourism.

The National Trust for Historic Preservation has identified the following five principles to create a sustainable heritage tourism program. These principles follow closely the criteria set in the

#### **National Trails System Act:**

- Focus on the authenticity and quality of the experience
- Preserve and protect resources
- Make sites come alive
- Find a fit between a community or region and tourism
- Cooperate

**Interpretation Program Assistance -** Camino Real Administration would develop, and would encourage and support others to develop, a range of media to appeal to different learning styles and levels of ability. The range of program assistance from Camino Real Administration would include:

- Interpretive planning
- Development of new publications (research, writing, illustrations)
- Planning and design of new media (exhibits, wayside exhibits, audiovisual, etc.)
- Review of draft interpretive text for an array of projects
- Development of web- based programs
- Workshop facilitation

### **ALTERNATIVE A: DESCRIPTION**

Current management would be maintained. Interpretive and recreational opportunities and access to physical resources related to the trail would be limited. Management of federal lands would continue under the present course of action. Certification of sites on non- federal lands would not occur. Sharing of interpretive and educational information would not take place along the trail. There would be no directed strategy for preservation or visitor use/interpretation.

## **Alternative A: Administration**

Land- managing federal agencies with NHT lands would continue to manage their lands based upon their existing management plans. There would be no overall administration or coordination of the NHT. Coordination of the activities of an NHT association; private landowners; and federal, state, and local agencies and resource protection would be limited to efforts of the International Heritage Center and others. No uniform system of signage would be designated for any components of the NHT.

## **Alternative A: Resource Protection**

No special efforts would be made to identify archeological and historic sites and visible trail route segments. There would be no directed strategy for research related to the NHT. Use of off- highway vehicles (OHV) on BLM- administered lands would continue under the present course of action. Management of visual resources on BLM- administered lands would continue under the present course of action.

## **Alternative A: Visitor Experience**

There would be no unified effort by Camino Real Administration to provide a developed, coordinated visitor experience along El Camino Real de Tierra Adentro NHT. Current activities commemorating or interpreting the trail would continue, but would remain limited in scope and would not be related to or recognized as part of the NHT. The general public would encounter markers, identification signs, or interpretive and educational programs through serendipity.

**Recreation** - Camino Real Administration would not encourage new recreational development on the NHT. Generally, existing recreational opportunities available along the trail would continue to be provided by the International Heritage Center, private landowners or various agencies and organizations. These opportunities would not be related to or recognized as part of the NHT.

An auto- tour route generally following the historic trail would not be designated. Visitors

would continue to drive the existing scenic byway.

Special events related to the NHT would not be encouraged. Current trail- related activities and commemorative events provided by various agencies or organizations would continue, but would not be related to or recognized as part of the NHT.

**Interpretation /Education** - There would be no unified effort by Camino Real Administration to interpret the NHT along its length in any sort of coordinated way. Facilities and programs currently staffed and offered by the International Heritage Center and various agencies or organizations would continue.

Likewise, Camino Real Administration would not encourage the development of interpretive media and educational programs in relation to the NHT. Various media and programs currently offered to the general public by various agencies or organizations about the Camino Real would continue.

## **ALTERNATIVE B: DESCRIPTION**

Trail resources (historical, cultural, natural, and viewshed) would be protected through ongoing stewardship efforts. Visitors would have the opportunity to experience trail resources in an off- site setting. Trail resources (natural, cultural, historical, and viewshed) would be identified and protected on federal land. Significant trail resources on private land would be protected through certification, and volunteer efforts at high- potential sites and segments. Administration would be directed toward resource protection activities. Certification priorities would protect threatened trail resources.

## **Alternative B: Administration**

**Administration:** Camino Real Administration would occur as in the Preferred Alternative.

**Certification** - Under Alternative B, certification would be directed toward protection of sites rather than toward interpretation.

## **Alternative B: Resource Protection**

Resource protection objectives and actions would include the following:

### **High-potential Historic Sites and**

**Segments** - Section 5 of the National Trails System Act requires “a protection plan for any high- potential historic sites or high- potential route segments.” Protection would be limited largely to the identification of sites and segments, with general recommendations for their administration. The following criteria would be used to identify additional resources, based on the National Register of Historic Places and the National Trails System Act:

- Significance to the trail (based on documentation and/or archeological research)
- Integrity of the physical remains
- Integrity and quality of the setting
- Opportunity for high- quality recreation evoking the historic trail experience
- Opportunity to interpret the primary period of trail use

Camino Real Administration would gather new information on additional high- potential historic sites and segments, and would cooperate with federal, state, and local governments, trail associations, trail scholars, and state historic preservation offices in adding, deleting, or modifying the list of sites. The criteria used to identify the initial list of high- potential sites would also be used to make these changes. In addition, Camino Real Administration would work with interested trail associations to convene representatives of the various historic trail communities, as well as federal, state, and local managers, state historic preservation offices, and individual scholars, to review and make recommendations regarding additions, deletions, and modifications to the lists of high- potential historic sites

and segments. Some trail resources might not meet the criteria for inclusion on the lists of high- potential sites and segments. Their visual integrity might be compromised, they might have incomplete historic documentation, or there might not be enough evidence to assess their significance. As the status of these resources is reassessed or clarified, they could be considered for additional protection measures.

**Non-federal Lands** - Protection on non- federal lands would be accomplished through a variety of means, including, but not limited to: certification, cooperative agreements, easements, local regulations, and fee simple purchases or exchange by willing sellers where lands could be efficiently managed. Protection efforts would help ensure that resources related to the trail are preserved and sections of the historic route are maintained as natural or cultural landscapes. Camino Real Administration would encourage management of the historic and recreational trail routes to preserve scenic values and qualities, thereby helping ensure high- quality recreational and interpretive experiences. Camino Real Administration would encourage protection of the remaining historic landscape settings that are not now protected under federal, state, or local management, in cooperation with land managers along the route and with the review of the state historic preservation office. Due to the complex landownership crossing through both rural and urban areas, resource protection techniques would vary from area to area and between the states of New Mexico and Texas. Ties would be established with local agencies and support groups to monitor activities along the route.

**Public Lands** - OHV routes on BLM- administered lands where protected archeological and historic sites and trail route segments would be negatively impacted would be closed. No specific route closures are proposed under this alternative. Although no immediate threats have been identified OHV designations will be reviewed in upcoming RMP revisions or updates. Management of visual resources on BLM- administered lands would continue under the present course of action.

**Monitoring Sites** - Under this alternative, there would be scheduled site monitoring of high- potential or other important sites on BLM- administered lands and certified sites by agency personnel.

**Inventory and Research** - A coordinated research program would be conducted to support preservation activities, and for media in support of off- site understanding (such as oral histories). Camino Real Administration would continue to inventory and analyze cultural and natural resources along the trail route to determine appropriate preservation techniques. Priorities would be established for protecting additional sites, trail segments, scenic and natural values according to their significance, contribution to linking trail segments, and threats to integrity. Camino Real Administration would work with appropriate technical staff to incorporate the databases generated during the course of the planning process into the GIS system used to map the routes and trail resources.

**Carrying Capacity** - The National Trails System Act requires that comprehensive management and use plans provide “an identified carrying capacity of the trail and a plan for its implementation.” This provision of the legislation has not been implemented in individual plans. To do so would require an agreement among the partners about what constitutes a trail resource and about a methodology to assess carrying capacity, as well as a high level of coordination and cooperation among the managers of trail resources. In addition, due to the site-specific nature of visitor use along a NHT, it would not be feasible to prescribe a trail- wide carrying capacity. There are currently no plans to carry out this type of analysis.

## **Alternative B: Visitor Experience**

As in the Preferred Alternative, there would be a unified effort by Camino Real Administration and partners to provide a developed, coordinated visitor experience along El Camino Real de Tierra Adentro NHT. The visitor experience would be structured to promote public understanding and appreciation of NHT- related

resources. Awareness of resource protection needs and challenges would be a central tenet of all activities and interpretation/education programs related to the NHT.

Under this alternative, the majority of visitor activities would occur away from the trail- related resources. Occasional “hands- on” protection activities would be provided wherein visitors would actively engaged in resource protection, but visitors would be encouraged to learn about the trail through off- site facilities in order to lessen on- site impacts to resources. Visitors would also be provided with information needed to practice appropriate, safe, and minimum- impact use while on the NHT.

Current activities and interpretive and educational programs offered by various agencies, organizations, or institutions would continue to be provided. Additional opportunities would be offered at site, segments, and interpretive facilities becoming part of the NHT through the certification process.

**Recreation** - As in Alternative A, Camino Real Administration would not encourage recreational development on the NHT. Existing recreational opportunities provided by private landowners and various agencies and organizations that are not trail- related would continue.

- **Auto Tour Route** - As in the Preferred Alternative, an auto- tour route following the course of the Camino Real would be developed, signed, and interpreted.
- **Special Events** - Special or cultural events focusing on NHT- related resource protection would be promoted. As in the Preferred Alternative, the NHT logo could be used on a request- per- mission basis in association with such events.

**Interpretation /Education** - As in Alternative A, Camino Real Administration would not encourage development of new interpretive facilities along the NHT. However, coordinated, collaborative efforts would be made to improve existing facilities, with a local/regional content emphasis on Camino Real history and culture. A

broad resource protection and advocacy strategy through activities such as partnerships, interpretive media, and educational programs would be encouraged.

As in the Preferred Alternative, interpretive themes illustrating the significance and meaning of the Camino Real would serve as a foundation for developing coordinated interpretive and educational materials in association with the NHT.

An overview of all the themes would be presented to visitors through a variety of educational programs and interpretive media and programs; however, under this alternative, the resource stewardship theme would be emphasized.

**Interpretive Media** - As in the Preferred Alternative, a range of interpretive media would be developed through coordinated, collaborative efforts (Camino Real Administration and partners) to promote resource stewardship, and to support visitor understanding of preservation efforts. Under this alternative, only certified interpretive facilities, away from actual trail resources, would offer a wide variety of media (including oral histories) to engage visitors and stimulate interest in resource protection. The range of interpretive media includes:

- **Audiovisual Media** - Appropriate audiovisual programs would be used to orient visitors to the NHT and its resources. Under this alternative, Camino Real Administration would lend assistance to partners proposing to develop audiovisual programs supporting interpretive opportunities. Site-specific audiovisual programs could be developed for major (certified) trail sites.
- **Outdoor Exhibits** - Museum and visitor center exhibits would provide visitors with context and meanings associated with the Camino Real's significance and resources. Camino Real Administration would provide assistance for developing new or revised exhibits at federal protection components, and at certified

interpretive facilities. Exhibit text would emphasize resource protection and preservation.

- **Wayside Exhibits** - This type of medium would not be a preferred choice under this alternative, because wayside exhibits are most effective when interpreting and tying messages directly to resources. Because the majority of visitor use would occur away from resources on the trail, other types of media, such as indoor exhibits, audiovisual programs, and publications would be more effective.
- **Traveling Exhibits** - Traveling exhibits would be developed to present various interpretive and educational materials off-site. Under this alternative, with its emphasis on off-site learning and use, traveling exhibits would be a preferred medium, and would reach many people throughout the trail corridor with protection and preservation messages.
- **Publications** - Camino Real Administration and partners would develop brochures and other publications to emphasize trail-related resource stewardship. An official map and guide would be developed to provide overall orientation and information about the significance and resources of the NHT. Resource stewardship messages would be included.
- **Websites** - Extant interpretive websites about the Camino Real would be enhanced through the addition of interpretive features regarding trail resource management.
- **Interpretive Facilities** - Under this alternative, the development of new interpretive facilities in connection with the NHT would not be supported. BLM and the Museum of New Mexico State Monuments Division are developing a new interpretive facility to be built south of Socorro, New Mexico. El Camino Real International Heritage Center

would offer interpretive media and educational programs relating to the trail. Even though this project was started before the national designation and was not specifically linked in the NHT legislation, the new facility would serve as a focal point for trail- related interpretation and education.

- **Programs** - As in the Preferred Alternative, Camino Real Administration would provide assistance for federal protection components, and certified interpretive facilities or landowners of certified properties wishing to develop new trail- related interpretive programs. Emphasis would be placed on programs emphasizing resource protection.
- **Interpretive Plan** - As in the Preferred Alternative, Camino Real Administration and trail partners would prepare an interpretive plan for the length of the NHT.
- **Educational Programs** - As in the Preferred Alternative, Camino Real Administration would support the development of new educational programs for

the NHT, and would encourage programs to meet state teaching standards in New Mexico and Texas. Under this alternative, the development of new education materials and activities promoting trail resource protection and stewardship would be emphasized. The development of "hands- on" programs for active resource protection would be encouraged.

- **Heritage Tourism** - Heritage tourism under this alternative would be oriented toward learning about the past in an enjoyable manner, but would not allow for decline of the very heritage that attracts visitors in the first place. Heritage tourism would be strongly encouraged as a new type of visitor use opportunity, as well as an excellent tool to assist in the promotion of historic trails. Heritage tourism would be sensitive to environmental issues, and would be designed to allow people to experience resources with an ecologically and culturally sensitive frame of mind and a leave- no- trace emphasis.

## Chapter 3

### EXISTING ENVIRONMENT

#### OVERVIEW

Natural landmarks are the geographic features that have played an important role in guiding travelers and traders who lived and worked along the trail. The Río Grande Valley is the predominant natural feature associated with El Camino Real in Texas and New Mexico. The Río Grande Valley is defined by imposing mountain ranges. Among the most prominent are the Franklin, Organ, San Andres, Caballo, San Mateo, Magdalena, Ladron, Manzano, Sandia, Ortiz, Jemez, and Sangre de Cristo mountains.

In addition to the mountains along the Río Grande Valley, there are several other interesting physiographic features along El Camino Real: Jornada del Muerto, Tomé Hill, Mesa Contadero, Fray Cristóbal, and the Santa Fe River Canyon. Jornada del Muerto, stretching for almost 80 miles, is a segment of El Camino Real. It is framed by the San Andres Mountains to the east and the Caballo Mountains to the west. The mountains frame a mostly undeveloped landscape—an excellent example of the Chihuahuan desert landscape that contains abundant evidence of its use throughout the period of significance. It retains a substantial amount of integrity in some stretches, which are evocative of the scenery travelers experienced centuries ago. The most significant intrusions on the landscape are periodic glimpses of an interstate highway. Noise and the visual intrusion from the highway and the Santa Fe Railway railroad tracks disrupt the solitude and the feeling that the sweeping views produce. The present lack of shelter and water highlight the remoteness of the area and recall the anxiety that many travelers experienced when they were getting ready to cross Jornada del Muerto.

Along this stretch of the trail, shallow ruts are often visible amidst the typical Chihuahuan desert vegetation: mesquite, yucca, creosote bush, four-wing saltbush, and snakeweed.

Basins with no outlet drain into shallow playas. Dust devils hover over these playas during the hot summer months. Sand dunes are common. In a few locations are small beds and isolated buttes of black lava. After the July–October torrential summer rains, the sparse brown and other vegetation experiences a dramatic change, when yellow, pink, red, and white flowers in full bloom appear almost overnight, and bright green grasses invade the normally bare soil. The usually dry arroyos fill with rainwater runoff. In some areas of Jornada del Muerto, reddish soils highlight the greenness of the desert vegetation and the darkness of the lava outcroppings.

Tomé Hill (*Cerro de Tomé*) is in a transition zone between the Chihuahuan desert and the New Mexico plateau. This distinctive site, 5 miles north of Belén, rises about 350 feet from the valley floor. The vegetation includes mostly four-wing saltbush and scattered mesquite, as well as desert shrubs. It is much sparser than in the southern stretches of the Chihuahuan desert; in many areas, it is found principally along the road. The gray-brownish sandy soils that predominate in this landscape highlight even more the greenness of the lush vegetation that grows along the *acequias* (irrigation ditches) and the Río Grande.

The original route of El Camino Real followed by Oñate in 1598 passed around the east base of the hill, which subsequently became a significant landmark for travelers on the road. For North American Indians, the hill itself is a sacred feature, as evidenced by petroglyphs. The hill has since become a Catholic shrine, and remains a pilgrimage site, with several crosses on its crest. Petroglyphs in this area are similar to those found elsewhere along the Río Grande. Scattered adobe ruins and an occasional old homestead lend a picturesque character to the area.

The Santa Fe River Canyon segment (formerly called *Cañon de las Bocas*), a stretch of El Camino Real along the Santa Fe River near the state capital of New Mexico, possesses highly attractive visual qualities. This area, mostly in public ownership, crosses a region that typifies the New Mexico plateau. The most salient features of this landscape are the tablelands, having moderate to sizable relief. The area also contains large basalt blocks that were cleared from a bench surface and placed in two parallel lines adjacent to the road. The canyon is fairly narrow and not particularly deep. Along the stream that flows year-round are a few sizable cottonwoods and the riparian vegetation typically found in permanent streams in this ecoregion. Grasses seldom cover the ground completely; many areas remain bare. Sagebrush, rabbit brush, four-wing saltbush, snakeweed, cholla, and prickly pear are prevalent in the flats and in disturbed areas. The ground is blanketed with blooming flowers during the rainy summer season. One species of juniper covers the north-facing hillsides.

There are pueblo ruins here, too—near the southern end of the canyon. The most impressive feature of the site is the steepness of the canyon, which early trail users had to negotiate. The imposing entrance to the canyon can be seen from miles away to the south.

## LANDOWNERSHIP/LAND USE

The route from San Juan Pueblo, New Mexico, to El Paso, Texas, is approximately 404 miles long, although the mileage of trail including the duplicate routes includes over 654 miles. About 55% of this route is privately owned; the rest is divided among federal and state land managing agencies and North American Indian lands or reservations. Ownership of land through which the trail passes (in New Mexico and Texas) is detailed in Table 1 below.

Table 1: Landownership		
Ownership/Management	Total Mileage (% of total)	Total Mileage, Including Duplicate Routes % of total)*
Private	222 (55)	376.7 (57)
State	24 (6)	24.7 (4)
Federal/BLM	57 (14)	59.7 (9)
Federal / USDA Forest Service	11 (3)	9.2 (2)
Federal/USFWS	28 (7)	90.1 (14)
North American Indian Reservation	62 (15)	89.5 (14)
U.S. Army Corps of Engineers	—	4.6 (1)
Total	404	654.5

Segments of the trail pass through or near to the cities of Santa Fe, Albuquerque, Socorro, Las Cruces, and El Paso. The trail also passes through the North American Indian communities of San Juan, Santa Clara, San Ildefonso, Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, Isleta, and Ysleta del Sur. The urban

areas total approximately 14% (58 miles) of the total length of the trail from San Juan Pueblo to El Paso (see **Table 2** below). Approximately 16% (60 miles) of this distance is in rural development and/or farm areas. Most of the trail (about 77%) is in a less developed condition, with most of this land being in private ownership.

<b>Table 2: Land Uses</b>		
<b>Land Use/Cover</b>	<b>Total Mileage</b>	<b>% of Trail</b>
Urban Areas	65	16
Agriculture	45	12
Rangeland	212	52
Forestland	69	17
Water/Wetlands	13	3
Total	404	100

**Table 3** illustrates the mileage of trail by federal administrative jurisdiction and the mileage of trail meeting the high-potential route segment definition:

<b>Table 3: Trail Mileage on Federal Components*</b>		
<b>Administrative Jurisdiction</b>	<b>Mileage w/Route Variants</b>	<b>Mileage of High-potential Routes</b>
BLM – Las Cruces Field Office	28.6	9.3
BLM – Socorro Field Office	14.2	0.0
BLM – Taos Field Office	16.9	0.3
USFS – Santa Fe National Forest	7.7	4.6
USFWS – Sevilleta NWR	33.3	0.0
USFWS – Bosque del Apache NWR	56.8	4.8
U.S. Army Corps of Engineers	4.6	0.8
Total	163.6	19.8

\*GIS calculations based upon data collected at the 1:24,000 scale

## HUMAN USES AND VALUES

The proposed project could potentially affect eight counties in New Mexico, one county in Texas, and the Mexican State of Chihuahua. These counties and the Mexican state comprise an economic study area (ESA), and form the basis for the socioeconomic profile for the area of the proposed project. The socioeconomic setting for each U.S. county and the Mexican state is described below in north- to- south order.

The following section summarizes the socioeconomic conditions in the study area for the latest available year that data are available. In most cases, the data are for the year 2000. In certain cases as noted, 1999, 1997, and 1990 data are used as the most recent available sources.

### Río Arriba County, New Mexico

The county seat of Río Arriba County is Tierra Amarilla. Río Arriba County's year 2000 population was 41,190, which represents an overall increase of 64.8% from the 1950 population of 24,997, or an annual average growth rate of 1.3%. Most of this growth took place during the period 1970- 2000, when population grew from 25,308 to its current level. Of the 2000 population, a total of 30,025, or 72.9%, were Hispanic or Latino.

From 1970 to 1999, net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources such as investments and transfer payments including age-related sources (retirement, disability, insurance, and Medicare) and welfare. Non- Labor income rose from \$73 million in 1970 to \$244 million in 2000, an increase of 234%. The second fastest growing component of personal income was Services and Professional. Average earnings per job, in real terms, dropped from \$23,500 in 1970 to \$19,140 in 1999. Persons below the poverty level were 22.5% of the population, based on the latest available 1997 estimates.

From 1970 to 1999, a total of 7,946 new jobs were created, with Services and Professional account-

ing for 5,529 of the new jobs and Government accounting for 1,155 new jobs. These sectors are the largest and second largest employers, respectively. Construction is the third largest employment sector. The unemployment rate in 1970 was 13.5%, dropping to 6.9% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 6.0% of the total population, and high school graduates were 38.3% of the total population.

The county had 18,016 housing units in 2000, with an occupancy rate of 83.5%. The rental vacancy rate was 8.0%, and the home ownership rate was 81.6%. Median gross rent (1990 data) was \$285.

### Santa Fe County, New Mexico

The county seat of Santa Fe County is Santa Fe, which is also the state capitol. Santa Fe County's 2000 population was 129,292, which represents an overall increase of 238.9% from the 1950 population of 38,153, or an annual average growth rate of 4.8%. Most of this growth took place during the period 1970- 2000, when population grew from 55,026 to its current level. Of the 2000 population, a total of 65,887, or 49.0%, were Hispanic or Latino.

From 1970 to 1999, net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Non- Labor income rose from \$238 million in 1970 to \$1,333 million in 2000, an increase of 460%. The second fastest growing component of personal income was Services and Professional. The growth curves for Non- Labor and Services and Professional sectors are almost identical. Growth in the Government, Manufacturing, Construction, Mining, and Farm and Agricultural Services sectors was much smaller. Average earnings per job, in real terms, rose from \$25,535 in 1970 to \$26,471 in 1999. Persons below the poverty level were 11.9% of the population, based on the latest available 1997 estimates.

From 1970 to 1999, a total of 58,718 new jobs were created, with Services and Professional accounting for 42,545 of the new jobs and Government accounting for 8,059 new jobs. These sectors are the largest and second largest employers, respectively. Construction is the third largest employment sector. The unemployment rate in 1970 was 3.3%, dropping to 2.7% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 21.2% of the total population, and high school graduates were 54.3% of the total population.

The county had 57,701 housing units in 2000, with an occupancy rate of 91.0%. The rental vacancy rate was 5.6%, and the home ownership rate was 68.6%. Median gross rent (1990 data) was \$489.

### **Sandoval County, New Mexico**

The county seat of Sandoval County is Bernalillo. Sandoval County's 2000 population was 89,908, which represents an overall increase of 622.8% from the 1950 population of 12,438, or an annual average growth rate of 12.5%. Most of this growth took place during the period 1970-2000, when population grew from 17,703 to its current level. Of the 2000 population, a total of 26,437, or 29.4%, were Hispanic or Latino.

From 1970 to 1999 net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Non- Labor income rose from \$47 million in 1970 to \$540 million in 2000, an increase of 1,049%. The second fastest growing component of personal income was Government. Average earnings per job, in real terms, rose from \$25,080 in 1970 to \$28,639 in 1999. Persons below the poverty level were 12.9% of the population, based on the latest available 1997 estimates.

From 1970 to 1999 a total of 28,035 new jobs were created, with Government accounting for 3,042 of the new jobs and Construction accounting for 1,638 new jobs. Services and Professional, and Manufacturing, are the largest and second largest employers, respectively.

Government is the third largest employment sector. The unemployment rate in 1970 was 5.5%, dropping to 3.3% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 11.6% of the total population, and high school graduates were 48.1% of the total population.

The county had 34,866 housing units in 2000, with an occupancy rate of 90.1%. The rental vacancy rate was 11.4%, and the home ownership rate was 83.6%. Median gross rent (1990 data) was \$468.

### **Bernalillo County, New Mexico**

The county seat of Bernalillo County is Albuquerque. Bernalillo County's 2000 population was 556,678, which represents an overall increase of 282.1% from the 1950 population of 145,673, or an annual average growth rate of 5.6%. The growth curve was fairly even over this entire period. Of the 2000 population, a total of 233,565, or 42.0%, were Hispanic or Latino.

From 1970 to 1999 net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Services and Professional income rose from \$2,330 million in 1970 to \$7,282 million in 2000, an increase of 213%. The second fastest growing component of personal income was Non- Labor sources. Average 1999 earnings per job, in real terms, were \$29,675, changing very little between 1970 and 1999. Persons below the poverty level were 14.6% of the population, based on the latest available 1997 estimates.

From 1970 to 1999, a total of 248,880 new jobs were created, with Services and Professional accounting for 188,912 of the new jobs and Government accounting for 28,779 new jobs. Services and Professional, and Government, are the largest and second largest employers, respectively. Manufacturing is the third largest employment sector. The unemployment rate in 1970 was 5.4%, dropping to 3.2% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college

graduates totaled 17% of the total population, and high school graduates were 52.3% of the total population.

The county had 239,074 housing units in 2000, with an occupancy rate of 92.4%. The rental vacancy rate was 11.5%, and the home ownership rate was 63.7%. Median gross rent (1990 data) was \$402.

### **Valencia County, New Mexico**

The county seat of Valencia County is Los Lunas. Valencia County's 2000 population was 66,152, which represents an overall increase of 194.2% from the 1950 population of 22,481, or an annual average growth rate of 3.9%. Growth during the period 1970- 2000, when population grew from 40,821 to its current level, was irregular, with the population declining steeply (about 50%) between 1980 and 1982, and then rebounding over the next 18 years. Of the 2000 population, a total of 36,371, or 55.0%, were Hispanic or Latino.

From 1970 to 1999 net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Non- Labor income rose from \$81 million in 1970 to \$359 million in 2000, an increase of 343%. The second fastest growing component of personal income was Government. Average earnings per job, in real terms, declined from \$25,037 in 1970 to \$220,643 in 1999. Persons below the poverty level were 18.3% of the population, based on the latest available 1997 estimates.

From 1970 to 1999, a total of 9,479 new jobs were created, with Services and Professional accounting for 5,677 of the new jobs and Government accounting for 2,224 new jobs. Services and Professional, and Government, are the largest and second largest employers, respectively. Mining is the third largest employment sector. The unemployment rate in 1970 was 6.3%, dropping to 4.0% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 7.4% of the total population, and high school graduates were 44.9% of the total population.

The county had 24,643 housing units in 2000, with an occupancy rate of 92.0%. The rental vacancy rate was 11.8%, and the home ownership rate was 83.9%. Median gross rent (1990 data) was \$344.

### **Socorro County, New Mexico**

The county seat of Socorro County is Socorro. Socorro County's 2000 population was 18,078, which represents an overall increase of 86.9% from the 1950 population of 9,670, or an annual average growth rate of 1.7%. Most of this growth took place during the period 1970- 2000, when population grew from 9,775 to its current level. Of the 2000 population, a total of 8,810, or 48.7%, were Hispanic or Latino.

From 1970 to 1999, net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Non- Labor income rose from \$29 million in 1970 to \$107 million in 2000, an increase of 269%. The second fastest growing component of personal income was Government. Average earnings per job, in real terms, dropped from \$23,182 in 1970 to \$21,398 in 1999. Persons below the poverty level were 31.4% of the population, based on the latest available 1997 estimates.

From 1970 to 1999 a total of 3,759 new jobs were created, with Government accounting for 1,110 of the new jobs and Construction accounting for 102 new jobs. Government, and Services and Professional, are the largest and second largest employers, respectively. Farm and Agricultural Services is the third largest employment sector. The unemployment rate in 1970 was 7.4%, dropping to 5.5% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 10.0% of the total population, and high school graduates were 39.2% of the total population.

The county had 7,808 housing units in 2000, with an occupancy rate of 85.5%. The rental vacancy rate was 11.8%, and the home ownership rate was 71.1%. Median gross rent (1990 data) was \$305.

## **Sierra County, New Mexico**

The county seat of Sierra County is Truth or Consequences. Sierra County's 2000 population was 13,270, which represents an overall increase of 84.7% from the 1950 population of 7,186, or an annual average growth rate of 1.7%. Most of this growth took place during the period 1970- 2000 when population grew from 7,215 to its current level. Of the 2000 population, a total of 3,488, or 26.3%, were Hispanic or Latino.

From 1970 to 1999, net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Non- Labor income rose from \$36 million in 1970 to \$128 million in 2000, an increase of 256%. The second fastest growing component of personal income was Government. Average earnings per job, in real terms, dropped from \$21,400 in 1970 to \$19,859 in 1999. Persons below the poverty level were 23.4% of the population, based on the latest available 1997 estimates.

From 1970 to 1999, a total of 2,191 new jobs were created, with Government accounting for 1,323 of the new jobs and Construction accounting for 127 new jobs. Services and Professional, and Government, are the largest and second largest employers, respectively. Farm and Agricultural Services is the third largest employment sector. The unemployment rate in 1970 was 4.2%, dropping to 2.9% by 2000. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 6.4% of the total population, and high school graduates were 48.1% of the total population.

The county had 8,727 housing units in 2000, with an occupancy rate of 70.0%. The rental vacancy rate was 17.4%, and the home ownership rate was 74.9%. Median gross rent (1990 data) was \$226.

## **Doña Ana County, New Mexico**

The county seat of Doña Ana County is Las Cruces. Doña Ana County's 2000 population was 174,682, which represents an overall increase of 341.6% from the 1950 population of 39,557, or

an annual average growth rate of 6.8%. Most of this growth took place during the period 1970- 2000, when population grew from 70,254 to its current level. Of the 2000 population, a total of 110,665, or 63.4%, were Hispanic or Latino.

From 1970 to 1999, net income grew, with the fastest component of personal income, in real terms, being Non- Labor sources. Non- Labor income rose from \$172 million in 1970 to \$1,068 million in 2000, an increase of 521%. The second fastest growing component of personal income was Services and Professional. Average earnings per job, in real terms, dropped from \$28,313 in 1970 to \$24,889 in 1999. Persons below the poverty level were 26.6% of the population, based on the latest available 1997 estimates.

From 1970 to 1999, a total of 46,300 new jobs were created, with Services and Professional accounting for 29,717 of the new jobs and Government accounting for 8,413 new jobs. Services and Professional, and Government, are the largest and second largest employers, respectively. Farm and Agricultural is the third largest employment sector. The unemployment rate in 1970 was 7.8%, dropping to 6.5% by 1999. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 12.2% of the total population, and high school graduates were 39.2% of the total population.

The county had 65,210 housing units in 2000, with an occupancy rate of 91.3%. The rental vacancy rate was 10.3%, and the home ownership rate was 67.5%. Median gross rent (1990 data) was \$347.

## **El Paso County, Texas**

The county seat of El Paso County is El Paso. El Paso County's 2000 population was 679,622, which represents an overall increase of 248.6% from the 1950 population of 194,968, or an annual average growth rate of 5.0%. Most of this growth took place during the period 1970- 2000, when population grew from 359,291 to its current level. Of the 2000 population, a total of 531,654, or 78.2%, were Hispanic or Latino.

From 1970 to 1999, net income grew, with the fastest component of personal income, in real terms, being Non-Labor sources. Non-Labor income rose from \$855 million in 1970 to \$4,062 million in 2000, an increase of 465%. The second fastest growing component of personal income was Services and Professional. Total earnings of persons employed in El Paso increased from \$5.212 million in 1989 to \$8.893 million in 1999, a growth rate of 5.5%. Per capita income in 1999 was \$17,216 million, ranking El Paso County 212th in the State of Texas. By comparison, per capita income in 1989 was \$11,687, which ranked it 203rd in the state. Persons below the poverty level were 27.8% of the population, based on the latest available 1997 estimates. Government, and Services and Professional, are the largest and second largest employers, respectively. Manufacturing is the third largest employment sector. The unemployment rate in

1990 was 11.6%, dropping to 9.4% by 1999. Of the total 1990 population (latest available data), persons 25 years of age or over who were college graduates totaled 8.4% of the total population, and high school graduates were 35.3% of the total population.

The county had 224,447 housing units in 2000, with an occupancy rate of 93.6%. The rental vacancy rate was 7.8%, and the home ownership rate was 67.5%. Median gross rent (1990 data) was \$347.

### North American Indian Reservations

Table 4 summarizes information on the North American Indian reservations located wholly or partially within the ESA.

<b>Table 4: Socioeconomic Data Summary North American Indian Reservations*</b>				
<b>Pueblo</b>	<b>County (ESA area)</b>	<b>Trust Acreage</b>	<b>Reservation Population</b>	<b>Principal Revenue Source</b>
Acoma	Socorro, NM	364,439	4,616	Tourism, gaming, wood products, farming, ranching
Cochiti	Sandoval, Santa Fe, NM	50,681	1,189	ACOE lease, fishing permits, other leases
Isleta	Bernalillo, NM	211,037	4,296	Recreation, Forest products, gaming
Jemez	Sandoval, NM	89,618	2,996	Forest products, farming, recreation
San Felipe	Sandoval, NM	48,859	3,131	Farming and ranching, crafts, gaming
Sandia	Sandoval, NM	22,876	471	Gaming, farming, leases and permits
Santa Ana	Sandoval, NM	61,379	698	Leasing, farming and ranching, crafts, gaming
Santo Domingo	Sandoval, Santa Fe, NM	69,401	4,324	Farming and ranching, crafts, gaming, permits, crafts
Ysleta	El Paso, TX	188	804	crafts, leasing, gaming
Zia	Sandoval, NM	119,538	900	Farming and ranching, leasing

\*Socioeconomic data for the other American Indian Reservations within the ESA was not available.

## State of Chihuahua, Mexico

The Mexican State of Chihuahua lies immediately to the south of New Mexico and Texas. The socioeconomic conditions in Chihuahua are briefly described in this document because Chihuahua may be affected most directly from the proposed project and from related National Park Service management programs. El Camino Real de Tierra Adentro extends through the other Mexican states of Durango, Zacatecas, Aguascalientes, San Luis Potosí, Guanajuato, Querétaro, and Mexico, D.F., as well, but detailed socioeconomic data are not provided, because impacts for these areas are less well defined than for the border states. The effects of other ongoing efforts (such as Sister Cities, Habitat Chat, and cultural tourism workshops)

are described in the Environmental Consequences and Mitigation section of this report.

Chihuahua receives approximately 9.4 inches of rainfall per year. The current (year 2000) population of Chihuahua is estimated to be 3,047,867 individuals (XII Censo General De Poblacion Y Vivienda, Resultados Preliminares). This represents an increase of 606,000 persons compared to 1990 (a 25% increase). Also between 1990 and 2000, the population of Mexico grew by about 20%. The population of Chihuahua is evenly split between males and females. In 1998, there were 79,336 births and 15,753 deaths in the state. Table 5 shows selected statistics for Chihuahua and the largest several towns or cities within the state.

**Table 5: Comparison of Selected Economic Indicators - State of Chihuahua**

State or City	Population2000 (a)	Total Employment 1998 (b)	Individuals per House 2000 (a)	Number of Business 1998 (b)
State of Chihuahua	3,047,867	744,450	4.0	88,803
Ciudad Juárez	1,217,818	393,867	4.1	32,068
Chihuahua	670,208	194,783	3.9	23,276
Cuauhtemoc	124,279	22,327	3.9	4,465
Delicias	116,132	29,778	3.9	5,219
Hidalgo	100,881	21,902	4.1	4,928
Nueva Casas Grandes	54,226	13,100	3.9	2,300
Guadalupe	48,226	630	5.3	122

### Sources:

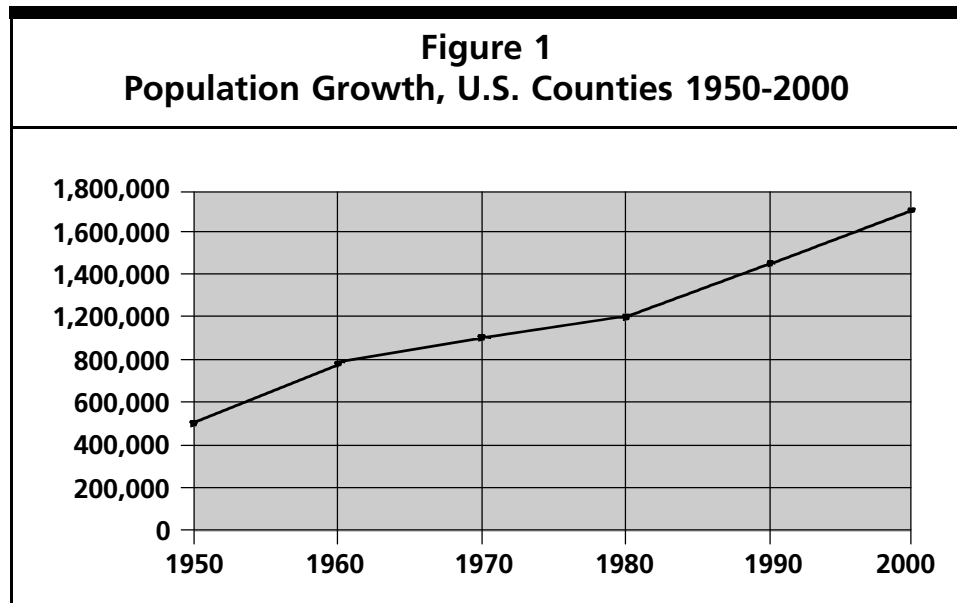
- (a) Preliminary data are for year 2000 (XII Censo General De Poblacion Y Vivienda, Resultados Preliminares).
- (b) Data are for 1998 (Aspectos Economicas de Chihuahua).

## Summary of ESA Growth Characteristics

Figure 1 below summarizes the population growth in United States counties from 1950 to 2000. It can be seen from the table that overall growth curve in the U.S. jurisdictions has been fairly steady over the past 50 years. This growth pattern can be expected to continue in the future.

Table 6 below provides additional details on county- by- county growth, along with their respective rates of increase.

For comparative purposes, the Mexican State of Chihuahua is also included.



**Table 6: Comparison of Population Growth in  
El Camino Real de Tierra Adentro NHT ESA**

County	1950	1960	1970	1980	1990	2000	Rate
Río Arriba	24,997	24,193	25,170	29,282	34,365	41,190	64.8%
Santa Fe	38,153	44,970	53,756	75,360	98,928	129,292	238.9%
Sandoval	12,438	14,201	17,492	34,799	63,319	89,908	622.8%
Bernalillo	145,673	262,199	315,774	419,700	480,577	556,678	282.1%
Valencia	22,481	39,085	40,539	61,115	45,235	66,152	194.2%
Socorro	9,670	10,168	9,763	12,566	14,764	18,078	86.9%
Sierra	7,186	6,409	7,189	8,454	9,912	13,270	84.7%
Dona Ana	39,557	59,948	69,773	96,340	135,510	174,682	341.6%
El Paso	194,968	314,070	479,899	479,899	591,610	679,622	248.6%
Total U.S. Counties	495,123	775,243	898,747	1,217,515	1,474,202	1,702,720	243.9%
Chihuahua	NA	NA	NA	NA	NA	3,047,867	NA
<b>Grand Total</b>	NA	NA	NA	NA	NA	4,750,587	NA

The data indicate that the largest amount of growth in New Mexico, both in terms of absolute numbers and percentage of increase, has occurred in the central part of the state, roughly from Santa Fe to Albuquerque. A secondary growth node has been at Doña Ana County. The more rural counties of both northern and south-central New Mexico have lagged in growth and economic development. Growth in El Paso kept pace with the total growth of the United States counties. While data are not available for a comparable period for Chihuahua, growth in the single decade 1990-2000 was 26%, suggesting that growth over the longer period was quite rapid in the Mexican state.

## RESOURCE VALUES

### Cultural Environment

The cultural environment affected by the use of El Camino Real was overwhelmingly complex and staggering in its scope. Cutting through north-central Mexico up through the Río Grande Valley to an area near Santa Fe, El Camino Real brought armies of Spanish explorers, and later a flood of settlers, into contact (and often into conflict) with existing populations of distinct indigenous North American Indian tribes, bands, and sub-bands numbering in the hundreds. The resulting acculturation pressure resulted in the cultural extinction of many of these groups. The legacy of this contact and acculturation exists today in the unique mixed cultural heritage of vast areas that extend well beyond the borders of New Mexico.

This brief overview of the historic cultural environment of El Camino Real provides background material to accomplish three major objectives. First, the overview provides an outline of those indigenous North American Indian groups present on the landscape when the trail was first used by Spanish explorers and settlers. Second, a brief ethnohistoric description provides the reader with limited insight into the cultural complexity of the region impacted by the road's use. And, third, the report provides background for the tribal consultation work

required of any project proposals that affect extant North American Indian tribes. The overall goal of this effort is to aid in consultation with existing tribes to determine their views regarding the affects El Camino Real has had on their history, and what impacts, if any, the present plan's proposal may have on existing ethnographic resources on or off of federal lands.

### Ethnographic Resources

Cultural or historic resources, such as archaeological sites or historic buildings, are determined to be significant by legislation, or by the collective judgment of a scientific or academic discipline. Ethnographic resources, on the other hand, are assigned their significance by members of the living human community associated with them. A physical resource could be a specific animal or plant species, mineral, specific man-made or natural object, place, creek, spring, river, lake, any physiological feature on the landscape, or perhaps an entire landscape. Loosely defined, an ethnographic resource is any cultural or natural resource ascribed value by an existing ethnic community. The values associated with these resources come from the community itself—not from some external entity—and are associated with the cultural or ethnic identity of the community.

**The Road North—Southern End** - In the 16th century Spanish officials wasted little time in setting about the tasks of discovery, control, and economic development. Between 1527 and the 1590s, a number of official and unauthorized parties set out from the central and eastern coastal areas of "New Spain" to investigate lands, minerals, and other resources for economic purposes. There can be little doubt that these explorers, who usually employed indigenous guides, were well aware of the local North American Indian populations they encountered on their travels. Early Spanish routes throughout present-day Mexico, and to areas of the southwestern United States, were largely established by following existing Indian trails that had been used for travel and trade for centuries before the Spaniards arrived. The entire length of El Camino Real de Tierra Adentro within New

Mexico was traveled in 1598 by Don Juan de Oñate, and was a patchwork of Indian trails over mountain passes and river crossings that facilitated passage through a complex range of Indian territories and societies.

The Spanish colonial desire to provide a more direct link the promising hinterlands of the north to established provinces in “New Spain” essentially gave birth to El Camino Real. But this “new” route north from the region of Santa Barbara in Present Chihuahua passed through a host of indigenous tribal territories. However, Juan de Oñate was not the first to encounter or deal with these indigenous groups. Decades before his arrival, incursions into the area by government sanctioned military operations, mining exploration and development, and missionary work literally and figuratively paved the way for Oñate’s expedition in 1598.

From the standpoint of broad tribal groupings, north of Querétaro to present Chihuahua El Camino Real cut through, from south to north, the territories of the Chichimeca- Pame- Jonaz; Guamar; Zacatic; Cuachichil; Languero; Toboso; Cacaxte; Concho; Suma- Jumano; and Jano- Jcome. The Indian peoples who inhabited this large area were typically nomadic hunters and gatherers. Some may have practiced limited horticulture to raise corn, beans, and squash. Most were organized into small bands that were tied to one another by kinship and marriage, common or related languages, or generally common cultural traditions. Most of these groups, with the exception of the large permanent villages at La Junta, lived in small, mobile camps of 20 to 50 individuals. Groups of this size are normally referred as “bands,” rather than tribes. These bands may have come together for economic, social, or military purposes, but these instances were probably temporary in character. The smaller band organization was most likely the largest permanent autonomous political unit that made decisions concerning the control of people and use of resources. Band territory seems to have been well defined, and if strangers entered with proper introduction, warfare was a likely result.

Individual bands occupying adjacent areas, exploiting similar resources, and speaking simi-

lar languages formed natural clusters during specific seasons of the year. The larger tribal territories and the clustering of bands into “tribes” may to a large extent have been the result of Spanish contact and administration record- keeping, and may not reflect the social reality of band cultural identity or individual band social organization at the time.

The response of these tribes to Spanish colonial incursions into north- central Mexico was hostile raiding. Spanish attempts to control land and resources, and to exploit the labor of these small indigenous bands, led to increased military action during the 16th century. As the century progressed, traditional warfare shifted to some extent by focusing less on intertribal conflict and more on the raiding of emigrant settlements and missions. The acceptance of the horse by native groups sometimes led to a clustering of more distant bands for the purpose of carrying out raids. This warfare, or raiding, was not for purposes of conquest. The Spanish incursions into native territory brought forced labor and physical displacement of populations. The introduction of diseases to native populations had profound demographic impacts. Perhaps of equal importance, the introduction of alien domesticated livestock by Spanish settlements resulted in a shift in local plant ecology and a reduction in wildlife habitat—a plant and wildlife habitat necessary to support the traditional subsistence livelihood of indigenous groups. Raiding was a reaction to these intrusions, and an adaptive means of surviving.

This brief description of the ethnographic context of El Camino Real de Tierra Adentro may be viewed as somewhat irrelevant to a discussion of the context of the road and its impact on North American Indian populations north of the present- day United States- Mexico border. This may especially be true when one considers that in the 20th century, all of the original Indian groups in this region of Mexico—with the exception of areas that became refuges on the area’s fringes, such as the Tarahumara to the west—are culturally extinct. However, the methods of Spanish colonization are consistent north and south of the border. North American Indian reactions to Spanish control in what is now the United States—although the various

tribes differed in many ways in terms of culture, language, and subsistence lifestyle—were similar to their cousin’s reactions to the south.



Figure 2: Historic tribal territories of north-central México (from Griffen 1983:329).

El Camino Real should be seen as playing a significant role in the northern movement of Spanish control in “New Spain,” especially regarding the impact on New Mexico as far north as Santa Fe. But it should also be noted that by 1598, the road itself was the result of important actions prior to Juan de Oñate’s expedition. Oñate’s own father was a wealthy silver baron who derived his wealth from the mines of Zacateca. Many profound impacts on Indian populations preceded the common use of this route. But long before Juan de Oñate traversed El Camino Real to the hinterlands, earlier 16th -century incursions into Indian territory with the introduction of the horse for transportation, the exploitation of whole Indian populations for labor, and the displacement of plant and wildlife species by Spanish administrative and religious settlements all brought profound changes to Indian culture, society, and livelihood. The web of prior colonial policies, actions, and events essentially paved the way for

the southern portion of the road. The road itself might best be viewed as the historical and technological result of these prior events. For indigenous populations in the south, Don Juan de Oñate’s journey north might be viewed as somewhat anticlimactic to the governmental policies and practices that preceded him.

## The Road North-Northern End

**Apachean Cultures:** In 1598, Juan de Oñate, the son of a silver baron who had made his fortune in the mines of Zacateca, received royal authorization in 1598 to invest in the colonization of New Mexico. His attempts at colonization and his travels up El Camino Real from central Mexico brought him into contact with a number of North American Indian tribes. In northern Mexico and southern New Mexico, these tribes were part of a larger group of southern Athapaskan-speaking tribes whose territories reached from eastern Arizona through most of New Mexico, portions of southern Colorado, western Kansas, Oklahoma, and western and central Texas. Bands of these Apachean-speakers were also found in northern Mexico near the southern borders of New Mexico and Arizona, and the western border of Texas. Generally, there are seven recognized Southern Athapaskan- or Apachean-speaking tribes. These include the Chiricahua, Jicarilla, Kiowa-Apache, Lipan, Mescalero, Navajo, and Western Apache.

Anthropologists and linguists generally agree that the Athapaskan-speaking Apachean groups that populated the Southwest at the time of Spanish exploration had migrated into that area from regions in the north and east. Generally speaking, the various Apachean groups in New Mexico and Arizona were originally part of a larger movement of these peoples from the southern Great Plains to the Southwest. They were primarily hunters and gatherers who were subsisting by following the movement of the vast buffalo herds of the Great Plains area. It is difficult to determine exactly when the various Apache groups differentiated, but it has been surmised that in some cases the material cultural differences between these groups may be due to their

proximity and social interaction with the more sedentary tribes of New Mexico. For the purposes of this report, the Apachean tribes most directly impacted (due to their location) by El Camino Real were the Chiricahua and the Mescalero.

Juan de Oñate's travels north through southern New Mexico followed the Río Grande route, and he passed directly through the traditional territories of the Chiricahua and the Mescalero Apache. The Chiricahua Apache occupied lands throughout southwestern New Mexico, the southeastern corner of Arizona, and areas straddling what are today the States of Sonora and Chihuahua in Mexico. The larger tribal entity is named after the mountains in southern Arizona of the same name. Although various authors group the various bands of Chiricahua differently, there are three major named bands of the larger group. The Apache designation for the eastern band is "red- paint people" (*cih ne*). This band occupied most of the Apache territory west of the Río Grande in New Mexico. Their immediate Apache neighbors to the east were the Mescalero. The red- paint people were divided into subgroups, or sub- bands, and were named after geographic landmarks within their respective territories. Some of these names included Mimbrenos, Coppermine, Warm Springs, and Mogollon Apache.

The central band of the Chiricahua resided to the west of the red- paint people. An English equivalent is not mentioned for the Apache name for this band—*co- kan n*. The range of this band included present- day Willcox, Duncan, Elgin, and Benson, Arizona, and included the Chiricahua, Dragoon, Mule, and Huachuca mountains.

The southernmost band of the Chiricahua occupied the region just south of the United States- Mexico border (eastern Arizona and western New Mexico). In their own language they refer to themselves as "enemy people" (*'d 'I'da-* ), with the implication that they were feared by their enemies. Sharing this southern region were tribes referred to in the historic literature as the Jocome and the Jano. Various

Spanish records make reference to these latter tribes as Apache, and there is disagreement over the exact identity of these groups. It is suggested that these groups were distinct bands of the Chiricahua, but were nonetheless Apache, while other argue that they were not Apache.

The Mescalero Apache occupied a region directly east of the eastern band of the Chiricahua—the Río Grande forming the boundary between the two Apachean tribes. The lands of the Mescalero were fairly extensive, and while they considered the area of eastern New Mexico and northern Mexico their core territory, they also ventured farther east for selected commodities—particularly buffalo. They were also known to travel farther north for short periods to trade.

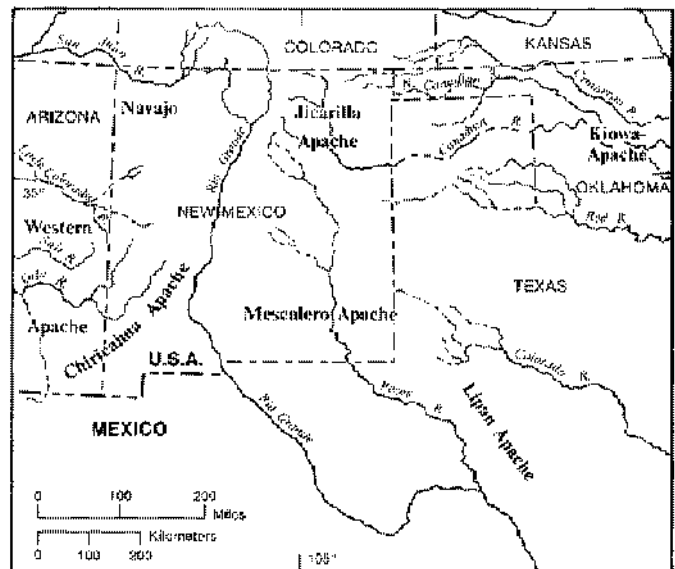


Figure 3: Apachean- speaking tribal locations (from Young 1983:394).

The third Apachean group considered here is the Jicarilla Apache Tribe. The Jicarilla occupied much of the area of New Mexico north of Santa Fe, as well as a portion of southern Colorado. As is the case with other tribal "home" territories, especially those relying on a hunting and gathering economy, traditional lands were also used by other tribes who shared a similar lifestyle. In historic times, the traditional lands of the Jicarilla described here were also used by various bands of Utes, as well as by other tribes who passed through the

area. Increasing pressures from non-Indian settlers from the east and the movement of tribal groups from the Rocky Mountain area brought incursions of additional tribal groups into the area, such as the Comanche.

The Jicarilla practiced a mixed economy, but still relied primarily on hunting and gathering. With the tribal homeland in close proximity to the Great Plains, the Jicarilla hunted the buffalo and were in contact with other Great Plains tribes who passed through the mountain passes to trade and hunt. Agriculture complemented the Jicarilla hunting practices, and when the Spanish arrived in the area, the Jicarilla were described as living in flat-roofed houses or

predatory raiding for a portion of their livelihood, often brought groups into conflict. But from another perspective, the relationship between the semi-nomadic Apachean groups and other tribes, such as the Puebloans of northern New Mexico, can be viewed as symbiotic in character. The sedentary, horticultural Puebloan peoples and the hunting and gathering Apache (including Navajo) developed an economic relationship of benefit to both. Inter-tribal trade brought tribes with different resources together to trade. When such relationships exist between different cultural groups, it is common for more than subsistence resources to be shared. It was this relationship, rather than just the individual tribes, that was severely impacted by the arrival of the Spanish in the 16th century—and the Americans in the 19th century. El Camino Real from the south (as other important trails) no doubt played a large role in facilitating these impacts.

#### ***Apache Social and Economic Organization:***

What are referred to here as the three bands were themselves composed of local extended family groups. Each group consisted of 10 to 30 families, and these groups were closely tied to a specific territory. These groups were organized around individuals who were referred to as “chiefs.” However, these positions were earned and maintained by individuals who exhibited specific skills or traits such as bravery, eloquence, or generosity. In short, leadership positions in the groups were fluid, depending on the need and the abilities exhibited by individual group members. The role of a band leader was to lead through influence rather than through any institutional authority or power. Such a leader may have served as a spokesperson in dealing with other groups, but one of the most important roles of such a person was to intervene in and/or help prevent disharmony within the group.

Bands were largely independent of one another and did not come together to form any larger social entity. However, the bands operated under a rule common to all bands: freedom of access to resources. This common rule was not enforced by any institutional authority, but it

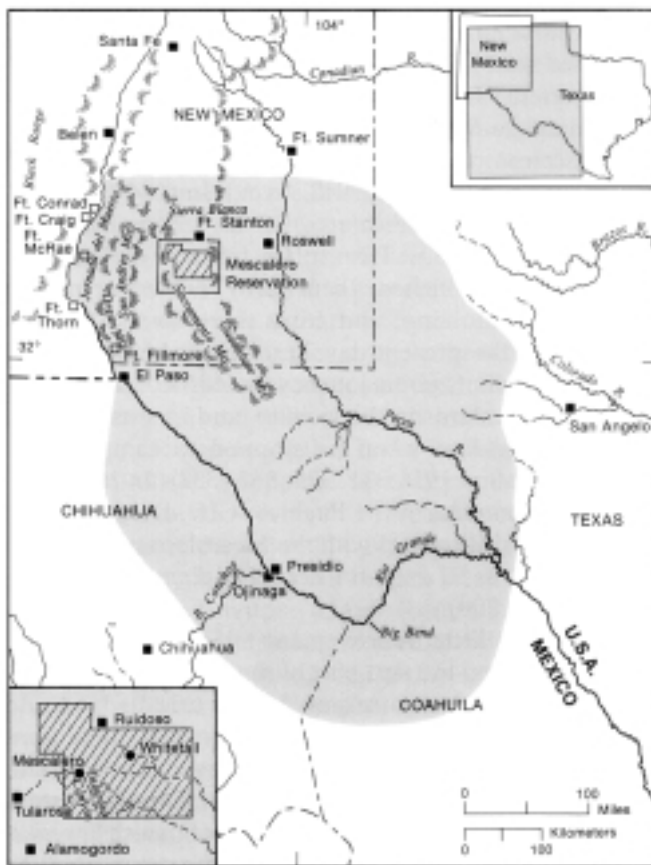


Figure 4: Mescalero tribal territory about 1830 (after Opler 1983:419).

*rancherías.*

Since all the Athapaskan-speaking Apache were recent émigrés to the region, they naturally came to settle on or near lands already occupied or used by others. This, and the fact that the Apachean groups relied partly on

did constitute a principle of organization followed by most, if not all, bands. In this way, the band, if not a political entity, can be viewed as a corporate entity that was operated with public goals related to appropriate subsistence activity. Patterns of reciprocity related to the sharing of subsistence resources within the band provided the basis of these public goals.



Figure 5: Agave (Century Plant: *Agave arizonica*: USDA)

The band itself was organized around kinship. Kinsmen of the leader would form the basis of a group nucleus that was relatively persistent. But kinship was not necessarily a defining character of band membership. Close kinsmen of the leader were free to choose membership in another band, making the band composition somewhat fluid.

*Subsistence:* The band economy relied primarily on the hunting and gathering of resources within the group’s territory. Men hunted. Deer was a primary wild game source of food, but hunters also targeted rats, squirrels, cottontail rabbits, and opossums. In the later historic period, surplus horses or mules were also used as food sources, as were cattle captured in raids on nearby settlements.

Women were responsible for the gathering of plant foods. Due to the fact that desirable plants grew at differing elevations or in different locations at differing times of the year, the extended family group moved frequently to

take advantage of plant availability. Of all plant food sources, agave (century plant) (*Agave parryi*) was perhaps the most prized. Agave was gathered, the plant shoots were roasted, and the crown was dug up and baked in underground ovens. Baked agave—mescal—was dried and stored, and provided a food source for many months throughout the year. Other wild plant foods included mesquite beans, yucca, juniper berries, locust blossoms, onions, potatoes, sunflower seeds, many grasses, acorns, piñon nuts, cactus fruit, and chokecherries, to mention only a few. The Chiricahua engaged in some horticultural practices in areas where suitable tillable lands were available. Corn and melons were initially cultivated. Additional cultigens were added later (chilies, beans, pumpkins, squash, potatoes).

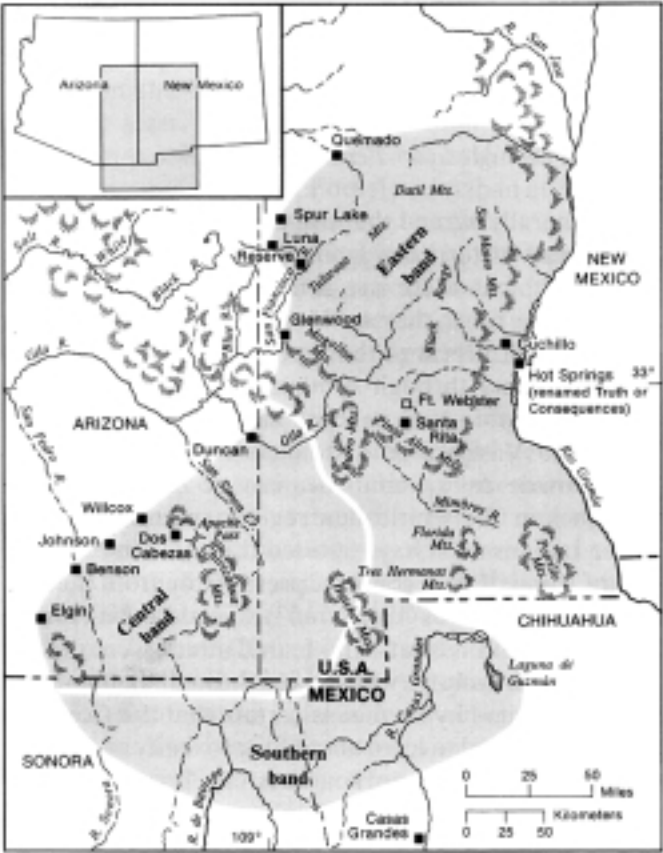


Figure 6: Mid-19th century map of Chiricahua Apache band territories (from Opler 1983:402).

**Apache Territory:** As subsistence hunters and gatherers, the Apache identified with a larger geographic area, within which

freedom of movement was highly prized. Bands exercised no control over specific lands, but they did identify with large, named geographic regions in which they moved seasonally for hunting and gathering purposes. Some regions, such as those occupied by the Mescalero and the Chiricahua, were marked by high, rugged peaks and generally dry plains—neither conducive to agricultural settlement. Winters in mountain ranges were severe; the flats were dry and hot in summer. While there may have been favored camping sites by bands, movement was primarily determined by the seasonal availability of resources in a given area. The local ecology required such movement over large areas, and limited the size of tribal populations.

With the arrival of newcomers to the region, such as the Spanish explorers and settlers, and later American émigrés, Apache subsistence territory was heavily impacted. The introduction of ranching, irrigation systems, permanent settlement along rivers or streams, or near springs, brought pressure on native wildlife habitat and native plant communities—in many ways the basis of Apache hunting and gathering economies. This was especially true in areas heavily impacted by the introduction of cattle and other domestic livestock that favored plants near water sources normally relied upon by the indigenous population for subsistence gathering. This pattern of environmental disruption was repeated throughout the West, and brought about serious negative impacts on Indian lifeways and survival.

#### ***Apachean Worldview and Religion:***

El Camino Real not only provided a means by which Spanish colonizers moved men and material into New Mexico. The road also provided a means by which the Spanish government could implement one of its major goals: conversion of the indigenous populations to the Roman Catholic faith. Religious conversion of the North American Indian, an adjunct to the colonization of lands and resources, was a major goal of the Spanish Crown, as well as of the local colony administrators. Because of this, it is important to briefly describe the indigenous religious views of North American

Indian populations in New Mexico, because these views were one of the immediate targets of colonizers, administrators, and religious officials. In short, El Camino Real North provided the means not only to gain physical control of local populations and lands, but also the means by which control could be gained over the worldviews and religious beliefs of North American Indians. Control over these beliefs may have had the most profound and lasting effects on Indian peoples of the region.

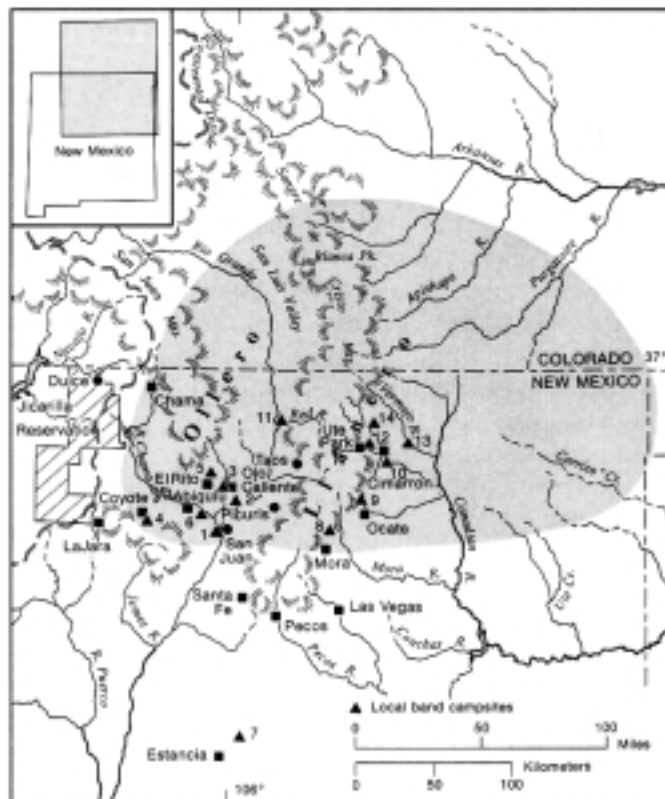


Figure 7: Jicarilla territory with band locations circa 1850 (after Opler in Tiller 1983: 441)

It is difficult to provide a generalized description of tribal religious beliefs and practices for Indian communities. First of all, in traditional tribal societies, there may be a core set of beliefs and religious practices, but they are often personal, not communal; and, while there may be individuals recognized as having traditional religious knowledge, there may be no recognizably distinct social institution such as an organized church. Second, traditional religious beliefs and practices are often so closely intertwined with all other aspects of

tribal social life that it may be difficult to classify any one element as religious, and any other secular. But this fact alone magnifies the impacts to Indian life, because Christian missionary attempts to change religious orientation reverberated through almost every element of Indian social and cultural life.

The Apache bands generally held that there is a giver of life. Prayers might be addressed to this life-giver, but he/she may not have been involved in the ceremonial rounds of the band and its members. Ceremonies were more likely centered on individual ability to acquire supernatural power that pervades the universe. Conducted after consulting with, or being aided by, a traditional religious practitioner, a ceremony might last for few days during which an individual might engage in ritual smoking, singing, or the administration of medicinal herbs or special foods. Ceremonies were conducted to address a wide range of needs—everything from curing or diagnosing illness to finding the power to defeat enemies, provide luck in hunting, or help locate a mate. Animals and plants—even celestial bodies—could be used as channels of supernatural power. Geography also played an important part in religious life and worldview. Among the Chiricahua, a group of deities were referred to as mountain spirits who lived in the highlands that surrounded tribal territory to protect the tribes from disease and enemies. Often religious legends and stories focused on tribal identity and origins, culture heroes who performed feats of courage, or activities that helped explain the differences between tribal groups. It is important to note that Indian religious beliefs encompassed the entire world that surrounded them. Animals, plants, minerals, mountains, streams, springs - the entire physical world around them was seen as possessing a diffuse power or force. The object of ceremony, or of following a seasonal round of ritual, was to allow the individual to tap into this power and manipulate it to meet specific needs. This diffuse power was pervasive; it existed in all things and, if controlled, could be used for good or bad purposes. Rituals and prayer to ensure general success marked all stages of life.



Figure 8: Approximate Navajo settlement area about 1600 (from Brugge 1983: 490)

Religious belief and ritual was pervasive, in the sense that there were few aspects of the traditional life that were independent of, or not affected by, the supernatural power found in all things. Consequently, supernatural power and religious ceremony touched every aspect of life, and formed the very way individuals viewed the world around them. With this in mind, it is clear that attempts to convert Indian people to new religious views profoundly affected every aspect of traditional life. Recruitment to a new religion was also a wholesale recruitment to a new worldview. Inasmuch as El Camino Real provided the pathway for Spanish missionaries, and a route along which missions were established, it was a significant instrument in fundamental cultural change for indigenous peoples of New Mexico.

**The Navajo:** When Juan de Oñate traveled up El Camino Real, the Puebloan peoples were virtually surrounded by Athapaskan-speaking peoples. The largest group of Athapaskans in the Southwest at the time of Spanish arrival was the Navajo (*Apaches de Nabajó*). At that time, the Navajo were a semi-sedentary people who practiced a mixed economy (hunting and gathering mixed with limited agriculture) in an area to the west of the Río Grande, extending to today's Four Corners region of New Mexico, Colorado, Arizona, and Utah. Part of this economy included trade with their

immediate neighbors, who were the various Puebloan communities in Northern New Mexico and Arizona.

Anthropologists believe that the Navajo were part of the larger migration of Athapaskan-speaking peoples into the Southwest from more northern regions. There is some debate over the timing and sequence of this migration and differentiation of the various Athapaskan groups (various Apachean groups and the Navajo). The earliest arrival into the Four Corners region may have been around the year 1000. Over time, the Navajo and their Puebloan neighbors developed a symbiotic relationship: The Navajo traded goods resulting from their hunting and gathering economy for agricultural goods from the more sedentary Puebloan peoples. This symbiotic relationship resulted in the sharing of cultural traits.

As was the case with other tribes of the region, Navajo relations with Puebloan neighbors and the Spanish ranged from friendly to hostile, although the Spanish aided the Pueblos during the revolt of 1680. Their alliance with the Pueblos during the revolt and after the return of the Spanish had important consequences for the Navajo. Soon divided after the successful revolt, Puebloan peoples were eventually once again brought under Spanish control. As the Spanish military returned to retake control of the region, many Puebloan people sought refuge with the Navajo. In certain regions, this mixing of cultures brought about changes in Navajo culture, which persist to this day. Although the Navajo generally seemed to reject the highly structured nature of Puebloan societies, they adopted aspects of Puebloan religion. The traits compatible with traditional Apachean values were accepted, while others that were not compatible were rejected. A widely dispersed lifestyle based on animal husbandry; hunting, and manufacture emerged and became a defining character of the Navajo people.

Sheep herding has emerged as a major focus of Navajo life and identity. Residence groups in traditional Navajo communities are organized around the sheep herd. Sheep are central to

cooperative aspects of Navajo life, because almost all family members have an interest in the welfare of the herd. Children are taught early on to care for sheep, and soon learn that caring for and tending the herd are cooperative family activities that reflect upon the well-being and character of the family group.

As in other Apachean groups, the Navajo residence group was traditionally the major element of social and political organization. Beyond the local matrilineal-based family group level, there was no clearly defined political organization. Loosely defined larger groups were organized around a local headman, but this larger group was usually mobilized only to deal with outsiders—other Navajos, other Indian tribes, or non-Indians. Some authors have written that Navajo social organization was highly flexible—communal and individualistic at the same time—a characteristic that may account for differing interpretations of Navajo social organization by different writers. Flexibility allows adaptation to rapid change and communal action when necessary, or an emphasis upon the importance of individual choice and action.

As is the case with other tribal groups, Navajo life relies heavily on traditional religious concepts and ceremonialism. Efforts by the Spanish (and later by American missionaries) to convert Indian people in the Southwest to Christianity were only partially successful, because traditional religious beliefs and ceremonies are well integrated into contemporary Navajo life. Navajo religious life is more accurately described as a ceremonial system that recognizes the links between all things and generally seeks to restore harmony to all aspects of Navajo life. Navajo views of their origins and the sacred nature of all things around them, as well as of the importance of place, have important implications regarding identifying and determining any impacts to ethnographic resources resulting from projects proposed by outsiders.

The Navajo today reside on a 16-million-acre reservation—the largest Indian reservation in the United States. The reservation surrounds

the present Hopi Indian Reservation. A tribal President and a tribal council govern the Navajo Reservation. The reservation is broken up into administrative districts called chapters. When working with the Navajo Nation on project work, and in consultation, it is important to contact not only the tribal office, but also the appropriate chapter offices.

**Puebloan Cultures:** Initial Spanish contact with the Puebloan peoples of northern Arizona and New Mexico took place more than a half-century before Juan de Oñate's march up El Camino Real de Tierra Adentro in 1598 along the Río Grande corridor. Oñate followed the earlier contacts made by Francisco Vázquez de Coronado (1540), Francisco Sánchez Chamuscado (1581), Antonio de Espejo (1582), and Gaspar Castaño de Sosa (1590). These expeditions, or *entradas*, gathered considerable information about the locations and conditions of the Puebloan communities they encountered in the upper Río Grande Valley. It is difficult to assess any complete picture of all the Puebloan communities in the earliest historic period, because each explorer reported only on his own experience. However, it is safe to say that the early Spanish travelers along the Río Grande corridor encountered an extraordinarily complex and sophisticated social environment, consisting of a relatively large and diverse Indian population that was the product of a number cultural cross-currents—cultural cross-currents still debated by researchers.

The Puebloan groups of northern New Mexico form a unit that is quite distinctive from other Indian groups. Unlike the tribes surrounding them, the Puebloan peoples belonged to language groups distinct from the Apachean tribes, lived in permanent settlements, and engaged in sophisticated agricultural practices that were the center of their subsistence activities. Agricultural practices likely found their way to the upper Río Grande from the south, and when adopted by Puebloan ancestors. The introduction of culti- vars such as corn, beans, squash, and cotton, which required a secure water source, led to a more sedentary life than those of their neighbors who relied heavily on hunting in wide - ranging territories. The pueblos, or villages, themselves differed markedly from the temporary encampments of hunting and gathering groups, because they were built as permanent, multi-storied compact stone -and- adobe structures exhibiting central plazas.

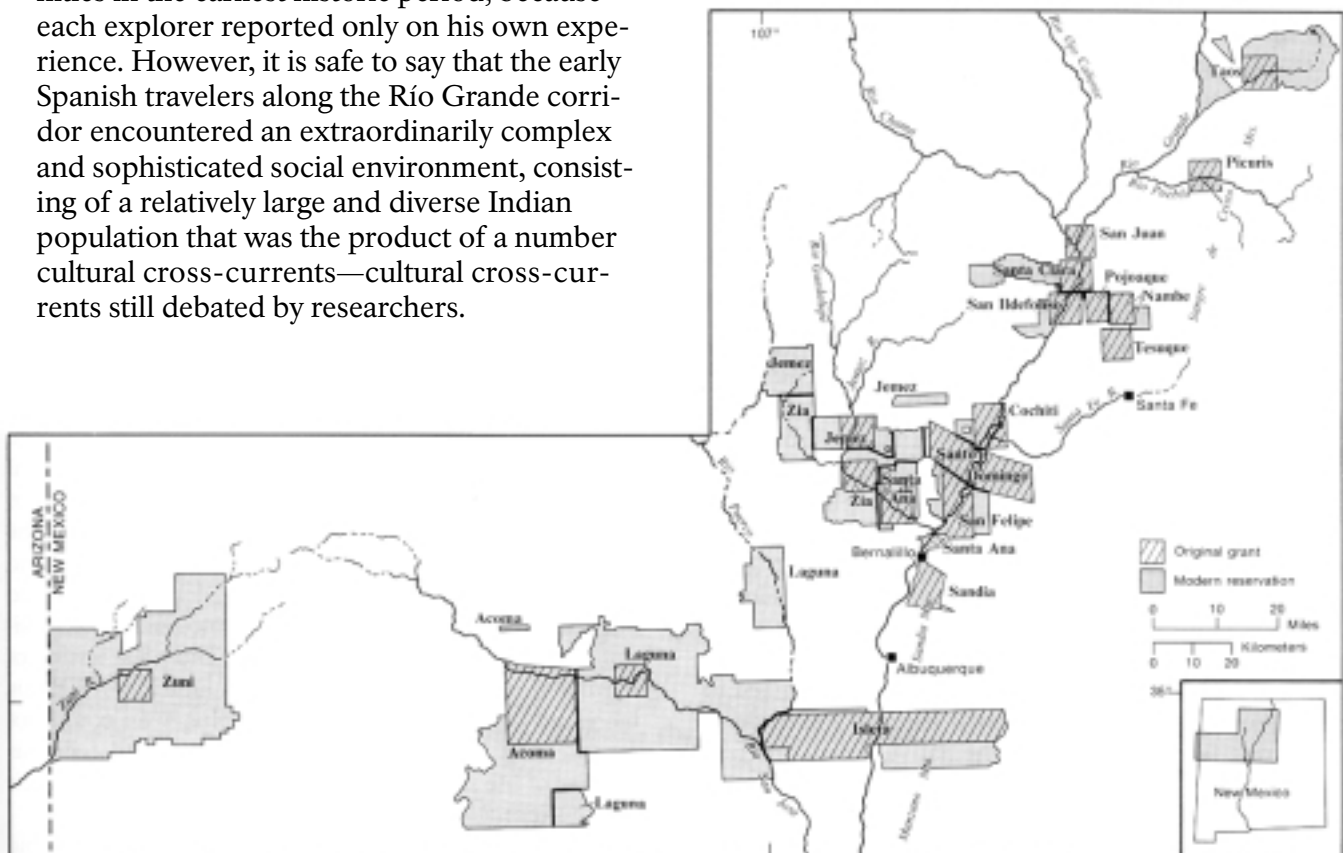


Figure 9: Original royal land grants and modern reservations. Hopi is not shown since there was not a Hopi grant. (From Simmons 1979).

Linguists and anthropologists have divided the various Puebloan communities into two major groups: the eastern pueblos of the Río Grande Valley, and the western pueblos residing the mesa- and- canyon country. The Keresan pueblos, found in the center and to the west of the eastern pueblos, are often classified as a third grouping. This division is based largely on social and cultural differences between the pueblos. Linguistically, the pueblos can be arranged into four major groups. These linguistic differences are important since they suggest different origins for the various Puebloan villages. The Uto- Aztec language family is found in the Hopi villages (with variations)—it is a language closely related to the Numic languages of the Great Basin region. The Zuni, closely related culturally to the Hopi, speak a language that is perhaps distantly related to California Penutian. The Kiowa-Tanoan language family is spoken in the Puebloan villages of the Río Grande Valley—with three linguistic subgroups: Tiwa in the northern and southernmost Puebloan villages; and Tewa and Towa in the center. As the name suggests, the Tanoans speak a language related to a Great Plains tribe—the Kiowa. The Keresans linguistically stand alone, and do not have known linguistic affiliations. These groupings are most useful in making more recent historical comparisons.

The number of occupied Puebloan communities has changed over time. Pressures of colonization, droughts and famine, conflict with the Spanish administration, inter- tribal or inter- Puebloan conflict, as well as subsequent American control, have all taken their toll on the cluster of Puebloan communities along the path of El Camino Real. After centuries of turmoil and acculturation, the following Puebloan communities are now found in New Mexico and Arizona: Taos, Picuris, San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, Sandia, Isleta, Cochiti, Santo Domingo, San Felipe, Santa Ana, Zia, Jemez, Laguna, Acoma, Zuni, Hopi, and Tewa Village. However, there were Puebloan communities originally observed by early Spanish explorers and administrators that were abandoned for a variety of reasons, and the inhabitants of these

Puebloan villages found refuge among other Puebloan communities.

**Tribes to the North—the Ute:** Any description of the cultural environment of El Camino Real must address, even if only in a cursory manner, the tribal groups that found their way into central and northern New Mexico to trade or raid. Beyond the northern end of the road are found the various bands of Ute Indians. Although the primary territory of the Ute bands were the mountains of western Colorado and eastern Utah, they also had a significant presence in Northern New Mexico during the historic period. The Ute were allies or enemies of the Navajo, depending on what was going on at the time. They frequently raided the Apache and Puebloan communities in the upper Río Grande—the historic record reflects nearly 100 reports of such raids. Variable relations also existed with the Great Plains Indian tribes to the east. Relations with the newly arrived Spanish also experienced some shifts. However, with the Spanish, the Ute found a partner in the trade for slaves obtained in raids from other tribes. With the introduction of the horse and increased pressure from the Spanish for slaves, raids by Ute tribesmen on Shoshone and Paiute bands increased.

Various Ute bands were associated with specific territories. However, the Ute were highly mobile, and movement through the various sections of the traditional territory was common. During the early historic period, various authors reported between 10 and 12 Ute bands. These included the Weeminuche, Capote and Muache, on the southern border of Colorado; the Uncompahgre (*Taviwach*), White River (*Parusanuch and Yampa*), in central and northern Colorado; and the Uintah, Pahvant, Timpanogots, Sanpits, and Moanunts of east-central and northeastern Utah.

The eastern Ute bands were in contact with the Spanish not long after they arrived in the area in the early 17th century. During this period, and up to the middle of the 18th century, Ute bands raided the settlements of northern New Mexico to steal horses from the Spanish

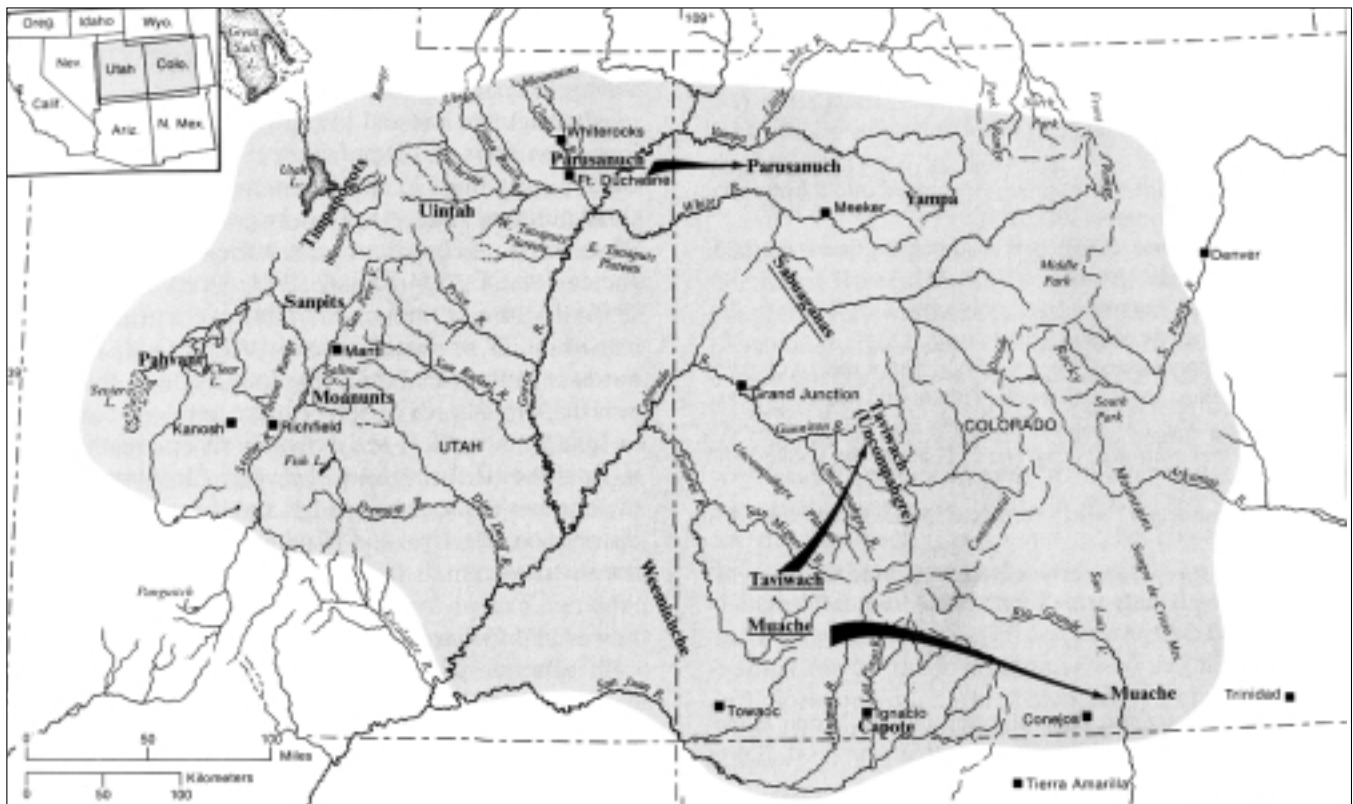


Figure 10: Early 19th century territory of Ute bands in Colorado, Utah, and New Mexico. Underlined band names indicate approximate 18th century locations; those not underlined are pre-reservation 19th century locations. (from Callaway, et al 1986)

and other goods from the Puebloans. As other tribes to the east acquired the horse, there was increasing encroachment on Ute territory from Great Plains groups such as the Arapaho, Sioux, Cheyenne, and Comanche. From the early 1600s until the mid- 1800s, conflict with the Spanish was periodic; with the advent of the American period, an 1855 treaty was signed with the governor of New Mexico Territory confining the Ute to Colorado.

Ute influence extended throughout the Rocky Mountain region in Colorado and the eastern basin and range provinces of Utah. The arrival of the Spanish and the establishment of Spanish settlements not only affected tribes in New Mexico and Arizona- the effects were also strongly felt by tribes that rarely came into contact with the newcomers. To some extent, the Ute were a conduit of these impacts for other tribes. After the arrival of the Spanish, the Ute bands took advantage of the Spanish slave market and raided tribes to the west and north for women and children to meet the Spanish need for herders, ranch hands, and general hacienda labor. The memory of such

raids, made in concert with Navajo allies in the 18th and 19th centuries, is still strong among the Southern Paiute peoples in southern Utah and northern Arizona.

With the beginning of the American historic period in the mid- 19th century, the Ute bands found themselves under pressure from all directions. The Mormon settlers in valleys of central Utah displaced Ute bands from their traditional lands in that territory. By the 1870s, members of various western Ute bands were removed from their traditional homes and confined to the Uintah Reservation in northeast Utah. At the same time, increasing pressures from mining interests and settlers from the east forced the constriction of the Ute territory in Colorado. By the end of the 19th century, Ute territory in Colorado had been reduced from 56 million acres to the present reservations (Southern Ute and Ute Mountain Ute) of approximately 850,000 acres.

Although Spanish laws protected Indian land rights, Oñate, and Spanish settlers to follow, established an administrative system that

extracted tribute and forced labor from the Puebloan communities. Selected administrators were expected to exercise trusteeship over specific Puebloan communities—to protect Indian rights, provide military protection, and aid in efforts to Christianize the population. From the outset of their arrival, Spanish administrators and colonists required laborers on the growing number of farms, ranches, and haciendas established in the area. In response to this need, a system of forced labor (*repartimiento*) was established to provide needed labor. Food, at first freely given to the arriving Spanish, was now extracted as a tax on each Puebloan community to support colonial administrator. In time, the colonial systems established by Spanish administrators and the Roman Catholic Church led to severe abuses. At the same time, church officials feuded with colonial administrators over the control of the Pueblos and their resources. These internal conflicts among the newcomers led to confusion and frustration among the Indian people. Finally, these abuses and the growing frustration only added to the huge impacts already visited on Indian populations—perhaps the most significant being the devastating and depopulating diseases introduced to by the colonists—an event not confined to the experience of contact in the Southwest. The response to such pressures and abuses was a general Puebloan revolt. In August 1680, after lengthy preparations by prominent Puebloan leaders, representatives from various Puebloan communities ordered the Spanish to leave or be killed. The resulting conflict saw the death of over 400 Spanish settlers and a departure of the Spanish from the Río Grande Valley for the next 12 years.

**The Great Plains Tribes:** Historic records indicate that Great Plains Indian tribes visited, raided, or traded with the Puebloan communities, especially those on the eastern periphery of the Río Grande Valley. Great Plains tribes, like the Apachean groups, were primarily hunters and gatherers who often moved across the landscape to follow hunting opportunities. They may have taken the opportunity to raid the more sedentary Pueblos, but there are ample instances of trade between

Great Plains tribes and Pueblos. Great Plains tribes offered buffalo hides, deerskins, meat and tallow, and salt. In exchange, Pueblos provided cotton goods, pottery, corn, and turquoise. Visitors from Great Plains groups included various Apache bands from the east, as well as the Jumano, Kiowa, Comanche, and Pawnee, who have traditions of living in or traveling through the Southwest. Depending on the time period, and the ecological and political circumstances, these groups moved in and out of the area, providing opportunities for intermarriage and periodic raiding, as well as cultural exchange, with the sedentary Pueblos.

The periodic movements of the Great Plains Indian groups in and out of the area surrounding El Camino Real are complex, and require a description not only of shifting ecological circumstances, but also of the ever-changing political environment. Spanish alliances with Great Plains groups, such as the Comanche, as well as with the Ute to the north, depended on existing hostilities with the Pueblos and various Apache bands, and even on pressures from the French, who sought Indian allies against the Spanish. But the important point to make is that Great Plains tribes were certainly in contact with Puebloan communities along the Río Grande (and farther west) when the Spanish first arrived. Regardless of how they are characterized by various authors, the relationships among these groups were certainly affected by the introduction of a large contingent of Spanish military, administrators, priests, and colonizers. El Camino Real was a major factor in the introduction of these individuals and institutions to the region.

## Archeological and Historic Resources

Significant cultural resources associated with El Camino Real de Tierra Adentro are archeological and historic sites, cultural landscapes, ethnographic resources, and sites with high-potential for public benefit that have been identified in accordance with the National Trails System Act, sections 12(1) and 12(2). Many of the archeological sites and historic structures along El Camino

Real have a direct thematic relation to the trail. The sites listed in this section are those that have a significant, direct connection to El Camino Real. Many sites that are well beyond the Río Grande Valley and are not directly related to the route have not been included in this discussion. The sites and segments described are those along El Camino Real from El Paso, Texas, to San Juan Pueblo, New Mexico. The development of El Camino Real is closely tied to the many prehistoric and historic North American Indian groups who lived along the corridor and who used it for centuries. Because of the magnitude of the potential sites, only those with strong relationships with the trail have been included.

**Archeological Resources** - El Camino Real has been described as the longest and most extensive archeological site complex in New Mexico. It is a major archeological resource that provides new light into significant periods of the history of New Mexico and the United States. The artifacts, campsites, and structures that investigators have identified along the trail provide a unique view into New Mexico history and the lives of those who made it.

Although the general route of El Camino Real de Tierra Adentro is clear and a number of specific locations associated with the trail have been documented, in many other areas the precise location of the trail is not known. Historic activities and natural processes of erosion and deposition have undoubtedly destroyed or obscured many trail segments. In other areas actual physical traces of the trail are likely, but historical and archeological documentation is incomplete.

This investigation, which focused on 67 miles (108 kilometers) of the trail, uncovered information to document 39 sites and identified 127 road segments. Most of this work was concentrated on three geographic areas: Jornada del Muerto, Bosque del Apache, and the regions of La Bajada and Santa Fe. Marshall's (1991) investigation revealed evidence of early colonial use. One of the earliest sites associated with the colonial period is Las Bocas encampment, where Glaze E Pecos Polychrome has been found in Jornada del Muerto near Paraje de San Diego and Rincon Arroyo. Several other projects have considered

specific segments of the trail, mostly in the Santa Fe area.

La Majada North road is another area where scattered artifacts document the prehistoric, colonial, Mexican, and territorial use of El Camino Real. (Note: La Majada North road is named for La Majada Grant in Sandoval and Santa Fe counties. The grant includes La Bajada ["the descent"], which is the mesa and cliff of volcanic basalt. La Bajada is the dividing point between the Spanish provinces of Río Arriba ["upper river"] and Río Abajo ["lower river"].) Prehistoric early Glaze period ceramics were found over the mesa, an area that apparently was farmed during this time. Three ceramics clusters from the colonial period have also been identified: Two Tewa Polychrome from ca. 1650 to 1725, and a plain red soup bowl. A variety of Territorial period artifacts have also been found along the road: Hole-in-cap cans, sardine cans, bottle glass, stonewares, porcelain, and other earthenwares, and potsherds of ironstone.

One important archeological site is the Paraje de San Diego near the southern end of Jornada del Muerto. It was an important campsite where northbound travelers prepared for the journey and southbound travelers rested. A New Mexico State University field school sponsored by the BLM recovered a wide range of Colonial period ceramics from this site (Fournier 1996; Staski 1996).

Scurlock, et al. (1995), have documented archeological resources on Tomé Hill, a topographic feature that had special significance to the prehistoric pueblos of the area. The site includes a multi-room-block village site, two probable shrines, and a number of petroglyphs.

The Archeological Conservancy, a nonprofit preservation organization based in Albuquerque, has acquired several sites that are important to the history of El Camino Real. San Jose de las Huertas is considered to be the best-preserved Spanish colonial village in New Mexico. This 28-acre site north of Albuquerque, in the vicinity of Placitas, was occupied from 1764 to 1823. The walled village contains as many as 10 undisturbed house mounds.

The Archeological Conservancy also owns the remains of a Spanish colonial ranch, one of numerous sites known to date from the Colonial period. The site, with four rooms and a *torreon* (circular tower) feature, was built just south of Santa Fe along the Santa Fe River between 1610 and 1680.

### Historical Resources -

**Prehistory:** Long before the coming of Europeans, North American Indian trails and pathways crisscrossed many areas of the Western Hemisphere. Over thousands of years, North American Indians learned the best routes or corridors for travel. By the coming of Europeans, they had identified river crossings, valleys, canyons, passes through mountain ranges, and watered areas for travel in their respective areas of use. In the deserts and forests of North America, in particular, Indian people established trade and hunting routes. In their way and in their time, they communicated with other people in other lands. Their trails established the practical routes that crossed large regions in which they lived. In effect, they influenced the pattern of colonial roads, and, to a great degree, modern highways that would later be developed by Europeans.

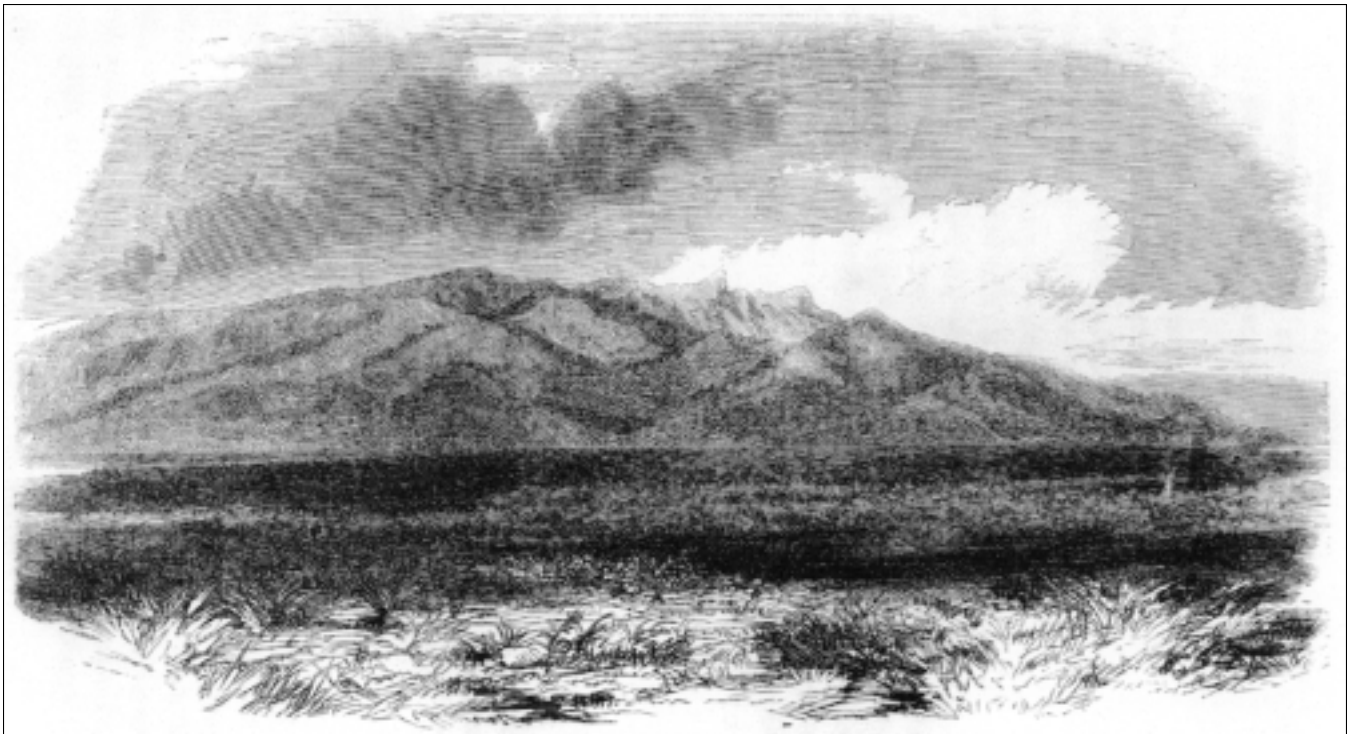
**Spanish Exploration:** The first explorers and settlers who developed El Camino Real generally followed indigenous routes that traversed present-day Mexico and what is now the southwestern part of the United States. For example, one route used by Aztec and other native traders originated in the Central Valley of Mexico, and ran northward through the *meseta central*—the central corridor between the Sierra Madre Occidental and the Sierra Madre Oriental. It led north to major Indian centers such as Paquimé (Casas Grandes), which may have traded with the New Mexico Indian Pueblos along the Río Grande. Numerous archeological sites along the trail document the presence of Indian groups who lived, traveled, and traded along the trail corridor. Later, El Camino Real de Tierra Adentro followed the same corridor.

Soon after Hernán Cortés conquered central Mexico, Spaniards began to use the route that would become El Camino Real de Tierra Adentro. In the early years, the trail facilitated the development of the northern mining frontier, particularly as silver was discovered north of Mexico City in the 1540s. The establishment of Zacatecas by 1546 represented an important step in the development of the trail. As Spanish settlers pushed northward in the discovery of other silver mines, the first part of El Camino Real became known as *El Camino de la Plata* (the silver road).

With expansion came the demand for services, protection, and pacification of frontier areas. Cattle drovers moved herds hundreds of miles to mining areas. Merchants, bakers, butchers, tailors, and other small entrepreneurs established themselves within mining camps to sell their wares. In response to the demand for protection against warring tribes by investors, the Spanish Crown sent missionaries, soldiers, and settlers northward to establish religious and military institutions, as well as communities, along the route. Movement to the north continued, and by 1575, the frontier line had moved to the Santa Bárbara-Parral mining area in the province of Nueva Vizcaya (present-day Chihuahua).

**Spanish Settlement:** Leading settlers to New Mexico in 1598, Juan de Oñate blazed a new segment of El Camino Real directly north from Santa Bárbara to the crossing of the Río Grande at a place that came to be known as El Paso. From there, Oñate and his settlers closely followed indigenous routes along the Río Grande, thus establishing the general location of the trail, as it would be used for almost three centuries.

After reaching within sight of the Organ Mountains near present-day Las Cruces, Oñate and 60 horsemen departed the slow-moving *carreta* (horse-drawn cart) caravan and moved northward in advance to select a settlement site. Along the way, Oñate and his men noted the distinctive natural landmarks that highlight the corridor of El Camino Real. Following the Río Grande, they passed the



*Fray Cristobal Mountain, 1852.*

Fray Cristobal Mountains (which the soldiers derisively named after spotting a silhouette on the serrated ridge that looked like one of the priests on the expedition). They continued north, visiting Indian pueblos along the Río Grande, until they reached San Juan Pueblo.

Meanwhile, the *carreta* caravan found a flatter route of travel on the east side of the Organ Mountains. That route of El Camino Real came to be known as Jornada del Muerto—"dead man's journey." Nearly 80 miles long, Jornada terminated near present San Marcial, where the caravan rejoined the river. Short of food, the settlers reached Teypama, where native people gave them corn. In remembrance of their kindness, the settlers remarked that they named the place *Socorro* (relief), "because the people there furnished us with much maize." Beyond Socorro, the caravan followed the river past Isleta, the valley of present-day Albuquerque, and northward beyond San Felipe, Santo Domingo, and San Ildefonso pueblos before reaching their destination at San Juan.

At the confluence of the Río Grande and the Río Chama, at the small pueblo called Caypa, which they renamed San Juan de los

Caballeros, the settlers worked hard to establish living quarters and set up their planting fields while the summer growing season lasted. (Note: The Oñate "Itinerary" refers to this site as "Caypa"; other sources identify it as 'Ohke'). Oñate intended to build the capital of the province next to the pueblo, but the plan was abandoned. Although some remained at San Juan de los Caballeros, Oñate ordered the settlers to move to a new site a short distance down river during the winter of 1599-1600. This site, which would be the province's capital for a decade, was named San Gabriel, or San Gabriel del Yungue.

Greater changes affected the colony. After nine years of strife between Oñate and some settlers, he was exiled from New Mexico by Spanish officials. The Crown continued to support the colonizing efforts and in 1610 appointed Pedro de Peralta governor of the province. In accordance royal instructions, Peralta established Santa Fe as the capital. Throughout the 17th century, it was the only incorporated Spanish town north of Chihuahua. Soon after its establishment, Santa Fe became the terminus for El Camino Real. Trade caravans from Mexico City reached Santa Fe, while the mission supply caravan

reached Santo Domingo, the ecclesiastical capital of New Mexico.

Caravans reached New Mexico every one to three years. Although few details about the caravans have survived, a composite description can be reconstructed. The 17th - century mission supply train likely consisted of 32 wagons, escorted by a company of soldiers. The trail was further enlarged by herds of cattle, goats, sheep, and draft animals, as well as small farm animals, cats, and dogs. The wagons were heavy, and when fully laden, they required a team of oxen. Each wagon had two teams, and alternated between them. Caravans bound north from Mexico City carried not only friars and mission supplies, but also settlers, newly appointed officials, baggage, royal decrees, mail, and even private merchandise. Southbound caravans from Santa Fe carried outgoing officials and friars, traders, and the produce of the province, much of which was sold in the mining communities to the south along El Camino Real.

Throughout this early period, there was constant development along El Camino Real from Mexico City to Santa Fe, including mining, ranching, and farming. One of the central activities was milling. By the beginning of the 17th century, mills, animal - driven or water-powered, characterized the agricultural and mining haciendas. Mills were built along El Camino Real, and because of their economic importance they became associated with place names along the route. In time, haciendas, with their mills, were associated with extensive landholding patterns characterized by large fortified houses. So impressive were certain haciendas that they became towns on El Camino Real where travelers could find shelter and protection. Spanish frontiersmen depended on a line of presidios to defend their properties.

As the 17th century neared its end, the Pueblo Revolt of 1680 exploded. Pueblo Indians, united with Utes and Apaches, sent New Mexico settlers reeling south to El Paso, where they remained for 12 years. The revolt resulted from Indian resentment against Spanish colonial

occupation. The Pueblo Revolt is part of the history of El Camino Real, for the trail was the route used by the Hispanic refugees as they fled southward from Santa Fe, past the pueblos of the Río Abajo, through the Jornada del Muerto, and beyond to El Paso. From El Paso, Spanish officials led sorties northward along El Camino Real to assess the extent of the revolt, with the hope of reconquering New Mexico. In 1692, the reconquest began. Led by Diego de Vargas, the Spanish army moved northward along El Camino Real and succeeded in gaining a foothold in Santa Fe. Although there was intermittent resistance from the Pueblo Indians for several years, settlers and Puebloan peoples learned to live in harmony.

### **Spanish Military and Commercial Activities:**

The Pueblo Revolt and encroachment by French traders who explored westward from their Louisiana settlements along the Mississippi River awakened concerns over the security of New Spain's frontiers. During the course of the 18th century, military installations were established along El Camino Real to bolster defenses against both European rivals and resisting Indian groups, who posed more immediate problems to Spanish settlers. Periodic inspections by Spanish military officials led to changes in frontier defenses, and also provided descriptions of the frontier in their reports, travel accounts, and maps of El Camino Real and its environs.

After settlers and missionaries resettled New Mexico in 1692, increased numbers of caravans headed north. Two important new settlements were founded early in the century: Albuquerque in 1706, and Ciudad Chihuahua in 1709. The establishment of these towns resulted in larger- scale trade activities and new names for that segment of the trail, which became *El Camino de Chihuahua*, running south from New Mexico, and *El Camino de Nuevo Mexico*, running north from Chihuahua. Aside from commercial use of El Camino Real, renewed migration also resulted from the development of trade centers in communities with colonial roads that connected with El Camino Real.

During the 18th century, New Mexicans traded at a variety of local fairs. Off of El Camino Real, fairs at Taos, Pecos, and Galisteo attracted many merchants. New Mexican traders met with Comanches, Apaches, Utes, Navajos, and others who brought buffalo hides, deerskins, blankets, and captives to be sold or exchanged as slaves. They bartered horses, knives, guns, ammunition, blankets, *aguardiente* (alcohol), and small trinkets. In the fall, large New Mexico caravans moved south along El Camino Real to attend fairs at Ciudad Chihuahua.

Spanish law restricted trade and immigration from outside the empire, but local officials were often less strict. In the early 19th century, Taos drew French, English, and Anglo-American traders and trappers who initiated immigration from and trade with the United States. The 1807 capture of an American military party led by Lieutenant Zebulon Montgomery Pike in Spanish territory north of Santa Fe symbolized intrusion by the new country to the east. Just over a decade later, Anglo-American, French, and British traders increasingly moved along El Camino Real, taking advantage of the inability or unwillingness on the part of local authorities to control their activities.

**The Mexican Period:** After Mexico gained its independence from Spain in 1821, El Camino Real de Tierra Adentro, now a *camino nacional* (national road) of Mexico, expanded in importance as a trade route. Almost overnight, the *camino nacional* became linked with United States markets via the Santa Fe Trail from Missouri. In time, the trail from Missouri came to be known as the Santa Fe- Chihuahua Trail. Accordingly, much of the merchandise hauled across the plains did not remain in New Mexico; it was carried into the interior of Mexico along the *camino nacional*.

New Mexico merchants made important contributions to the growth and geographical expansion of trade along the former El Camino Real. They developed their own commercial networks, and by 1835 they were the majority of the people traveling into the

Mexican territory, owned a substantial portion of all the merchandise freighted south, and specialized in hauling domestic goods. After 1829, they expanded trade along what came to be called the Old Spanish Trail, which linked Santa Fe, New Mexico, present-day Arizona, Utah, and California. Throughout the 19th century, they continued to trade along the former El Camino Real, and they maintained close economic ties with their Mexican counterparts for decades after the Mexican-American War.

**The Mexican War:** In 1846, the former El Camino Real became an invasion route into Mexico. During the Mexican-American War, Stephen Watts Kearny, commander of the United States Army of the West, led his men over the Santa Fe Trail. Moving south from Las Vegas, he captured Santa Fe. Kearny then proceeded on to California. Meanwhile, Colonel Alexander Doniphan was appointed to command the U.S. troops stationed in New Mexico, and he moved south along the Chihuahua Trail. Near Las Cruces, at Brazito, a *paraje* (stopping place) on El Camino Real during both Spanish and Mexican periods, U.S. forces clashed with Mexican troops. Doniphan's victory at the Battle of Brazito led to the U.S. occupation of El Paso. Two months later, Doniphan captured Ciudad Chihuahua.

The Mexican-American War produced major political changes along the former El Camino Real, but commercial activities on the trail and across the new border between the United States and Mexico continued. Equally important, the cultural interaction and communication among the people who lived and worked along the trail never ceased.

**United States Territorial Period:** In the early Territorial Period of New Mexico, international commerce continued along the route from Santa Fe to Ciudad Chihuahua. During that time, the former El Camino Real continued to serve as a conduit for trade and immigration. To control the route, forts and garrisons were established along El Camino Real in the area between Mesilla and Socorro.

In 1862 the Civil War reached New Mexico, when Confederate forces under Major Henry H. Sibley came up the Río Grande from El Paso to Valverde, an old *paraje* of El Camino Real, on the banks of the river. Colonel Edward R. S. Canby, the commander of the Union forces in New Mexico, marched his troops from nearby Fort Craig to attack Sibley's forces. After a bloody encounter, the Confederate forces claimed victory. Soon after the battle of Valverde, Albuquerque and Santa Fe fell to the Confederate army. Sibley had succeeded in capturing strategic point along El Camino Real, but his plans came to naught. His objectives to seize the Colorado gold fields and establish a route to the Pacific Ocean came to a sudden stop in February 1862, when he was defeated at the battle of Glorieta Pass, southeast of Santa Fe. As the Confederates retreated south of Albuquerque, the final battle in New Mexico took place at Peralta, on the former El Camino Real.

In the years after the Civil War, the nature of the commercial activities along the trail from New Mexico changed again. With the growing presence of military forces in the West, supplying U.S. Army forts became one of the major sources of income for New Mexicans. The merchants associated with the former El Camino Real depended on federal government expenditures to supply army installations and the various Indian tribes. Most New Mexicans did not have the resources to continue the type of mercantile activity required by the evolving trade—the margin of profit had become so small that they were unable to make a profit. In 1880, the railroad reached Santa Fe, eclipsing the use of the Santa Fe Trail. Two years later, the railroad line had reached El Paso from Albuquerque, effectively leading to the decline of the road-based transportation on the former El Camino Real.

**Significance:** Roads are a necessary and significant function of the historical process of nation states. Historic trails throughout the Americas are indigenous in character and purpose. Factors regarding their development before European intrusions influenced the

location of many colonial roads, particularly El Camino Real de Tierra Adentro, which were established between 1521 and 1821. The origin of almost all colonial roads in Mexico and the United States are therefore obscure. They began in an unspecified time when prehistoric Indian peoples blazed networking trails north from the Valley of Mexico, ultimately joining those along the Río Grande in New Mexico and Texas.

**Prehistoric Trails:** Prehistoric tribes along the Río Grande established routes for trade and communications long before the arrival of the Europeans. Pre-Hispanic archeological sites from central Mexico to northern New Mexico document the varied Indian cultures who lived along variant trails that later formed the 1,600-mile (404 miles of which lie in the U.S.). Spanish colonial route for transportation and communication. Travelers along these prehistoric routes disseminated new ideas and technologies that influenced Indian tribes, principally the Río Grande Pueblos. Although pre-Columbian roads leading to the New Mexico Pueblos were not well developed beyond the central highlands, routes from the Central Valley to places lying within the edges of the Aztec domain were, on the other hand, better defined for travel. Unlike later roads developed by Europeans for wagons and beasts of burden, indigenous trails were, in contrast, primitive foot trails.

**Historic Roads and Trails:** The 16th-century Spanish colonial roads combined ancient trails with trails newly constructed, some of them with bridges, to areas with economic potential. Historically, the east-west and south-north pathways from Mexico City followed the pattern of Spanish expansion. Early colonial roads connected Spanish ports, towns, fortifications, mines, and Catholic missions, thus forming a new network of trunk roads known as *caminos reales*. One such road was El Camino Real de Tierra Adentro, which ran from Mexico City to Santa Fe in New Mexico. The northern part of El Camino Real was established by Juan de Oñate in 1598, almost a decade before the first English colonists landed at Jamestown, Virginia. The trail, 1,600-

miles (404 miles which lie in the U.S.) in length, provided the major link between the province of New Mexico far in the northernmost reaches of Spain's vast empire in North America, and Mexico City, the capital of the viceroyalty of New Spain.

Notwithstanding the contributing influence of indigenous routes, the historical period of significance for the portion of El Camino Real in the United States extends from 1598 to 1882. In Mexico, the route of El Camino Real began in the early 1540s. Throughout that period, traders and travelers along El Camino Real contributed to the cultural interaction among all people, European and Native alike, who lived along it. In its historical development, it followed the paths of miners, ranchers, settlers, soldiers, missionaries, and native peoples and European emigrants who settled places along the way. Narrative accounts of the route describe its variants throughout the 16th, 17th, 18th, and 19th centuries. These written records contain a wealth of information about daily life, settlements, and topography, as well as place names, along the trail.

El Camino Real de Tierra Adentro fostered cultural exchanges between Europeans and Indian peoples. Along it were transmitted elements of western European civilization ranging from language to Christianity, science, medicine, literature, architecture, folklore, music, technology, irrigation systems, and Spanish law. Among legal concepts currently used in the American legal system that made their way along El Camino Real are community property laws; the concept of first use- first priority in water rights; mining claims; and the idea of sovereignty, especially as applied to North American Indian land claims.

Similarly, Spanish frontiersmen learned new ways—Indian ways—of surviving in the remote wilderness of North America. Food exchanges, medicinal practices, lore, craft industries, and other cultural amenities crossed from indigenous hands to those of Europeans. Interestingly, chile peppers, grown by natives in the Valley of Mexico, were introduced by Spanish settlers to the Río Grande

Pueblos. While there were many benefits from the exchange of Spanish and indigenous cultures, many native ways were lost because of the influence of Spanish culture, and later, because of the overpowering exclusivity of Anglo- American culture.

Commerce has always been an integral component of the history of El Camino Real, but the nature and the extent of the commercial activities evolved with time. In the early years, the mission caravan from Mexico City was an important source for trade in New Mexico. Throughout the 17th century, other itinerant traders made their way into New Mexico for trade. Trading activities, moreover, also included trade fairs at particular pueblos that attracted local Spanish settlers.

El Camino Real and the Santa Fe Trail  
Connection: The history of El Camino Real de Tierra Adentro is shared by two nations—Mexico and the United States. After Mexican independence in 1821 and the opening of the Santa Fe Trail from Missouri to Santa Fe, Mexico legalized trade with the United States. By the mid- 19th century, El Camino Real, now a *camino nacional* of Mexico, had become an integral part of an international network of commerce. By the end of the 19th century, trade within the commercial network had resulted in the transportation and exchange of millions of dollars worth of merchandise between Europe, the United States, New Mexico, and other provinces of the Mexican republic.

The geographical boundaries of the commercial network developed around a portion of the old El Camino Real, known as *El Camino de Chihuahua* (the Chihuahua Road). Indeed, the connection of the Santa Fe Trail with *El Camino de Chihuahua* became known as the Santa Fe- Chihuahua Trail. Effectively, it connected commercial interests between Mexico and the United States at Santa Fe. This extensive pattern of economic relations involved Europe and North America.

Trail activities had a major effect on the landscape along El Camino Real corridor. In addi-

tion to introducing new foods into New Mexico, traders and settlers affected biotic communities and promoted horticultural diffusion. The introduction of livestock from Mexico, along with commercial plants such as apples, apricots, cherries, grapes, garden varieties of smaller plants, and exotic flora, changed the landscape and its uses on and along the route of El Camino Real. Other enterprises, such as mining and large-scale commercial enterprises, contributed to the dramatic alteration of the landscape associated with the trail.

El Camino Real has been associated with notable historic figures of both the American and Hispanic frontiers and pivotal events in the history of the western United States. The first important individual associated with the segment of El Camino Real in the present-day United States was Juan de Oñate. He was the son of one of the founders of Zacatecas and Guadalajara. In 1598, Oñate established the northern end of El Camino Real, and founded the first Spanish capital of New Mexico at San Juan de los Caballeros. As a result of Oñate's colonizing efforts, Pedro de Peralta established Santa Fe, destined to be the enduring capital of New Mexico. Another important Spanish colonial figure, Governor Diego de Vargas, reestablished New Mexico in 1692 after the Pueblo Revolt of 1680 had forced Spanish settlers to flee south on El Camino Real to El Paso.

**El Camino Real in Historical Travel Literature:** Much has been written about El Camino Real by travelers who rode along it. One of the earliest histories of life on El Camino Real was published in 1610 by Gaspar Pérez de Villagra and entitled *Historia de la Nueva Mexico, 1610*. Over a century later, in 1726-1727, Brigadier Pedro de Rivera inspected fortifications in New Mexico and wrote an extensive report on conditions in the province. Fifty years later, in 1777, Father Juan Agustín Morfi wrote another report describing problems in frontier New Mexico. His report became an important and enriching literary endeavor of the Spanish colonial period, and has been printed several times in the 20th century. Other military

reports, principally those by the Marqués de Rubí (1766) and Juan Bautista de Anza (1779), also describe conditions in New Mexico during the 18th century.

In the 19th century, accounts by Anglo-American travelers and traders piqued the imaginations of Americans. For example, the adventurous accounts by Zebulon Montgomery Pike and Josiah Gregg, both of whom spent an appreciable time along the route of El Camino Real in New Mexico and Chihuahua, stimulated U.S. expansion into the area. Such accounts featuring El Camino Real tended to highlight the impact the trail has had on the history of a large part of the present United States.

**The Legacy of El Camino Real:** The last years of El Camino Real demonstrated the diversity of its legacy. New Mexico merchants of the 19th century, whose ancestors had come with Oñate or other colonizing groups in the 17th century, carried on commercial activities along the ancient trail. Among them, José Felipe Chávez, from Belen, who became a successful entrepreneur known as *El Millionario* (the millionaire), was easily one of the richest men in New Mexico Territory. His skillful management of personal resources, local products, and business connections, coupled with hard work and determination, allowed him to strengthen his economic standing and gain considerable influence. His career was exceptional, but not unique. Other New Mexican merchants rivaled him in wealth, influence, and skills. Miguel Antonio Otero, New Mexican delegate to Congress before the Civil War, had been deeply involved in trading before his political career and continued to pursue this activity after the end of his congressional term.

Once the Santa Fe Trail extended its route to Chihuahua, Anglo-Americans joined the tradition. As many of the Anglo-American traders along El Camino Real, Josiah Gregg first went to New Mexico with a caravan from Missouri. Eventually, he traveled throughout Mexico, writing an account of his observations. Another historical figure closely linked

to the trail was territorial governor Henry Connelly, who had been an influential Santa Fe Trail merchant along El Camino Real.

Military figures of the 19th century also participated in the historical pageantry that marched along the ancient route. Aside from General Stephen Watts Kearney, who led his Army of the West into Santa Fe during the Mexican War, his colleague, Colonel Alexander Doniphan, similarly deserves mention. Not only did he defeat Mexican forces at Brazito, a *paraje* along El Camino Real, in 1846, but he also later captured Ciudad Chihuahua. During the Civil War, three notable leaders appeared on the scene who would stand out in the history of El Camino Real. One was Confederate Major Henry H. Sibley, who marched his troops north along El Camino Real to capture Albuquerque and Santa Fe. Another, Colonel Edward R. S. Canby, the commander of the Union forces in New Mexico, attempted to stop Sibley at Valverde. The third was Manuel Chávez, a New Mexican whose family hailed from Atrisco, on El Camino Real in Albuquerque's South Valley. Chávez played an important role in Sibley's defeat at the battles of Glorieta Pass and Apache Canyon in 1862, and was immortalized in Willa Cather's novel, *Death Comes for the Archbishop* (1999). Cather promoted a romantic view of Santa Fe and New Mexico.

With the completion of the Atchison, Topeka and Santa Fe Railroad line between Albuquerque and El Paso in 1882, the use of the trail on the U.S. side of the border began to decline. However, it continued to be important because it provided an essential link between New Mexican merchants and their counterparts in Mexico. Equally important, the railroad line on the U.S. side paralleled the route of El Camino Real between Albuquerque and Socorro. The close cultural and economic ties that have characterized the history of El Camino Real continued into the 20th century. It is no longer used as a trail, having been supplanted first by the railroads, and later by highways—particularly portions of U.S. Highway 66, U.S. Highway 85 and Interstate 25—but the route of El Camino Real can still

be traced through the development of the towns it served. In that way, it has maintained its significance. El Camino Real has become a symbol of the cultural interaction between Mexico and the United States, and of the commercial exchange that made possible the development and growth of the greater Southwest of the United States.

## Geology

The entire length of El Camino Real in New Mexico lies within the Basin and Range Physiographic Province. The province occupies the southwestern and central parts of the state, extending northward to Taos County. The Province is over 200 miles wide in the south, narrowing northward to several miles wide in Taos County. It includes fault block mountains and plateaus; volcanoes and lava flows; and broad, flat alluvial plains. The Río Grande rift, a series of north-south parallel faults, occupies the western part of the province. The Río Grande Valley is the surface expression of the rift. The province is bound by the Colorado Plateau on the west, the Great Plains on the east, and the Southern Rocky Mountains on the north.

Rocks of the earliest geologic age (Precambrian) to the present (Quaternary) occupy the Basin and Range Physiographic Province. Some of the mountain ranges have Precambrian granites and associated igneous rocks exposed in their uplifted cores. Overlying the Precambrian rocks are mostly sedimentary rocks (limestone, sandstones, and shales) of Paleozoic and Mesozoic age, exposed in uplifted fault block mountains and along mesa and plateau escarpments and canyon walls. Overlying these are sedimentary and volcanic rocks of Cenozoic age. Quaternary alluvium (sand, gravel, silt, and clay) fills the valleys, including the Río Grande Valley, through which most of El Camino Real passes.

## Scenery

Scenery is the aggregate of features that give character to the landscape. El Camino Real de



*Looking south from the top of La Bajada. Camino Real is in center of photo.*

Tierra Adentro National Historic Trail route traverses a range of natural and cultural landscapes in the Basin and Range and the Southern Rocky Mountains physiographic provinces. The Basin and Range province is characterized by landforms that include rugged and steep fault-block mountain ranges; broad basins, such as Jornada del Muerto; and volcanic uplands. Contrasting with the mountain ranges in this province are broad valleys. The national historic trail traverses lands within and along one of these valleys—the Río Grande—as travelers moved north and south along this trail in the United States. Draining into the Río Grande are numerous arroyos and drainages cutting through terraces. On the northern end of the trail, travelers encountered landscape features typical to the Southern Rocky Mountain province. Typical landform features in the Southern Rocky Mountain province include mountain systems, intermountain valleys, hogbacks, mesas, plains, and plateaus.

Cultural influences within the foreground/middle-ground corridor along the national historic trail have altered the natural landscapes of seen areas in many locales. The most prominent cultural features include various transportation and utility corridors, communication towers, cities and communities, farming and ranching activities, and flood control and diversion dams. Vegetation along segments of the trail has also been altered from what the original travelers experienced in moving back and forth along the trail.

Of the 404 miles of the national historic trail, 60 miles of definite, probable, and speculative trail segments cross BLM-administered lands within the boundaries of three BLM field offices. The BLM uses a Visual Resource Management (VRM) system to identify and manage scenic values on federal lands administered by the agency. The VRM system includes a visual resource inventory, which classifies visual resources on BLM land into one of four categories (Class I, II, III, or IV), and sets management objectives through a Resource Management Plan process. The manner in which the classifications are determined is explained in BLM Handbook H-8410-1, Visual Resource Inventory. In addition to inventory

data, the VRM classes can reflect management considerations. Each VRM class describes a different degree of modification allowed in the basic elements (form, line, color, and texture) found in the predominant natural features of the landscape. Classes I and II contain the most valued visual resources. Class I, the most highly valued and visually sensitive to modification, is assigned to those areas in which decisions have been made to maintain a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality; sensitivity level; distance zones; and, where necessary, management considerations. Class III contains those with moderate values. And Class IV contains the least valued visual resources. Appendix H provides a more detailed description of these classes and their management objectives. Other non-BLM lands crossed by the national historic trail are not managed by the VRM classification system.

In the Las Cruces Field Office, VRM classes were assigned in the 1993 Mimbres RMP and the 1985 White Sands RMP. In the Socorro Field Office, VRM classes were assigned through the 1989 Socorro RMP. The area of concern within the Taos Field Office has not been classified for visual resources through the Resource Management Plan. The approximate mileage of trail running through the different VRM classifications on public lands managed by the BLM is shown in Table 7 on the next page.

### Soils/Vegetation/Noxious Weeds

Approximately one-half of the United States portion of El Camino Real passed through the Río Grande Valley. Today much of the vegetation of the Río Grande Valley has been converted to irrigated farmland, or is in housing development. Along the banks of the Río Grande, portions of the *bosque* (riverside forest) have been protected from farming and housing development. However, even in the protected areas, there have been extensive invasions by Russian olive and salt-cedar plants. Both of these species are considered to be Class C noxious weeds on the New Mexico Noxious Weed list, published September 20, 1999.

**Table 7:  
Visual Resource Management Calssifications  
For BLM-Administered Lands (in Miles)\***

VRM Class	Taos Field Office	Socorro Field Office	Las Cruces Field Office
I	-	-	-
II	-	1.1	1.1 (1.1)
III	-	12.5	3.6 (0.6)
IV	-	0.6	23.9 (7.6)
No Assignment	16.9 (0.3)	-	-
Total	16.9 (0.3)	14.2 (0.0)	28.6 (9.3)

\*Numbers in parenthesis represent miles of high-potential segments

Most of the valley soils are classified as irrigated soils, moderately deep to deep soils, including light, medium, and fine- textured soils mostly on smooth topography and generally high in inherent fertility, except nitrogen.

The upland portions of El Camino Real north of La Bajada pass through short- grass rolling hills with patches of piñon and juniper trees. Based on observations of current age classes for the trees, the trees appear to be increasing in density. The grasses are dominated by species that are typical of the short- grass region, such as blue grama, galleta, Indian ricegrass, and hairy grama. Shrubs include four- wing saltbush, cholla, and rabbitbrush.

The upland portions of the national historic trail south of La Bajada pass through a semi- desert grassland, which covers about 26 million acres in Arizona, New Mexico, Texas, and northern Mexico. The region contains a complex of vegetation types ranging from nearly pure stands of grasses, through savanna types with grass interspersed by shrubs or trees, to nearly pure stands of shrubs. On the Jornada plain, the major grass species on sandy soils are black grama, mesa dropseed, and red threeawn. Shrubs or shrub-like plants on sandy soils include honey mesquite, four- wing saltbush, soap tree yucca, and broom snakeweed. Extensive dunes have developed where mesquite has invaded sandy soils. Low- lying areas with heavier soils, which receive water from surface runoff, are dominated by tobosa and burrograss. Tarbush is a frequent invader of these heavy soils. Slopes with

gravelly soils near the mountains are typically dominated by creosote- bush. In years with favorable winter and spring moisture, many annual grasses and forbs are also abundant across soil types.

Within the mountains, shrub types are mixed. Major dominants include honey mesquite, creosote- bush, sotol, ocotillo, and whitethorn. Some areas of scrub woodland are dominated by red- berry juniper and piñon pine.

The increase in brush on the Jornada plain is well documented. A land survey made in 1858 included notes on soils and vegetation. From these notes, the relative abundance of brush types in 1858 was reconstructed. Extent of brush types was also determined from vegetative surveys made on the Jornada plain in 1915, 1928, and 1963 (see <http://jornada-www.nmsu.edu>)

Mesquite is the primary invader on sandy soils. Tarbush has increased on the heavier soils, and creosote- bush occupies shallow and gravelly soils. Collectively, the spread of brush has been ubiquitous and rapid. As a result, livestock grazing capacities have been lowered. Periodic droughts, past unmanaged livestock grazing, and brush seed dispersal by humans, livestock, and rodents, have all contributed to the spread of the shrubs. Brush has increased in permanent livestock enclosures erected during the 1930s, demonstrating that brush invades grasslands even in the absence of livestock grazing. Once established, brush effectively monopolizes soil moisture and nutrients, and grass reestablish-

ment is generally very limited, without selective control of brush species.

### Visitor Experience/Information and Education

New Mexico and west Texas have long been destinations for visitors. The region has attracted people drawn to a rich history, blending of cultures, and awe-inspiring scenery. Today, however, opportunities for visitors to learn about and travel along El Camino Real are limited. Local residents who know of the existence of El Camino Real have more opportunities to participate in related activities and celebrations than do visitors from other parts of the country or the world.

Existing El Camino Real activities are limited to driving a designated byway, participating in a few local celebrations, touring a historic site, or visiting an interpretive facility/museum. Related orientation/information and interpretation/education are limited to the Internet and a few museums/interpretive facilities at a few historic sites. Regional recognition of El Camino Real has occurred, and continues to occur, through place names, public art, and other programs. The legacy of El Camino Real is also reflected in road architecture and place names.

**Orientation/Information:** Orientation to and information about El Camino Real are available in a variety of formats for local residents and out-of-state visitors:

- Chambers of commerce and tourism organizations in communities along El Camino Real provide informational and orientation brochures. Examples include *El Camino Real—A National Scenic & Historic Byway*, by the New Mexico Department of Tourism; *El Camino Real—The Royal Road*, by El Camino Real Economic Alliance; and *The Official Visitors Guide of Las Cruces, New Mexico, 2001-2002*, by the Las Cruces Convention and Visitor Bureau.

- The New Mexico Department of Tourism hosts an Internet website with general information about El Camino Real. The site has a map and brief narrative history, and lists the trail as a “scenic attraction” for a day trip (see [www.newmexico.org/ScenicAttractions/camino.html](http://www.newmexico.org/ScenicAttractions/camino.html)).
- Camino Real Administration contracted with the Public Lands Interpretive Association to produce a website on the Internet about El Camino Real de Tierra Adentro National Historic Trail. The site contains historic maps, interpretive text, and will be expanded in the future with additional features (see [www.elcaminoreal.org](http://www.elcaminoreal.org)).
- The BLM has an agreement in place with the University of Texas at El Paso to develop an Internet website about the historic El Camino Real and the national historic trail. This site is expected to be on the World Wide Web in the fall of 2002.

**Interpretation/Education:** There are a few interpretive and educational materials available, if local residents and out-of-state visitors ask and search for them.

- El Camino Real Project, Inc., a private, non-profit corporation, developed an exhibit, “El Camino Real: Un Sendero Histórico,” which was displayed throughout the state in 1990-1991. The exhibit is still available for showing at institutions or facilities for a fee. A companion booklet entitled “El Camino Real” was developed for the exhibit.
- The Museum of New Mexico developed a traveling exhibit on El Camino Real, which began touring in 2002. The exhibit consists of a three-dimensional *carreta* filled with bundles of supplies and goods.
- The BLM and New Mexico State Monuments produced audiotapes and

compact discs for use by travelers as they drive along El Camino Real. The tapes were made available in summer 2002.

- The San Elizario Genealogy and Historical Society of San Elizario, Texas, developed a self-guided walking tour of the San Elizario Historic District. An accompanying booklet interprets historic sites and the route of El Camino Real through the community.
  - The BLM worked with Statistical Research, an archeology/environmental education firm in Arizona, to develop educational materials about El Camino Real. Curriculum materials are written for middle school students. The materials will be available in fall 2002 on the Internet.
  - Since 1995, professionals of various disciplines from Mexico and the United States have collaborated and undertaken projects focusing on the central theme of El Camino Real de Tierra Adentro. Both the NPS and BLM have cooperative agreements in place with the Instituto Nacional de Antropología e Historia (National Institute of Anthropology and History or INAH) in Mexico, and participate in a research, conservation, and dissemination program concerned with the cultural values associated with El Camino Real. "Dissemination" projects have included book fairs, artifact and photography exhibitions, and two volumes of recorded music (on CD-ROM) of "Músicos del Camino Real de Tierra Adentro."
  - Another aspect of the joint international effort to disseminate research about El Camino Real involves a series of colloquia held each year since 1995. Supported by the NPS, BLM, INAH, and Ciudad Juárez Universidad, the colloquia occur in different cities along El Camino Real in Mexico and the United States. Mexican and American researchers present papers on topics related to El Camino Real.
- Research results from several colloquia are available in print, or on CD-ROM (see [www.nmsu.edu/~nps/](http://www.nmsu.edu/~nps/) and [www.unm.edu/~camino/](http://www.unm.edu/~camino/), with text in Spanish).
- Additionally, the BLM has published two volumes of research on El Camino Real as part of on-going cultural resource documentation (Palmer, et al., 1993; Palmer, et al., 1999).
  - The Museum of New Mexico has posted a lesson plan and activities about El Camino Real on its website. The lesson asks the question "What was El Camino Real, and how did it impact how people lived in Nuevo Mexico?" and addresses New Mexico history, United States history, and multi-cultural studies. The lesson is most relevant for students in grades four and seven who are studying these areas. Students learn about life in Spanish colonial New Mexico through research, visual arts, and role-playing activities. A bibliography and other on-line resources are provided (see [www.museumeducation.org/curricula\\_activity\\_camino.html](http://www.museumeducation.org/curricula_activity_camino.html)).
  - Other Camino Real lessons can be found on the Internet at a site developed by the Regional Educational Technology Assistance (RETA) program. RETA serves the professional development needs of New Mexico's K-12 teachers, and brings technology curriculum integration to school sites around the state. El Camino Real lessons and projects are for students in grades 6 through 10, and address travel on El Camino Real, artistic traditions and culture, natural environment, agriculture, a timeline, and actions to preserve cultures and environmental along El Camino Real. Teacher guides will be forthcoming. This extensive project was a collaboration among the Museum of New Mexico; KNME public television; Department of Agricultural Communications of New Mexico State University; Camino Real Project, Inc.; New Mexico Farm and Ranch Heritage

Museum; Río Grande Historical Collections; NPS; INAH; and the New Mexico State Department of Education (see [reta.nmsu.edu:16080/camino/main.html](http://reta.nmsu.edu:16080/camino/main.html)).

Interpretive and educational programs and media are also offered at the representative historic sites, parks, and cultural facilities as described below.

### **Historic Sites/Parks/Cultural Facilities** (from south to north)

#### **El Paso Missions and Mission Trail,**

**El Paso, Texas** - The road from Ysleta to San Elizario is the designated Mission Trail driving route connecting the communities of San Elizario, Socorro, and Ysleta. This route represents the historic connection of Socorro and Ysleta Missions with the San Elizario Presidio on El Camino Real.

**San Elizario Presidio Chapel and Plaza:** San Elizario was established as a presidio in 1789 to protect settlements in the lower Río Grande Valley downstream from El Paso, Texas. The chapel was originally built in 1853 as part of the fort compound. The village plaza, jail, and other historic adobe structures that reflect Spanish colonial settlement enhance the present chapel, built in 1877. A self-guided walking tour is available, with an accompanying booklet.

#### **Socorro Mission and Ysleta del Sur Mission:**

The missions were established in the 1680s as a result of the Pueblo Revolt. Franciscan monks established Mission Socorro and Mission Ysleta to provide refuge for Piro and Tigua Indians and Spanish settlers who had retreated from the north. Because of changes in the Río Grande channel, flooding, and fire, the missions have been relocated and reconstructed several times.

**Chamizal National Memorial, El Paso, Texas** - Administered by the NPS, the memo-

rial commemorates the peaceful settlement of a century-old boundary dispute between the United States and Mexico. The Chamizal Treaty was a milestone in diplomatic relations between Mexico and the United States in 1963. Cultural activities at the memorial are dedicated to furthering the spirit of understanding and goodwill between two nations that share one border.

#### **New Mexico Farm and Ranch Heritage**

**Museum, Las Cruces, New Mexico** - The New Mexico Farm and Ranch Heritage Museum features exhibit galleries and livestock to highlight the history of farming and ranching in New Mexico. The main gallery displays tools used years ago to cultivate New Mexico's farmlands. A permanent exhibit uses the biographies of 33 New Mexicans to tell the story of 3,000 years of agricultural history in the state. There is an extensive display of barbed wire. Temporary exhibits are also displayed. Milking demonstrations are held twice daily at the dairy barn. Visitors can also see longhorn cattle, churro sheep, goats, and Jerusalem donkeys. A wildflower garden, apple orchard, and crops are on the site.

**La Mesilla, New Mexico** - La Mesilla includes a historic plaza and surrounding buildings that have been restored to their 19th-century appearance. During the 1800s, the area was a camping and foraging spot for both Spaniards and Mexicans. The first permanent settlers came to La Mesilla after the Treaty of Guadalupe Hidalgo in 1848. By 1850, there was an established colony; later, La Mesilla became a main supply center for garrisoned troops. The Mexican-American War and the Treaty of Guadalupe Hidalgo left La Mesilla in a "no man's land"—a strip of land claimed by both the United States and Mexico. The Gadsden Purchase in 1854 established that La Mesilla was officially part of the United States.

People can see 19th-century businesses on the plaza, and 19th-century residences within a four-block area of the plaza. The town is surrounded by farmland and ditches used since 1850. Visitors can walk around the plaza, see a historic church, and visit the privately owned Gadsden Museum.

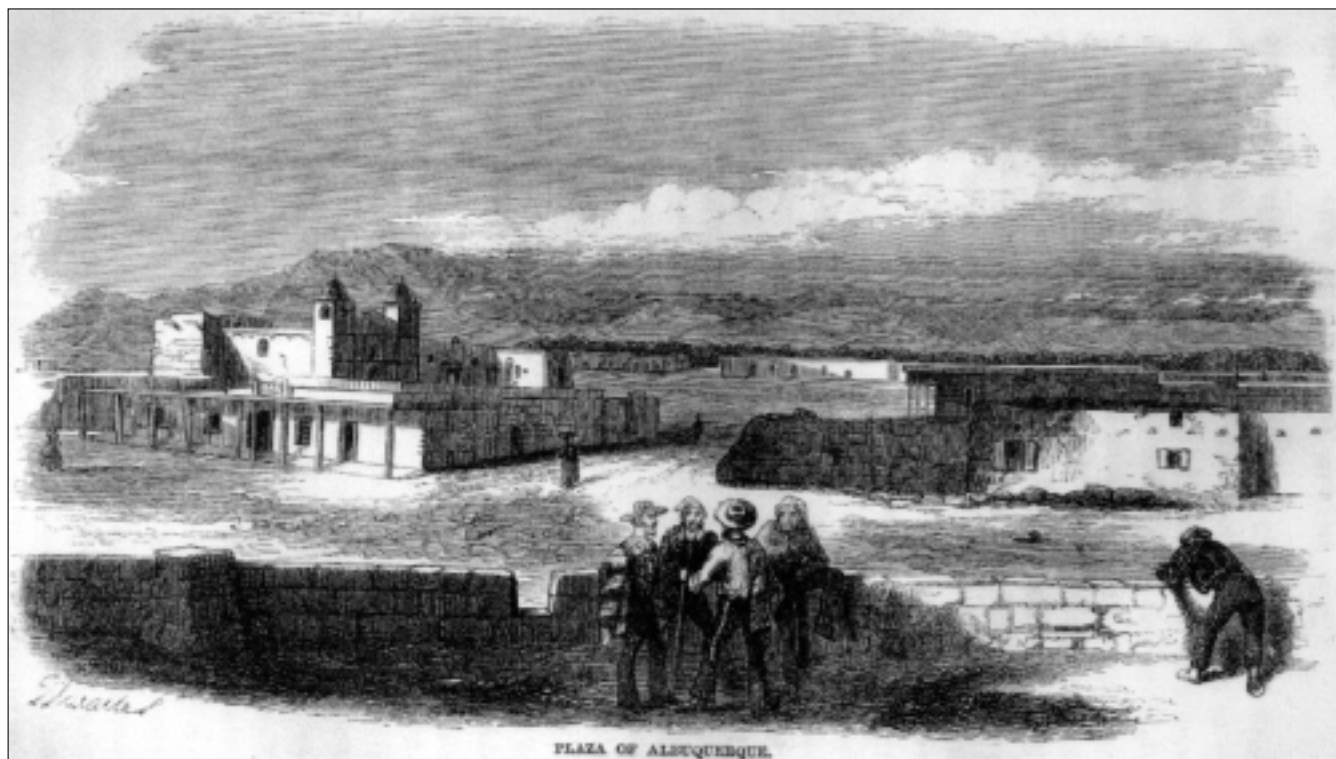
**Fort Selden State Monument, Radium Springs, New Mexico** - Fort Selden was built near the town of Las Cruces in 1865, and housed troops for 25 years. The fort housed one company of infantry and cavalry, including units of black troops known as “Buffalo Soldiers.” By 1890, Apache raiding parties and outlaws were not considered threats; in 1891, the federal government decommissioned Fort Selden. A visitor center at the monument offers exhibits on frontier military life during the fort’s heyday. Living history demonstrations of 19th-century military life highlight most weekends during the summer. Self-guided walking tours through the adobe ruins are available.

**Geronimo Springs Museum, Truth or Consequences, New Mexico** - The Geronimo Springs Museum features displays of North American Indian artifacts; prehistoric Mimbres pottery; ranching and mining items; paleontological and geological finds; a reconstructed log cabin; Southwest art; and mementos of Ralph Edwards, originator of the “Truth or Consequences” radio show. A Geronimo Days celebration, featuring Apache dancers, music, storytelling, crafts, and wine tasting, is held Columbus Day weekend.

**Fort Craig Historic Site, Socorro County, New Mexico** - Managed by the BLM as a special management area within the Socorro Resource Area, Fort Craig lies at the northern end of Jornada del Muerto. Established in 1854, the fort was built to establish a military presence in the region, to control Apache and Navajo raiding, and to protect settlers and travelers along El Camino Real. In 1862, troops from the fort participated in the Civil War Battle of Valverde. The adobe fort has been reduced to low mounds through erosion and vandalism. Visitors to the site can take self-guided walking tours of the ruins.

**Tomé Plaza and Tomé Hill, Tomé, New Mexico** - Tomé was settled as early as 1650, but it was abandoned after the Pueblo Revolt of 1680 and remained uninhabited until the Tomé land grant was established in 1739. Historic Tomé Plaza includes the Immaculate Conception Church and a museum, a jail, and several other adobe structures.

The prominent Tomé Hill was a significant landmark for travelers along El Camino Real. Tomé Hill Park is open to the public and has hiking trails, interpretive signs, and a brochure. A piece



*Plaza of Albuquerque, 1852.*

of sculpture at the hill, “La Puerta del Sol,” commemorates El Camino Real.

**Indian Pueblo Cultural Center, Albuquerque, New Mexico** - The Indian Pueblo Cultural Center is owned and operated by the 19 Indian pueblos of New Mexico. The center provides a historical and contemporary look at the Southwest’s first inhabitants. Facilities include museum displays, cafe, gift shops, smoke shop, and the Institute for Pueblo Indian Studies.

**National Hispanic Cultural Center, Albuquerque, New Mexico** - The center offers displays highlighting historic and contemporary Hispanic arts, humanities, and achievements from the past 400 years. Visitors can enjoy art exhibits, dance, music, and theater. Facilities include a genealogy center, gift shop, and restaurant.

**Petroglyph National Monument, Albuquerque, New Mexico** - Administered by the NPS, the monument protects hundreds of archeological sites and an estimated 25,000 rock images carved and painted by native peoples and early Spanish settlers. These images, and associated archeological sites in the Albuquerque area, provide glimpses into a 12,000- year- long story of human life in this area. The monument stretches 17 miles along Albuquerque’s West Mesa, a volcanic basalt escarpment that dominates the city’s western horizon.

**Coronado State Monument, Bernalillo, New Mexico** - In 1540, Francisco Vázquez de Coronado arrived in the Río Grande Valley with armed soldiers, Indian allies from New Spain, and a moveable food source of pigs, chickens, and cattle. Searching for fabled cities of gold, the expedition found thriving agricultural villages inhabited by Pueblo peoples. One of Coronado’s campsites was near the Tiwa pueblo of *Kuaua* (evergreen).

Prominent Southwest architect John Gaw Meem designed the visitor center, which contains exhibits on the prehistory and history of the Río Grande Valley. Murals on display in the visitor center were some of those removed from a *kiva*

(ceremonial chamber) at the site, and are among the finest examples of mural art in North America dating from pre- European contact. The *kiva* has been rebuilt and is open to visitors, with reproductions of the original murals adorning its walls.

**El Rancho de las Golondrinas, La Cienega, New Mexico** - Las Golondrinas was a historic *paraje* (stopping place) along El Camino Real. *El Rancho de las Golondrinas* (ranch of the swallows) is a historic *rancho* dating from the early 1700s, which is now being used as a living history museum. Historic buildings at the *rancho* have been restored, imported, or reconstructed, and archeological sites are on the grounds. Costumed interpreters present programs about life in early New Mexico. Special festivals and theme weekends offer visitors an in- depth look at celebrations, music, dance, and other aspects of life. Educational materials, games, and other publications are available.

**Palace of the Governors, Santa Fe, New Mexico** - The Palace of the Governors is the oldest continuously used public building in the United States. The building now serves as the History Museum of the Museum of New Mexico. The artifact collection consists of over 15,000 catalogued objects, and focuses on the history and culture of New Mexico and the Southwest spanning 300 years. El Camino Real artifacts are included in the collection. Visitors can tour the museum and see permanent and changing exhibits. Educational programs are provided for school groups.

**Oñate Monument and Visitor Center, Alcalde, New Mexico** - This facility offers a variety of services for the local community, including Internet access, current weather conditions, *acequia* and land grant information, and a GIS center with mapping capabilities. Temporary, revolving displays and interpretive materials are offered on the history of northern New Mexico, the Oñate Expedition, and El Camino Real. Exhibitions of art are also displayed. Facilities include a kitchen, restrooms, and a gift shop with local materials.



*U.S.-Mexico Boundary Marker #1, Sunland Park, New Mexico*

### **Scenic Byway/Millennium Legacy Trail/Highway Markers**

The historic El Camino Real corridor has both state scenic and historic byway and national scenic byway designations. The national designation, conferred on June 9, 1998, by the U.S. Department of Transportation, Federal Highway Administration, denotes that El Camino Real National Scenic Byway has scenic, natural, historic, and cultural qualities.

Visitors wishing to follow the scenic byway can obtain a map, route descriptions, and other information from the National Scenic Byways Program website at [www.byways.org](http://www.byways.org) on the Internet. Road signs identifying the byway through New Mexico are in place along the byway route.

The New Mexico Department of Tourism released a CD-ROM on El Camino Real in 2001. Entitled "Centuries Along Scenic Byways," the disc contains general information about El Camino Real, Santa Fe, and Route 66 scenic byways (See [www.newmexico.org](http://www.newmexico.org)).

In 2000, a partnership between the White House Millennium Council, U.S. Department of

Transportation, and Rails-to-Trails Conservancy and other agencies and organizations sponsored the Millennium Trails program. Governors of the states and territories nominated trails for this program, and El Camino Real de Tierra Adentro was chosen and designated a Millennium Legacy Trail. The designation brought national recognition to the trail. Even though there are signs or markers denoting the trail in place along the corridor, a commemorative plaque denoting the designation will be displayed in the proposed El Camino Real International Heritage Center.

El Camino Real Project, Inc., a private, non-profit corporation, worked with the New Mexico State Highway and Transportation Department to develop and install 33 historical highway markers in New Mexico and 13 in Chihuahua, Mexico.

### **Public Art and Activities**

Both the cities of Santa Fe and Albuquerque have public art plans. In 2002, the Santa Fe Arts Commission chose a winning public art entry commemorating El Camino Real. Two interrelated artworks will be installed at Frenchy's Field on Agua Fria Street and at De Vargas Park on Guadalupe Street. The works address the significance of El Camino Real in Santa Fe's development, and the importance of exchanges between Santa Fe and Mexico City. The Albuquerque art plan is entitled "El Camino Real: the Road of Life."

The New Mexico Arts, a division of the Office of Cultural Affairs, has begun projects to present public art demonstrations funded through the Intermodal Surface Transportation and Enhancement Act (ISTEA). Pilot projects are in Las Cruces and Belen. An enhancement grant provided the first El Camino Real public artwork, "La Puerta del Sol," at Tomé Hill.

In 2002, Magnífico, a private, non-profit organization, and New Mexico Arts sponsored an art project, "El Camino Real Billboard Art." Artists were solicited to submit artwork commemorating El Camino Real Millennium Legacy Trail, which was displayed on billboards in Albuquerque and along Interstate 25.

Names given to present-day roadside architecture, even if not on the actual El Camino Real, reflect the trail's enduring presence on the landscape. For example, visitors can dine at El Camino Dining Room and stay at El Camino Motor Hotel in Albuquerque. In Socorro, they can visit El Camino Restaurant and Lounge; and in Las Cruces, they can visit El Camino Real Restaurante.

Although roadside architecture may seem a whimsical way to remember El Camino Real, permanent place names relate directly to the trail. As visitors drive along Interstate 25 and navigate with area maps, they will see evidence of the trail in names such as El Paso del Norte, La Cruz de Robledo, Fray Cristóbal, Socorro, Ojo del Perrillo, and Jornada del Muerto.

Another avenue for present-day commemoration of the trail is the holding of events and festivals that are related contextually to El Camino Real in New Mexico and Texas communities. Representative events and festivals include:

- “Frontier Days”—Fort Selden, New Mexico
- “Juan de Oñate First Thanksgiving Festival”—El Paso, Texas
- “Juan de Oñate Reenactment—Truth or Consequences, New Mexico
- “Indian Market”—Santa Fe, New Mexico
- “Spanish Market”—Santa Fe, New Mexico
- “Spring Festival,” “Summer Festival & Frontier Market,” and “Harvest Festival”—El Rancho de las Golondrinas, Santa Fe, New Mexico

### **Water/Air Quality**

The goals of this program are to protect, maintain, and enhance, wherever possible, the water and air resources of El Camino Real de Tierra Adentro Management Plan Area for the benefit of humans, and the wide variety of plant and

animal ecosystems. Reduction of non-point-source pollution through control of soil erosion and sediment production from public lands remains a high priority management goal. Best management practices will be applied to reduce the impacts of surface-disturbing activities.

Prevention and reduction of impacts to air quality from activities on public lands is accomplished by mitigation measures developed on a case-by-case basis through the environmental analysis process.

Throughout the planning area, the BLM and NPS will coordinate riparian/wetland habitat management with other programs and activities, including watershed, rangeland resources, wildlife, recreation, and lands. Riparian habitat values will be addressed for all surface and vegetation-disturbing actions.

Location and construction of trail treadways will take into consideration—and avoid, if possible—conflicts with private waters, private lands, sensitive wildlife and plant habitats, and sensitive cultural resource sites. As individual trails are sited for development and where further National Environmental Policy Act (NEPA) compliance is necessary, all required site-specific studies and clearances will be done and determination will be made concerning the environmental consequences of the proposal.

### **Wildlife/Fishery**

BLM's wildlife program is directed to the management of habitat for all forms of aquatic and terrestrial wildlife on public lands, including habitat for special status animals and plants. The BLM works closely with the New Mexico Department of Game & Fish, which is responsible for the management of resident wildlife.

The objectives of BLM's wildlife program are to improve and protect aquatic and terrestrial wildlife habitat by coordinating the management of other resources and uses on public land. This coordination is designed to maintain habitat diversity, sustain ecosystem integrity, enhance esthetic values, preserve the natural environ-

ment, and provide old-growth habitat for wildlife. These two objectives are accomplished to some extent through habitat manipulation, and to a great extent through mitigation under the National Environmental Policy Act.

In the lower elevations along the trail (near 4,000 feet), pronghorn antelope and mule deer are the most widely distributed large game animals, but they are rare along the corridor. The common white-tailed deer is present in Texas. Scaled quail and Gambel's quail are present in most of the area. Black-tailed jackrabbit, desert cottontail, kangaroo rat, wood rat, and numerous smaller rodents compete with domestic and wild herbivores for available forage and are preyed upon by coyote, bobcat, mountain lion, golden eagle, great horned owl, red-tailed hawk, and ferruginous hawk.

The major mammals in New Mexico Plateau ecoregion (5,000 to 7,000 feet in elevation) include mule deer, mountain lion, coyote, and bobcat. Elk are locally important. Pronghorn antelope are the primary large mammal in the semi-arid desert grasslands. Smaller species include wood rat, white-footed mouse, cliff chipmunk, jackrabbit, cottontail, rock squirrel, porcupine, and gray fox. The ring-tailed cat and spotted skunk occur rarely.

The most abundant birds are plain titmouse, scrub jay, red-tailed hawk, golden eagle, red-shafted flicker, piñon jay, and rock wren. Summer residents include chipping sparrow, night hawk, black-throated gray warbler, Northern cliff swallow, lark sparrow, and mourning dove. Common winter residents are pink-sided junco, dark-eyed junco, white-breasted nuthatch, mountain bluebird, robin, and Steller's jay. Turkey is locally abundant during the winter. Reptiles in this ecoregion include the horned lizard, collared lizard, and rattlesnake.

## RESOURCE USES

### Energy/Minerals

The area has not been extensively drilled for oil and gas deposits. Of the 51 exploratory oil and gas wells drilled within the corridor, 10 had shows of oil and/or gas. There are no producing wells within the corridor, which has mostly a low potential for the discovery of economic oil and gas deposits. However, an area along the western part of the corridor from south of Santa Fe to the Valencia-Socorro County line includes geologic structures and stratigraphy that indicate a moderate potential for oil and gas discoveries.

Faulting and deep magmatic activity associated with the Río Grand rift along the southern half of the corridor has heated subsurface water to above normal levels, resulting in the formation of hot springs around Truth or Consequences, Socorro, and Radium Springs. The corridor from the Caballo Reservoir south to the Mexico border has a high to moderate potential for the discovery of economic geothermal resources; the remainder of the corridor has a moderate to low potential. Twenty-five geothermal (25) wells have been drilled within the corridor between Radium Springs and Las Cruces. These wells include temperature gradient holes, observation wells, and exploratory wells. Three wells Southwest of Tortugas Mountain produce low-temperature geothermal waters (less than 190° F) for greenhouses operated by New Mexico State University. To date, no high-temperature resources capable of generating electricity have been identified within the corridor.

The corridor includes portions of several small, economically insignificant coal fields. They are the Engle Field, northeast of the Caballo Mountains; the Carthage Field, southeast of Socorro; an unnamed field, east of San Acacia (north of Socorro); and the Tijeras, Hagen, and Cerrillos Fields, between Albuquerque and Santa Fe.

Potential economic deposits of sand and gravel, cinder, scoria, and stone occur throughout the corridor. Mining of a particular deposit depends

Table 8: Areas with Moderate Potential for Discovery/Development	
Area	Commodity
Tortugas Mountain, east of Las Cruces	Fluorspar
Tonuco Mountain, north of Radium Springs	Fluorspar
Red Hill, southwest of Socorro	Manganese
Socorro Peak, west of Socorro	Silver, Lead
Ortiz Mountains, Santa Fe County	Gold, Silver
Cerrillo Hills, Santa Fe County	Gold, Silver, Lead, Copper, Zinc, Turquoise
Santa Fe River Canyon near La Bajada	Uranium

upon its proximity to a viable market, usually an urban area or a highway construction project. Forty-eight (48) deposits are presently being mined and processed along the corridor, mostly between El Paso and Las Cruces, and between Belen and Santa Fe.

Other active mineral operations include gypsum mines east of Anthony (north of El Paso) and near Rosario (south of La Bajada); a perlite mine and mill south of Socorro; and a pumice mine west of Española. In addition, there are eight active plants processing various mineral commodities trucked in from mines outside of the corridor. Seven are between Albuquerque and Española, and one is near Belen.

There is no active mining of hardrock (metallic) and related minerals within the corridor. Several areas, listed below, have been mined or prospected in the past, and are considered to have a moderate potential for future discoveries or development. The potential for future discoveries of hardrock and related minerals outside these areas is considered low.

### Legal Disposition of Mineral Resources

The entire spectrum of mineral estate ownership is included within El Camino Real corridor; that is, federal, state, Indian, and private. Privately owned minerals may be leased by the private mineral owner at his or her discretion. State-owned minerals may be leased at the discretion of the state. Indian-owned minerals are leased by the U. S. Bureau of Indian Affairs with the consent of the Indian mineral owner and/or

Pueblo government. Federal minerals, because they are a publicly owned resource, are generally available for development, unless specifically prohibited by federal law or other legal authority.

The Bureau of Land Management is responsible for administering all federal minerals, including federal minerals where the surface is managed by another federal agency or is in non-federal ownership. The authorities under which federal minerals are disposed of include the Mineral Leasing Act of 1920 (oil/gas and coal); the Materials Act of 1947 (sand and gravel, cinders, scoria, stone, and other mineral materials); the Acquired Lands Leasing Act of 1947 (acquired minerals); the Geothermal Steam Act of 1970 (geothermal); and the Mining Law of 1872 (metallic or hardrock minerals and certain non-metallic minerals).

Federal leases are issued by the BLM after consultation with the surface management agency subject to any constraints imposed by the agency. Mineral materials are sold at the discretion of the surface management agency, subject to any management constraints. Government agencies and municipalities may obtain free use of mineral materials from BLM land. Generally, federal land that is managed for multiple use (most BLM and USDA Forest Service land) is open to entry (prospecting and mining claim location) under the Mining Law. Land managed for a specific use or project is usually withdrawn from entry under the Mining Law, but may or may not be open to leasing. If open, leasing is allowed if the specific use or project is protect-

ed. Spanish Land Grants, several of which are included within the corridor, include a royalty reservation for certain metallic minerals (gold, silver and quicksilver) to the U.S. Because the surface owner can only develop such minerals, they are, for all practical purposes, private minerals. All minerals on Federal acquired land are leasable, subject to the consent of the acquired land agency. Surface disturbance caused by any Federal mineral development is usually regulated

by the surface management agency. Where the agency has no applicable regulations or the surface is in non-Federal ownership, the BLM regulates the activity. The BLM "Surface Management under the Mining Law" regulations are contained in 43 CFR 3809. In addition, hardrock mining activity on all land, except Indian, is regulated by the State under the New Mexico Mining Act.

**Table 9: Federal Mineral Estate**

<b>Land Unit</b>	<b>Surface Agency</b>	<b>Legal Status under the Mining Law</b>
BLM	BLM	Open
National Forest	USFS	Open
Sandia Mountain Wilderness	USFS	Closed
Sevilleta NWR	USFWS	Closed
Bosque del Apache NWR	USFWS	Closed
Little San Pascual Wilderness	USFWS	Closed
Chupadera Wilderness	USFWS	Closed
Jornada Experimental Range	USDA	Open to "Metalliferous minerals"
Animal Science Ranch	NMSU	Closed
U.S. Bureau of Reclamation	USBOR	"First form" withdrawals Closed "Second form" withdrawals Open
Tortugas Mountain	NASA	Closed
U.S. Army Corps of Engineers	COE	Closed
International Boundary and Water Commission	IBWC	Closed

**Table 10: Federal Mineral Resource Activities (by county)**

Activity	Number	Acres
<b>Doña Ana and Sierra Counties</b>		
Mining Claims	66	1,320
Mining Notices and Plans	4	16
Mineral Material Areas	15	543
Oil and Gas Wells (dry and abandoned)	4	-
Geothermal Leases	3	2,080
Geothermal Wells	4	-
<b>Total Acres</b>		<b>3,959</b>
<b>Socorro County</b>		
Mining Claims	2	40
Mineral Material Areas	12	270
Oil and Gas Wells (dry and abandoned)	4	-
Oil and Gas Leases	3	258
<b>Total Acres</b>		<b>568</b>
<b>Río Arriba, Santa fe and Sandoval Counties</b>		
Mining Claims	84	1,680
Mining Notices and Plans	2	14
Mineral Material Areas	14	2,470
Oil and Gas Leases	2	3,072
Oil and Gas Wells (dry and abandoned)	2	-
<b>Total Acres</b>		<b>7,236</b>

The following is the status of federal mineral estate under the Mining Law within the corridor. All land units, except designated wilderness, are open to leasing under the Mineral Leasing Act and for mineral material sales; however, leasing and sales are at the discretion of the surface management agency.

Federal Mineral Resource Activities within El Camino Real Corridor are listed below.

### **Livestock-grazing**

Privately owned livestock graze on the BLM managed public lands. The livestock graze under the 43 Code of Federal Regulations 4100. Consistent with the direction of the Taylor Grazing Act of 1934, the preference to graze livestock is attached to base waters owned or controlled by ranchers. The base waters provide

water to the livestock when they graze on the public land. Livestock grazing permits issued by BLM authorize a specific number and type of livestock. The season of use for grazing is also established in the permit.

Rangeland Improvements that are needed to manage and support the livestock operations are authorized through Section 4 permits and/or Cooperative Agreements for Range Improvements. Examples of range improvements include wells and pumps, fences, roads and corrals.

Ranches along the trail are typical for New Mexico. The ranches are composed of private, state, and public lands. The ranches generally are yearlong cow- calf operations. They are extensive operations that generally are not a highly developed with range improvements. Often, but

not always, the rancher or rancher manager lives on the ranch. The ranches are generally remote and provide a degree of isolation to the ranch families and their staff. On average, New Mexico ranches are accessed about 400 times per year by recreationists, hunters and hikers. (Jemison, 2000; Fowler, n.d.). Livestock Management in the American Southwest Ecology, Society, and Economics Edited by R. Jemison, C. Raish; Historic range livestock industry in New Mexico (Fowler, n.d.).

## **Lands/Realty**

The portion of the trail from El Paso north through the Mesilla Valley and Las Cruces is one of the areas with the most public land within the trail boundary and the most heavily used area of the trail for rights- of- way; Recreation and Public Purposes (R&PP) leases and patents; and other land use activities, particularly in the Las Cruces/El Paso corridor. Because of the densely populated Mesilla Valley and the cities of Las Cruces and El Paso, numerous pipelines, electric lines, highways, fiber- optic lines, and roads crisscross the trail. Interstate 25 and the Burlington Northern/Santa Fe railroad line follow the direction of the historic trail. The fast-growing City of Las Cruces is putting increased demands upon the public lands in the Las Cruces area. New rights- of- way, requests for R&PP leases and patents, and the desire for more land in private ownership and for open space have fueled a frenzy of lands activity along the trail in this segment. The larger rights- of- way are confined to well- established corridors. These corridors run east and west from Las Cruces to Deming and Lordsburg, and north along I- 25. Overlapping rights- of- way are issued whenever possible. Interstate 25 and Interstate 10 provide corridors for major rights- of- way. The recent increase in fiber- optic and cellular industries has resulted in the filing of several rights- of- way for fiber- optic lines within this corridor.

Approximately 45 R&PP leases and patents have been issued to Doña Ana County, the City of Las Cruces, smaller communities in the area, and the local school boards. An existing memorandum

of understanding with both the City of Las Cruces and Las Cruces School District No. 2 has resulted in the establishment of “set asides” for future public purposes and school sites.

Exchanges between the BLM and the New Mexico State Land Office (NMSLO) have resulted in the state acquisition of a large block of land on the east mesa of Las Cruces. This land will be developed in the future by the SLO. The state uses a master plan for development of their large land holdings.

Several large withdrawals are located in the Las Cruces area, and are either crossed by the trail or within five miles of the trail. These withdrawals include College Ranch, Jornada Experimental Range, and National Aeronautics and Space Administration (NASA). The NASA withdrawal contains 2,800 acres, including Tortugas Mountain and the surrounding area. This withdrawal was for the protection of a NASA communication site. The College Ranch is withdrawn for use by New Mexico State University. The Jornada Experimental Range is withdrawn to the United States Department of Agriculture for use as an experimental station. In the Truth of Consequence area, the withdrawal for the Caballo and Elephant Butte Dams and Reservoirs are also located within the trail viewshed. Because the jurisdiction of the land has been transferred to another agency, the BLM does not always have the final say on ongoing land uses. The large White Sands Missile Range withdrawal including the area for Fort Bliss is located approximately 10 miles east of the trail area. All land uses on this withdrawal are controlled and restricted by the military.

Immediately north of the College Ranch withdrawal, in the area where the trail leaves the Río Grande and starts its long journey across Jornada del Muerto, a site known as San Diego is located on public land. This site has the potential for an interpretive pull- off from I- 25. A county road leaves I- 25 at the Upham Exit and provides access along the railroad tracks to Engle across the Jornada del Muerto. This road in some areas parallels the trail route. This area includes the most visible remains of the trail. At two areas adjacent to the road and the railroad,

the actual trail is visible. Both of these sites, Ojo de Perillo/Point of Rocks, and the Yost Escarpment have planned interpretive pull-offs. The Yost Escarpment site is located south of State land and because of the actual visual location of the trail on State land immediately north of the Yost Escarpment planned pull-off, there may be an opportunity for an agreement with the State Land Office or an exchange could be completed between the State of New Mexico and the BLM to bring the trail location into Federal ownership. Major north/south rights-of-way cross the trail location within the Jornada del Muerto. These include an El Paso Electric Company 345 KV power line, a Tri-State Generation Association 115 KV power line, and a right-of-way for buried telephone cable and two ORS sites held by Qwest Corporation. The power line rights-of-way were issued in 1967 and 1941 respectively. The Qwest right-of-way was issued in 1985. Maintenance of these rights-of-way is ongoing. In the late 1990s, public and state lands in the Engle area were being looked at as a possible location for a spaceport. At the present time, New Mexico has not been awarded any contracts for this use.

Public land within the trail corridor between the Jornada del Muerto and Albuquerque is located primarily in the Socorro area. Interstate 25 follows the route of the trail, for the most part, through this area. U.S. Highways 60 and 280 provide east/west transportation corridors through the area. New Mexico State Highway 1 parallels I-25 from Truth or Consequences to Socorro and provides a close-up view of the area traversed by the trail. The Burlington Northern/Santa Fe Railroad traverses the area north to south. The trail crosses the Sevilleta and Bosque del Apache Wildlife Refuges. A major north/south power line follows I-25 in this area. Several relay and cell towers are visible from I-25. These are located mostly on private land. The R&PP patent issued to the State of New Mexico for El Camino Real International Heritage Center is located north of T or C, east of I-25.

The portion of the trail between Albuquerque and La Bajada Mesa crosses public land in an area known locally, as the Ball Ranch. This public land appears to be crossed by the southern trail

extension around La Bajada Mesa. The Albuquerque Field Office has been working for the last three years with the Pueblos of San Felipe and Santo Domingo to transfer these public lands to the Pueblos through exchange. The San Felipe exchange was completed in December 2001 and the Santo Domingo was completed in May 2002. With the completion of these two exchanges are completed, the only remaining public land in this area will be within the Ball Ranch Area of Critical Environmental Concern (ACEC). A smaller amount of public land is located adjacent to the community of Placitas, just north of Albuquerque. Because of the growth of the Placitas area, this public land is in demand for school sites, sand and gravel operations, community uses, and is crossed by major pipelines and power lines. The Equilon Pipeline Company LLC's proposed renovation and extension of the New Mexico Products Pipeline Project connecting Odessa, Texas and Bloomfield, New Mexico affects the Placitas area of the trail. Equilon proposes to reverse the flow of the pipeline to transport refined petroleum products from Odessa to Bloomfield. Previously the pipeline had transported crude oil from the Four Corners area south to Jal, New Mexico. The existing Placitas Pressure Control Station is located south of the trail location within the five-mile corridor. Several scattered tracts of public land in the Galisteo Basin south of Santa Fe are also impacted by the trail. Interstate-25 follows the route of the trail through this area. Interstate-40, which intersects I-25 at Albuquerque, provides the major east/west transportation corridor in this portion of the trail.

From La Bajada Mesa north, the trail corridor enters Santa Fe along the Santa Fe River through La Cienega and then north to Española and San Juan Pueblo. Much like the El Paso/Las Cruces portion of the trail, the Santa Fe/Española area has been subject to heavy growth in the last 10 years. The demand for services, including waste disposal sites, power lines, pipelines, recreation facilities, and other public purpose uses, has had an effect on the public land within this area. Most of the existing public land, with the exception of the large tract of public land adjacent to the Caja del Río in the area of La

Cienega and La Cieneguilla on the west side of Santa Fe has been exchanged for high resource value lands or has been leased or sold to the City and County of Santa Fe under the R&PP Act for various uses. Four major rights-of-way cross the public land in the La Cieneguilla area. One is a major 345 KV Public Service of New Mexico (PNM) power line providing power to the Albuquerque area from northern New Mexico. A natural gas pipeline also crosses this land. Three Land and Water Conservation Fund (LWCF) acquisitions have occurred along the Santa Fe River Corridor in the La Cienega area. These LWCF acquisitions have added land to the corridor and ensured the protection of a portion of the trail. Recent completion of the Santo Domingo private exchange has added an additional 470 acres of land located adjacent to the La Cienega ACEC.

Between Santa Fe and Española, the major block of public land is located northwest of Santa Fe in the Buckman area. Because of the recent development of the Las Campanas subdivision, the public land is under increased pressure for use for rights-of-way and recreation. The City of Santa Fe has well sites in the area near the Río Grande and two pipelines transport the water to Santa Fe. The well sites were authorized in the early 1970s. The Las Campanas subdivision, the City of Santa Fe, and Santa Fe County are currently working on rights-of-way that will take water from the Río Grande, at Buckman, and, after purification, transport this water to the subdivision and Santa Fe. The water pipeline rights-of-way would follow Buckman Road or existing rights-of-way, which may be the original route of the Trail through this area. Seven major rights-of-way, issued beginning in the early 1970s, follow the right-of-way corridor from Buckman to Santa Fe. The PNM right-of-way mentioned above also crosses this area. The public lands in the Buckman area have been recommended by the public for inclusion in an ACEC.

## Recreation Use

There are many recreational uses occurring along the length of El Camino Real on public

land, either federal or state. Some of this use can be tied directly to the trail, such as visitation related to historic sites or museums, while other uses occur without visitors knowing or learning about the trail. A brief description of representative recreational uses and locations follows:

## National Forests

The USDA Forest Service manages public land adjacent to El Camino Real corridor.

### **Cibola National Forest, Sandia Ranger**

**District** - Just east of Albuquerque are the Sandia Mountains, the most visited mountains in New Mexico. Millions of people visit these mountains each year to ride the Sandia Peak Tram, drive the Sandia Crest National Scenic Byway, and to enjoy other recreational opportunities. The Four Seasons Visitor Center offers year-round interpretive exhibits and seasonal programs, while the scenic byway has picnic grounds with shelters.

The Sandia mountain range was a landmark on El Camino Real, and today the mountains provide premier open space to a population of over 700,000 people in the extended Albuquerque area. Recreation sites within this district offer hiking trails and picnicking. Downhill skiing is available at the Sandia Peak Ski Area, located on the east side of the mountains.

### **Santa Fe National Forest, Española**

**Ranger District** - Recreational facilities and opportunities in the Santa Fe National Forest are extensive, and include skiing, picnicking, hiking, fishing, camping, cross-country skiing, and wildlife viewing. El Camino Real corridor passes through a section of the Jemez Division of this national forest. Visitors can hike along the Santa Fe River Canyon, and up and down the La Bajada Mesa. Visitors can also drive and walk along Camino Real ruts on top of the mesa.

## National Wildlife Refuges

The U.S. Fish & Wildlife Service manages two refuges within the trail corridor:

### **Bosque del Apache National Wildlife Refuge, Socorro County, New Mexico -**

Bosque del Apache National Wildlife Refuge is located at the northern edge of the Chihuahuan desert, and straddles the Río Grande approximately 20 miles south of Socorro. Tens of thousands of birds—including sandhill cranes, arctic geese, and many kinds of ducks—winter at the refuge. The heart of the refuge encompasses about 12,900 acres of moist bottomlands, providing habitat and protection for migratory birds and endangered species, as well as providing the visiting public with a high-quality wildlife and educational experience.

Bosque del Apache was inhabited for over 700 years by the Piro Indians, pueblo-dwellers who farmed, raised turkeys, gathered wild fruit, and hunted wildlife. Subsequent Spanish explorers and colonists on their way north from Mexico used El Camino Real as a vital trade avenue between Mexico and Santa Fe for almost 300 years. Remnants of El Camino Real roadbed and the Piro occupation are protected within the refuge.

Orientation is provided at the visitor center, with current information and wildlife sightings, displays, videos, and a bookstore. A 15-mile auto tour loop allows visitors to enjoy wildlife viewing and photography. The Seasonal Tour Road is open April through September, and is an excellent place to observe shorebirds and waders. During the winter, the area is reserved as a roost area for eagles and cranes. Refuge trails are easy hikes, with benches and observation points along the way. Hiking and nature observation also occur at the refuge's three wilderness areas. A picnic area is available. Primitive camping is available on a reservation basis to educational and volunteer groups only.

### **Sevilleta National Wildlife Refuge,**

**Socorro County, New Mexico -** Located in the Chihuahuan desert 20 miles north of Socorro, New Mexico, Sevilleta National Wildlife Refuge provides habitat for desert bighorn sheep, pronghorn, mule deer, mountain lion, and bear. Bird species include bald eagle, peregrine falcon, northern shoveler, northern pintail, American coot, wood duck, canvasback,



*Sandhill Crane at Bosque del Apache, 1846.*

redhead, great blue heron, black-crowned night heron, sandhill crane, killdeer, long-billed dowitcher, red-tailed hawk, kestrel, and burrowing owl. There is also a variety of insects, and also of reptiles, including the endangered horned lizard.

Sevilleta NWR is managed primarily as a research area, and is closed to most recreational

uses. However, limited hunting of waterfowl and dove is available, and special tours may be arranged. A visitor center, which opened in 2001, features changing wildlife exhibits. There is a hiking trail into the San Lorenzo Canyon. Open-house events occur yearly, with field trips to research sites, bird and plant identification field trips, and more.

### **Public Domain Lands**

A wide range of recreational activities occurs on BLM-managed land within the corridor.

**Las Cruces Field Office -** Both developed and dispersed recreation opportunities are available in this area, located near Las Cruces. Principal users are from Las Cruces, Truth or Consequences and Alamogordo, New Mexico,

and El Paso, Texas. Dispersed recreation use in the resource area includes hunting, hiking, camping, picnicking, rockhounding, fishing, birdwatching, and vehicle recreation. Hunting is the most widespread use. Developed recreational sites are limited to the Organ Mountains Special Recreation Management Area and include the Aguirre Spring Recreation Area, La Cueva Picnic Area, and Dripping Springs Natural Area. Camping, picnicking, and hiking on developed trails take place in these areas. The Doña Ana Mountains Special Recreation Management Area was designated in the early 1990s, but no management for recreation is in place. There is only one developed recreation area, the Three Rivers Petroglyph and Picnic Area, but this area is outside the trail corridor.

**Socorro Field Office** - Residents of Albuquerque and Socorro and Catron counties are the primary users of recreational opportunities in the area administered by Socorro Field Office. The majority of recreation use is dispersed in nature, and includes, hunting, camping, picnicking, backpacking, horseback riding, climbing, caving, hang gliding, motorcycling, four wheel driving, observing nature, rockhounding and photography. The area has high elevation forested areas to the west, and low elevation semiarid regions to the east. There is only one developed campground, at Datil Well, which is outside the trail corridor. The field office contains several areas of local and national significance for recreation, including one within the trail corridor, Fort Craig Historic Site.

**Albuquerque Field Office** - This field office provides recreational opportunities for residents of Santa Fe and Albuquerque, the two largest metropolitan areas in New Mexico. Most of the recreation use is dispersed, and includes hunting, camping, picnicking, backpacking, horseback riding, climbing, caving, hang gliding, motorcycling, four wheel driving observing nature, rockhounding and photography. These activities take place in a low elevation semi-arid landscape in undeveloped areas.

**Taos Field Office** - Recreational opportunities near the trail corridor in the Santa Fe area include primarily dispersed activities, including

hiking, horseback riding, picnicking and observing nature and cultural resources. There are no developed facilities in this area.

### **State Game Refuge**

The state operates a game refuge within El Camino Real corridor, the Bernardo Waterfowl Wildlife Management Area. Hunting is allowed with the area, and visitors can follow a wildlife trail with watching and photographic towers. There are no other recreation sites in the area.

### **State Monuments**

There are two state historical sites within El Camino Real corridor:

**Fort Selden State Monument, Radium Springs, New Mexico** - The historic fort was built in 1865 to protect Camino Real travelers. Visitors can visit a museum and walk on trails throughout the fort site.

**Coronado State Monument, Bernalillo, New Mexico** - The Tiwa pueblo of Kuaua once stood here on the banks of the Río Grande near the site where the expedition of Spanish conquistador Francisco Vásquez de Coronado camped in 1540. Visitors can visit a museum and walk on trails.

### **State Parks**

The State of New Mexico provides facilities and resources for a range of recreational use. Three parks are within the trail corridor:

**Leasburg Dam State Park, Radium Springs, New Mexico** - Built in 1908, the Leasburg Dam is one of the oldest diversion dams in the state, channeling water from the Río Grande into the Mesilla Valley for irrigation. Recreation activities are an extra benefit, with camping, picnicking, fishing, and hiking occurring within the park. Fort Selden State Monument is nearby.

**Elephant Butte State Park, Elephant Butte,**

**New Mexico** - While not within the trail corridor, this reservoir, created by a dam built across the Río Grande in 1916, provides 200 miles of shoreline and is the largest and most visited lake in the state. Numerous park facilities support an array of activities including camping, picnicking, water- skiing, fishing, boating, sailing, trails, and wildlife viewing. A visitor center offers interpretive exhibits on the region.

**Río Grande Nature Center State Park, Albuquerque, New Mexico** - This state park is on the central Río Grande flyway and is a winter home for Canada geese, sandhill cranes, ducks, and other waterfowl. Facilities include a nature/visitor center and group shelter, and people can enjoy hiking on trails through a bosque, wildlife viewing and nature study.

The State of Texas manages two parks within El Camino Real corridor:

**Magoffin Home State Historic Site, El Paso, Texas** - Built in 1875 by Joseph Magoffin, this 19- room adobe home is a prime example of Southwest territorial style architecture. Three generations of the Magoffin Family lived in the house. Magoffin was an El Paso booster, active in a range of civic and political affairs, and served as mayor for four terms. His father, James Wiley Magoffin, was a trader on the Santa Fe and Chihuahua trails, and accompanied Stephen Watts Kearny from Missouri to Santa Fe in 1846. Visitors to the home enjoy docent- led tours; several annual events are held as well.

**Franklin Mountains State Park, El Paso, Texas** - Opened to the public in 1987, this urban park is the largest in the nation, covering some 37 square miles within the El Paso city limits. The Franklin Mountains overlook the Río Grande, and evidence of their North American Indian habitation can be seen in remaining pictographs and mortar pits in rock outcrops. People through time used a gap through the mountains, known as Paso del Norte, as a passageway both north and south. Activities at the park include camping, trail hiking, rock climbing, mountain biking and picnicking.

## **North American Indian Pueblos**

Several North American Indian pueblos in New Mexico and Texas on El Camino Real provide facilities and resources for a range of recreational uses. These include:

**Ysleta del Sur Pueblo, El Paso, Texas** - The pueblo was established in 1681 after the Pueblo Revolt in New Mexico. The Tigua people own and operate a cultural center with a museum, gift shop, and café. Indian social dancing occurs at the center.

**Pueblo of Isleta, Isleta Pueblo, New Mexico** - The pueblo operates several business enterprises offering recreational opportunities, including the 45,000 square feet Isleta Gaming Palace, the championship Isleta Eagle Golf Course, and the Isleta Lakes Recreational Complex.

**Pueblo of Sandia, Bernalillo, New Mexico** - The pueblo owns and operates Sandia Casino, with 200,000 sq. ft. of gaming and food services. The Sandia Lakes Recreation Area is a tribally-run facility with stocked fishing, shaded picnicking, nature trail, playground, group shelters and a bait and tackle shop. Sandia Trails offers horseback rides among Río Grande cottonwood trees.

**Pueblo of Santa Ana, Bernalillo, New Mexico** - The pueblo offers a variety of recreational facilities, including the 27- hole Santa Ana Golf Course, 22 soccer fields with parking and concessions, a 7,000- person capacity stadium, and the Santa Ana Star Casino.

**Pueblo of San Felipe, San Felipe Pueblo, New Mexico** - San Felipe operates the Casino Hollywood, and opened a multi- use race track in 2002. The pueblo holds ceremonial dances and an annual arts and crafts show each October.

**Pueblo of Santo Domingo, Santo Domingo Pueblo, New Mexico** - The pueblo hosts an annual art and crafts show each Labor Day to showcase their craftsmanship and jewelry making.

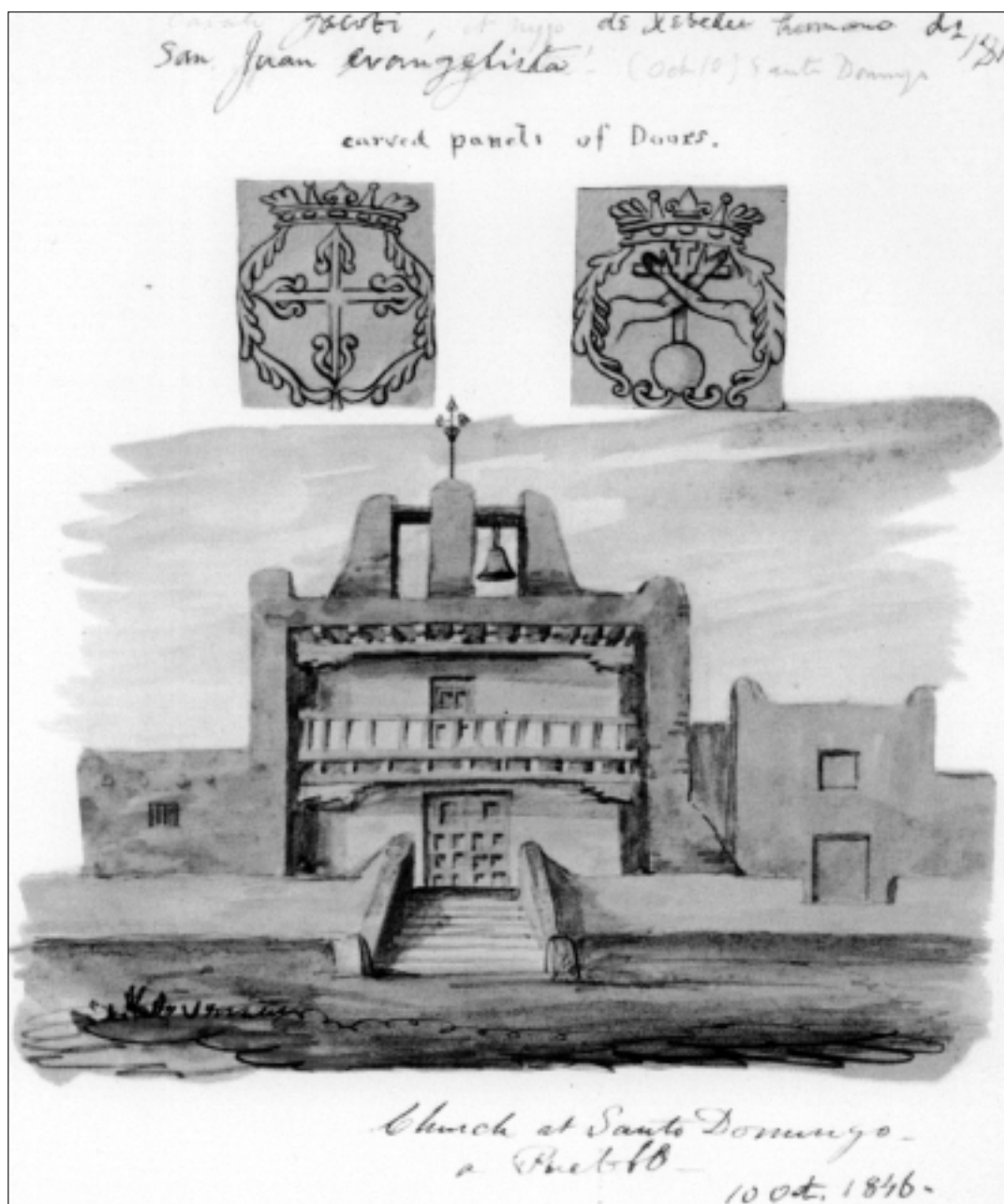
**Pueblo of Cochiti, Cochiti Pueblo, New Mexico** - The pueblo operates the 18-hole championship Pueblo de Cochiti Golf Course, and the Cochiti Lake Marina and Recreational Center. The lake provides opportunities for numerous water-based recreational activities.

**Pueblo of San Ildefonso, Santa Fe, New Mexico** - The pueblo offers the San Ildefonso Fishing Lake for recreation, along with the San Ildefonso Pueblo Museum.

**Pueblo of Santa Clara, Española, New Mexico** - The pueblo provides recreation

at its Santa Clara Recreational Area. Visitors can tour the Santa Clara Puye Cliff Dwellings, and enjoy the annual Christmas Bazaar for arts and crafts.

**Pueblo of San Juan, San Juan Pueblo, New Mexico** - The pueblo offers recreation at its San Juan Lakes, Bison Park, and RV park and travel center. Visitors can take guided tours of the First Capital Site, and enjoy gaming at the pueblo's Ohkay Casino and Best Western Casino and Resort.



Church at Santo Domingo Pueblo, 1846.



*Camino Real at La Bajada Mesa.*

## Chapter 4

# ENVIRONMENTAL CONSEQUENCES

### INTRODUCTION

#### Background

This chapter contains analyses of the physical, biological, cultural, and economic impacts of implementing any of the three alternatives of El Camino Real de Tierra Adentro NHT Comprehensive Management Plan (CMP). Both adverse and beneficial consequences resulting from the alternatives are considered. Mitigating measures designed to avoid or reduce environmental consequences have been incorporated into the alternatives.

Several types of impacts resulting from continuing management guidance, as well as planned actions, have been considered in this chapter. Direct impacts occur at the same time and place as the actions. *Indirect* impacts may occur later in time or farther in distance from the proposed actions. *Irreversible and Irrecoverable Commitment of Resources/Impairment* must be considered for actions that either deplete a non-renewable resource or disturb another resource to the point that it cannot be renewed within 100 years. *The Relationship between Short-Term and Long-Term Productivity* analyzes: (1) short-term day-to-day, or even year-to-year, activities such as hunting, fishing, hiking, and photography. Short-term actions include management activities designed to permit, encourage, or discourage certain activities; (2) long-term productivity referring to the land's continuing ability to produce commodities, such as wildlife and plant products, as well as amenities such as scenery and recreation opportunities, for future generations. This ability depends on management practices and uses that do not impair resources to the extent that they are no longer capable of providing the resource commodities or opportunities. *Cumulative* Impacts are additive impacts to a particular resource, regardless of

landownership, from the past, present, and reasonably foreseeable future.

Only the major impacts that would vary by issue or resource use are analyzed. Impacts that would not occur or would be negligible are not discussed. The following critical elements would not be affected: floodplains, prime and unique farmlands, hazardous and solid waste, wilderness, and wild and scenic rivers. Air quality would be minimally affected over the short-term and is therefore not included. Impacts on the fire management program are not addressed; due to generally sparse and low-growing vegetation near the trail and the nature of the actions proposed by any of the alternatives, this program would not be affected.

#### Assumptions for Analysis

In this document, impacts referred to as long-term are those that would occur over a 5- to 20-year period; while short-term impacts are those that would occur within a 5-year period following plan implementation. The life of the CMP is expected to be 20 years; the plan would be periodically reviewed to determine if goals and objectives are being met.

Analysis of the alternatives is based on the assumption that adequate finances and personnel would be available to implement plan decisions.

The unavoidable impacts would be monitored and continually evaluated during the life of this plan. Based on the monitoring and evaluation, actions would be adjusted to minimize impacts.

There would be increases in visitor use on BLM-administered lands and other federal or state-managed lands, and at private facilities along the trail, regardless of any actions taken as a result of this planning effort, due to ongoing

state, local, and private tourism promotion efforts.

Off-highway-vehicle designations on BLM-administered lands associated with the trail would be revisited according to the following planning schedule:

1. Las Cruces Field Office - RMP revision, beginning in 2004.
2. Socorro Field Office - RMP revision, initiated in 2002.
3. Taos Field Office - La Cienega/Buckman area plan amendments and route designations, beginning in 2003.

Site-specific impacts associated with the development or improvement of facilities will not be addressed in detail in this document. Prior to their implementation, these activities will require site-specific analysis and a detailed summary of the potential effects.

**Threatened and Endangered (T&E) Species:** Under all alternatives, other than placement of interpretive or directional signing along roads, there are no surface-disturbing actions proposed in Rio Arriba, Santa Fe, Bernalillo, and Valencia counties in New Mexico and El Paso County in Texas. As a result, there would be no impact to Threatened and Endangered species in these counties.

Actions will not be allowed to occur where they will adversely affect T&E or other special-status species or their habitats. To help protect special-status species, a National Environmental Policy Act (NEPA) document will be prepared prior to any site-specific action being permitted. The NEPA process will include identifying any such species in or near the area of activity; adjusting the project design, size, or location; applying appropriate stipulations (e.g., timing); or not authorizing the action.

In the event of any site-specific development associated with this plan, the Bureau of Land Management, the National Park Service, or other local managers would contact the U.S. Fish and Wildlife Service to initiate Section 7 consultation under the Endangered Species Act of 1973

if a “May Affect” determination on a species has been made. Potential adverse effects on listed and proposed species would be eliminated or reduced in compliance with the provisions of the act. Mitigation of adverse impacts might include relocating or redesigning sites and monitoring the effects of trail use. If necessary, trail use could be limited seasonally, the number of users could be restricted, a reservation system could be established for very popular sites, or other strategies could be developed to limit negative impacts.

## **PREFERRED ALTERNATIVE**

### **North American Indians**

The impacts from both Alternatives B and the Preferred would have a neutral or positive impact upon the North American Indian tribes associated with El Camino Real. There would be no evident social or cultural impact upon the tribes.

During implementation of the Preferred Alternative, additional consultation with affected tribes would likely lead to positive impacts by providing them with the opportunity to present their stories from the tribal point of view in exhibits and documents. Tribes that participate in the voluntary certification of sites and segments would be eligible for technical assistance and challenge cost-share monies for preservation, interpretive exhibits, and signage.

Where developments take place (roadside pull-outs and interpretive wayside exhibits as proposed in the Preferred Alternative, a site-specific analysis would take place to ensure that resources are not disturbed, or if resources would be impacted mitigation measures would take place in consultation with the tribes.



*Petroglyph on El Camino Real.*

### **Cultural Resources (Archeological/Historical)**

The Preferred Alternative places a stronger emphasis on interpretation and education, and includes on-site interpretation at several locations. Awareness and appreciation of archeological and historical resources related to El Camino Real would be maximized under this alternative. There would be a concerted effort to collect new information about the trail, and to generate more detailed and accurate inventories and maps of trail segments and archeological sites associated with the trail. Although, under this alternative, visitor use could increase in the Jornada del Muerto from 900 to 5,500 visits annually, and at the Teypama site from 200 to 400 visits annually, the educational efforts should dramatically reduce potential for inadvertent destruction of trail-related resources. High-potential sites and segments on public lands would receive proactive management, including closure of areas where their physical integrity is threatened. Protection would be extended to sites on non-federal lands through active, voluntary partnerships.

Increased public awareness inevitably increases potential for illegal collection of artifacts along portions of the trail that are publicly accessible. This would be partially offset by a site stewardship program, which provides for increased monitoring and patrolling of high-potential sites and segments. The Preferred Alternative also would include on-site interpretation at nine

specific locations along El Camino Real de Tierra Adentro. On-site interpretation brings increased potential for physical damage to trail segments and loss of artifacts through illegal collection. Specific measures to mitigate these potential effects would be incorporated into project planning for these on-site interpretive facilities, and would be subject to further compliance with the National Historic Preservation Act.

### **Energy and Minerals**

Areas with no change in VRM class: Existing mineral leases and mineral material contracts would continue to be managed under existing terms and conditions and management plans. New leasing and lease development and new contracts from BLM mineral material sites would be subject to existing management plans and site-specific environmental assessments. Prospecting and mining claim location would continue to be allowed in areas open to the Mining Law and closed in withdrawn areas. Existing and new surface disturbance under the Mining Law would continue to be regulated by the BLM's surface management regulations (43 CFR 3809) and/or the New Mexico Mining Act rules. Use and Occupancy under the Mining Law regulations (43 CFR 3715) would be enforced to prevent mining or other activities conducted under the pretense of the Mining Law, that are not authorized under the Mining Law.

Areas designated VRM Class II: Existing mineral leases that fall within areas designated VRM Class II would continue to be managed under the lease terms and conditions and management plans that existed at the time of issuance. Existing standard lease terms may be sufficient to achieve the VRM Class II objective, with allowances for the relocation of a proposed drilling location of up to 200 meters and the prohibition of drilling activities for up to 60 days in any lease year.

New leases within a designated VRM Class II area would include a stipulation requiring that lease operations be designed to conform to the

VRM Class II objectives, allowing restrictions on lease development beyond the standard lease terms. Restrictions on lease development could result in an operator not drilling at the most geologically desirable location or during the most desirable time period. If the operator is not able or willing to conform to the restrictions, drilling could be precluded. The areas affected by VRM Class II guidelines are considered to have low potential for the discovery of economic oil and gas deposits.

Existing mineral material contracts that fall within areas designated VRM Class II would continue to be managed under the contract lease terms and conditions and management plans that existed at the time of issuance. The issuance of new contracts would be at the discretion of the BLM, provided that the mining conformed to the management objectives of VRM Class II or BLM could eliminate the visual intrusion entirely by reclaiming the site after the expiration of any outstanding contracts. Discontinuing the issuance of mineral material contracts could force those desiring to obtain the materials to go to another less desirable or more expensive source.

A VRM Class II designation would not affect the status of existing mining claims or prohibit future prospecting and mining claim location under the Mining Law. An existing approved plan or notice for operations under the Mining Law (43 CFR 3809) would not be affected by the new VRM Class. However, any new surface-disturbance activities could be affected by the VRM Class II designation. BLM could require operators, under 43 CFR 3809, to conduct operations to meet the VRM Class II management objective. It is possible that an operator could not meet the VRM Class II management objective. However, failure to meet the objective could not be used to prohibit operations under the Mining Law. Imposition of the additional requirements to meet (or attempt to meet) the VRM Class II management objective could add additional costs to a mining operation. Use and Occupancy under the Mining Law regulations (43 CFR 3715) would be enforced to prevent mining or other activities conducted under the pretense of the Mining Law, that are not authorized under the Mining Law.

Federal Mineral Authorizations and Activities Near BLM- Proposed Projects - The following existing federal mineral resource activities exist

Activity/Authorization	Location	Relative to Proposed Development
Mineral Material Site	T19S R2W S4	3 miles W of I-25 Upham pull-off
Mineral Material Site	T18S R2W S3	2 miles SW of Paraje del Perrillo pull-off
Mining Claims	T17S R2W S23, 24, 25, 26	Adjacent to Paraje del Perrillo pull-off
Mineral Material Site	T16S R2W S12	Adjacent to Yost Escarpment pull-off

The inactive Tonuco Mountain fluorite mine is two miles south of the San Diego pull-off site (T19S R1 W Section 19).

The following occur along the County road segment from Pueblito (east of Socorro) to Highway 380 (east of San Antonio).

Activity/Authorization	Location	Relative to Proposed Development
Mineral Material Site	T2S R1E S21	2 miles E of Pueblito
Mining Claims	T3S R1E S27	1.5 miles E of County Road
Mineral Material Site	T4S R1E S27 34	E side of Co. Road, 1 mile N of Hwy 380

There are no existing federal mineral activities within the Santa Fe River canyon area proposed for management under VRM Class II guidelines. The inactive, reclaimed La Bajada uranium mine lies within the canyon at T15N R7E Section 9.

within the proposed VRM Class II area in Jornada del Muerto (T13S to T19S):

### **Livestock-grazing**

Under the Preferred Alternative, the existing livestock- grazing operations on public lands would continue with no reductions and limited additional restrictions. The greatest impacts would occur in Jornada del Muerto area of the Las Cruces Field Office. New range improvements proposed on portions of the Las Cruces Field Office section of the trail would have to meet VRM Class II guidelines. Any new range improvement/construction projects in this area would need to be mitigated to meet visual guidelines, although no range improvement projects have been identified for these areas.

The Preferred Alternative would provide for increased interpretation and information near Jornada del Muerto section of the trail. The additional interpretation is expected to stimulate additional interest in visiting the public lands on Jornada del Muerto section. The increased recreational use of the public lands would provide the greatest impact to the livestock- grazing operations. The occasional public- land visitor seeking assistance from the rancher would continue to increase due to the increased publicity about the trail. Additionally, damage to range- land improvements from vandalism would continue to occur from time to time, but at an increased level due to the increased visitor use. The actual impact from the increased visitor use is not expected to affect the viability of the ranching operations, but it could provide an additional nuisance factor.

### **Land and Realty Uses**

Changes in VRM class from Class III and IV to Class II in those areas of the trail that are designated as high- potential sites and segments would impact land uses in those areas. For the sites within Jornada del Muerto and Santa Fe River canyon areas, new rights- of- way and lands uses would be allowed only if they did not deviate from the basic elements of the predomi-

nant landscape. Uses would not be silhouetted against the skyline, and new power line or pipeline rights- of- way may need to be buried. Communication towers and buildings may need to be painted with approved colors in these areas. Maintenance of existing rights- of- way would need prior approval of the field office. An exchange with the State of New Mexico may enhance protection of the trail north of the Yost Escarpment site. The BLM and the State Land Office have completed several exchanges in the last few years and have some ongoing exchanges. Therefore, a state exchange in this area could proceed relatively quickly if both parties agreed. Additional visitors to the designated sites would increase traffic in the area and could cause some impacts to existing rights- of- way. More people in the area may cause damage to existing facilities. Auto- tour routes could result in increased deterioration of local streets and roads. Acquisition of private land within the Santa Fe River corridor would be a priority.

### **Recreation**

Developing, marking, and interpreting an auto- tour route would contribute to increased public awareness of the NHT. Visitors would benefit from this opportunity to follow the approximate trail route, and to visit related resources and interpretive facilities. Visitor use on BLM- administered lands could increase in Jornada del Muerto from 900 to 5,500 visits annually, and at the Teypama site from 200 to 400 visits annually. Visitor use at privately developed sites or facilities would be expected to increase in response to educational efforts and increased publicity for the trail.

Additional opportunities to experience the trail corridor through recreation on BLM- managed lands would increase visitor enjoyment of the NHT. The ability to drive or hike in the trail corridor, to receive interpretive messages on- site, and to see trail- related cultural, natural, and landscape resources would be beneficial and would result in memorable experiences.

Although no immediate threats have been identified or closures recommended at this time,

future off- highway- vehicle opportunities on public lands could be restricted in the immediate vicinity of historic or cultural sites for resource protection.

### **Visitor Experience/Information and Education**

A coordinated, collaborative program of trail-related interpretive and educational programs, media, and activities, along with trail promotion, would increase visitor use along the NHT, and would foster visitor appreciation of trail history and significance. Visitors would be offered a range of ways to experience the trail- meeting their level of interest and learning styles.

Certification of sites, segments, and interpretive facilities would benefit the visitor experience through the increased identification, interpretation, and use of trail- related resources. Standards of quality reached through the certification process would contribute to the development of accurate and consistent media and programming, and would increase visitor enjoyment and understanding of the trail's history and significance.

Development of an interpretive plan would assist Camino Real Administration and partners to present a cohesive, integrated interpretive and educational program, and would result in public understanding and appreciation for the trail.

### **Scenery**

This alternative would focus on protecting on-the- ground trail resources that best illustrate the trail's significance (high- potential historic sites and segments) and trail- related interpretive/educational programming and activities. To protect and prevent inappropriate visual intrusions, restrictive visual resource management objectives would be assigned to public lands within the critical foreground/middle- ground viewshed or landscape component along trail segments and around sites. With more restrictive visual resource management objectives, activities would be limited to those that

would not attract attention and the level of change to the characteristic landscape would be low. This would result in amendments of the Mimbres and White Sands RMPs for 58,892 acres of existing VRM Class IV public land in Jornada del Muerto to a more restrictive VRM Class II along 7.6 miles of high- potential historic segments and around high- potential historic sites within the Las Cruces Field Office. It would also result in the amendment of 7,533 acres of VRM Class III public lands along 0.6 mile of high- potential historic trail segments and around high- potential historic sites to the more restrictive VRM Class II in the Las Cruces Field Office.

The Taos Resource Management Plan would be amended by assigning VRM Class II to 998 acres of previously unassigned public lands within the foreground/middle- ground viewshed along 0.3 mile of high- potential historic trail segments and extending through the Santa Fe River canyon. Assignment of Class II VRM management objectives would assist in preserving the scenery along high- potential historic trail segments and near high- potential historic sites through objectives that are set to retain the existing characteristic landscape and prevent inappropriate visual intrusions.

### **Socioeconomics/Social Values/ Environmental Justice**

The Preferred Alternative would provide for the protection of trail resources and existing recreational and interpretive facilities through new and on- going activities. Trail resources on federal land would be protected; those on private land would be certified. In addition, resources on federal lands would be identified and interpreted by displays and activities or educational opportunities. Resources on state or private lands would be encouraged to also provide interpretation and educational facilities. This alternative would encourage resource preservation through tax agreements (taxing land preserved as open space at a lower rate) and would provide for challenge cost- share programs of up to 50% federal cost sharing for project implementation. The alternative also includes a num-

ber of other features to promote public awareness and interest.

El Camino Real NHT yearly budget under this alternative would be \$475,000 for administration and related activities, including challenge cost-share funding. In addition, the state/local challenge cost-share program 50% match would result in another \$60,000 yearly in government expenditures, for a total of \$535,000 expended yearly by all levels of government for identified administration and implementation activities. This expenditure can be expected to generate a net benefit of \$1,190,000 in combined sales, 36 new jobs, and approximately \$92,820 in increased tax revenues in the ESA per year. Note that this estimate of benefits is conservative and incomplete for the reasons discussed below.

Implementation of the Preferred Alternative can be expected to generate some additional recreational travel and heritage tourism visits along the route. After a lengthy period of growth, visitation rates for the ESA have been essentially flat for the past several years, and this situation is expected to continue for the foreseeable future. Any new visits that would be generated from implementation of the Preferred Alternative would generate two beneficial effects: They would improve the visitation and continuing viability of the individual trail sites; and they would contribute to the economic activity of the surrounding communities through increased visitor expenditures.

Currently, the best-documented expenditure rate for tourist travel in New Mexico is \$96.45 per day per person. At this point, it is not possible to quantify the number of additional visitors or visitor days that might be generated by implementation of the Preferred Alternative. Two important points are stressed:

1. Visitor forecasts to existing and future facilities, such as El Camino Real International Heritage Center and others located on federal, state, and local lands, and on private property, are predicated in part on implementation of an NHT action alternative.
2. It has been the common experience of other designated national historic trails (such as

Lewis & Clark, Oregon, Mormon Pioneer, California, and Santa Fe) that increases in visitation are directly related to the quality of the public awareness and promotional programs that are conducted for them. Special events, in particular, greatly improve visitation rates. Therefore, for this analysis, it is too speculative to assume a figure for increased visitation resulting directly from the implementation of the Preferred Alternative, but it is recognized that such an increase would occur, and generate additional, but presently unquantified, economic benefits beyond those resulting from direct government expenditures. These benefits are expected to begin immediately upon plan implementation, and continue for the indefinite future.

Implementation of the Preferred Alternative would result in unquantified social benefits in the ESA. The economic improvements and additional service and hospitality-industry jobs generated by increased visits would enhance the economic stability of communities in the ESA, especially those with higher rates of unemployment. Other benefits would include improved governmental services resulting from increased tax revenues, and avoidance of future social costs that might otherwise result from continued economic problems. Low-moderate-income families and individuals, at-risk youth, and the Hispanic and North American Indian communities may be expected to find new employment in the service sector. Proportionately, the greatest improvements can be expected in the poorer counties of New Mexico, and to a lesser extent in El Paso County and the Mexican "gateway communities." This alternative would not directly impact North American Indian reservation lands, but North American Indians could generally benefit from induced economic activity from increased visitation.

Finally, the Preferred Alternative would add to the effectiveness of ongoing BLM and NPS international outreach efforts, such as Habitat Chat, Sister Communities, and the ongoing cooperative agreements between the NPS, BLM, and INAH. This would help these programs to achieve objectives of the enhancement and sus-

tainable management of natural resources, maximum efficiency in use of fiscal resources, and coordination of cross- border activities, along with improved information sharing and relationship development.

Implementation of the Preferred Alternative may result in unquantified adverse impacts to state and local tax revenues. These would occur if private lands are purchased as part of the plan and thus removed from the tax rolls, or if agreements are made with private landowners to preserve sites by reducing taxes to open- space values. This marginal loss of revenue could negatively impact delivery of government services to an unknown degree. However, this loss may be more than offset by gains in tax revenues associated with increased economic activity stimulated by the alternative. The magnitude of such gain or loss is unknown at this time.

### **Vegetation/Noxious Weeds/Soils/Water**

Although visitor use under the Preferred Alternative could increase in Jornada del Muerto from 900 to 5,500 visits annually and at the Teypama site from 200 to 400 visits annually, damage to soils and vegetation is expected to be minimal, and be mitigated by proper design of trails and pullouts. The change in visual classification is not expected to be a barrier to vegetation management activities on public lands. Soils would be disturbed on approximately 0.4 acres where the pullout parking areas are constructed and interpretive signs placed near the Upham Exit, the Paraje de San Diego, the Ojo de Perrillo/Point of Rocks, and the Yost Escarpment. An additional 0.5 acres would be disturbed if a companion trail were constructed in this area. Efforts to rehabilitate vegetation and control vehicle traffic and parking at the Teypama site near Socorro would result in improved conditions on 0.2 acres of public land. Given the small area of disturbance and the mandatory application of site- specific best-management practices to protect water quality, there would be no net impact to surface- water or ground- water resources as a result of implementing the Preferred Alternative.

A biological evaluation was prepared, and it noted that there was no potential habitat in the project area for federally listed threatened and endangered plants. There is potential habitat in this area for four special- status plant species: *Peniocereus greggii* var. *greggii*; *Escoberia duncanii*; *Penstemon ramosus*; and *Toumeyia papyracantha*. Site- specific inventory and environmental assessment would be conducted prior to any construction activity to ensure protection of these species.

### **Wildlife**

Under this alternative, a few sites along Jornada del Muerto desert passage would be developed for public use. Disturbance to wildlife would be short term during construction, with most wildlife species expected to reoccupy nearby habitat after construction activities are completed. Miscellaneous dispersed recreational activity within the planning area, such as camping, climbing, hiking, and biking would result in site- specific short- term negative impacts on the microbiological, small mammal, and avian components of the localized fauna. Proposed projects under this alternative that would cause short- term negative impacts to wildlife are those projects that propose the development of pull-out parking areas; development of trail segments; development of a companion trail; and development of an auto- tour route.

Approximately 0.9 acres would potentially be disturbed in Jornada del Muerto area. There would be no adverse impacts to federally listed threatened and endangered or special - status wildlife species in the areas proposed for recreational development; a biological evaluation was prepared, and it noted that the locations of the proposed project sites did not possess the habitat required for the listed species.

Future potential habitat- improvement projects in Jornada del Muerto and Santa Fe River canyon areas would be evaluated to determine whether they conform with VRM Class II objectives. VRM Class II management guidelines for an additional 66,425 acres within Jornada del Muerto and 998 acres in the Santa Fe River canyon could restrict placement or design of

habitat improvement projects; however, no habitat improvement projects have been identified for these areas. There is potential for restoration of natural water features and native vegetation within the affected portion of the Santa Fe River canyon, which would improve habitat and scenic values over the long term.

## **Cumulative Impacts**

Implementation of the Preferred Alternative is integral to the cumulative visits and economic activity of all trail resource sites along the route. Improvements at any single site or combination of sites would likewise affect activity elsewhere along the trail. Already mentioned is the nearly completed International Heritage Center, which would add cumulatively to the benefits of the trail along its route. Other certified sites would add to the trail's overall socioeconomic viability.

The benefits of implementing the Preferred Alternative to the local and regional economy would include improvements in both permanent and temporary employment opportunities and revenues as the planned maintenance and improvement of existing facilities and programs are implemented. The more active and intense development program under the Preferred Alternative, with its associated higher expenditure and visitation levels, would yield greater benefits than under Alternatives A and B. These benefits would be both local and regional in nature, and would also be international, with enhanced employment opportunities along the Mexican border and southward in the Mexican State of Chihuahua.

As a result of increased and sustained public visitation to cultural resources, which were previously relatively unknown, certain impacts can be anticipated. At each of the historical and archeological properties opened for public visitation, public educational materials in brochures and signage would emphasize the need to leave any observed surficial artifacts in place. Programs designed to mitigate the adverse effects of public visitation would be carried out before the properties are opened and promoted for visitation. Such mitigation measures would include programs of mapping, surface collection

and analysis of a sample of surface artifacts, and sampling and dating of features. Despite planned educational programs with a conservation message, it is anticipated that the surface assemblage of artifacts would eventually be lost at publicly interpreted sites. Certainly, any attractive artifacts, such as polychrome ceramics, would disappear. However, the sampling of the sites would result in the analysis and curation of a representative sample of this surface collection.

The presence of public visitors at historical and archeological sites at periodic, irregular intervals discourages illegal vandalism and digging. Although the surface artifacts may eventually disappear, illegal excavations all but cease at publicly interpreted sites. One benefit from the Preferred Alternative, therefore, would be the preservation of the subsurface components of those nine specific locations along the trail.

With the enhanced programs of outreach and education associated with the Preferred Alternative, interest in the trail and its related sites would be stimulated in the local communities. The number of volunteers joining local chapters of the New Mexico Site Steward program is expected to increase significantly. As a result, the number of trail-related sites that would benefit from regular monitoring and patrolling would increase from the inspection of 111 properties now within the Las Cruces and Socorro field offices of the BLM to 300 within 5 years of implementation of the plan.

## **ALTERNATIVE A**

### **North American Indians**

There would be no impacts to North American Indians under this alternative.

### **Cultural Resources (Archeological/Historical)**

Under Alternative A, public awareness and appreciation of archeological and historical

resources related to El Camino Real would remain low. In the absence of a directed program of research, it is likely that some important trail segments and trail-related archeological sites would remain undiscovered. These circumstances increase the probability of inadvertent damage. However, visitor-related impacts such as collection of artifacts and physical damage to trail segments would be lowest under this alternative. Protection of trail segments and trail-related archeological properties would occur primarily through the National Historic Preservation Act, and other laws that protect cultural resources on federally owned lands. As federally funded or approved projects are proposed, their potential impacts to cultural resources, including El Camino Real, would be considered. Protection would extend to non-federal lands only if federal funds or approval are required.

## **Energy and Minerals**

Existing mineral leases and mineral material contracts would continue to be managed under existing terms and conditions and management plans. New leasing, lease development, and contracts would be subject to existing management plans and site-specific environmental assessments. Prospecting and mining claim location would continue to be allowed in areas open to the Mining Law and closed in withdrawn areas. Existing and new surface disturbance under the Mining Law would continue to be regulated by the surface management regulations (43 CFR 3809) and/or New Mexico Mining Act rules. Use and Occupancy under the Mining Law regulations (43 CFR 3715) would be enforced to prevent mining or other activities conducted under the pretense of the Mining Law that are not authorized under the Mining Law.

## **Livestock-grazing**

Under Alternative A, the existing livestock-grazing operations on public lands would continue, with no reductions or additional restrictions. The occasional public-land visitor seeking assistance from the rancher would continue to

increase due to the increased publicity about the trail. Additionally, damage to range-land improvements from vandalism would continue to occur from time to time, but at an increased level to due increased visitor use.

## **Land and Realty Uses**

Under Alternative A, there would be no change in VRM guidelines, and present users of the land would see very little effect on their ongoing operations. Additional visitors to the designated sites would increase traffic in the area and could cause some impacts to existing rights-of-way. Requests for new rights-of-way and land uses would continue to be allowed on a case-by-case basis. New rights-of-way and land uses would be subject to existing management plans and site-specific environmental assessments. Sale and exchange of public land would occur only where designated in existing land use plans. Some private and state land could be acquired based on existing plans. Maintenance of existing rights-of-way would continue as necessary. Existing roads would continue to be used without restrictions. Applications for new rights-of-way and land uses in the vicinity of the International Heritage Center would be allowed only in conformance with the Socorro Resource Management Plan Amendment for the Heritage Center (2001).

## **Recreation**

Visitors would not be offered recreational experiences on the NHT. Current recreational opportunities would continue to be provided, but visitors would not have the opportunity to engage in activities related to the trail. Visitor use would depend on the level of publicity generated by off-site, private entities and activities. Visitor use in Jornada del Muerto would not be expected to exceed 1,500 annual visits under this alternative, and use at the Teypama site would probably not change from existing levels of use.

## **Visitor Experience/Information and Education**

Visitors would not be offered experiences on El Camino Real de Tierra Adentro NHT. Visitors would continue to learn about and experience the trail, but through diffused and uncoordinated methods. Some visitors would continue to be confused about the location and availability of visits to trail-related resources and sites. Other visitors, particularly those from out of state or other countries, would be adversely impacted by the relative lack of trail orientation, information, and interpretation. Visitor understanding of trail-related resources and sites may be diminished by the loss of resources to neglect or vandalism.

## **Scenery**

This alternative would allow the continuation of scenery management practices as established in the current resource management plans along trail segments and around sites associated with the national historic trail. Scenery would continue to be managed under the various assigned VRM class objectives. There would be no change in classifications. Scenic values within the corridor along 24.5 miles of trail on public lands assigned VRM Class IV would be subject to major modification of the character of the landscape from activities that could dominate the landscape and attract attention of the observer or person wanting to experience the setting that early travelers experienced. VRM Class III has been assigned to public lands along 16.1 miles of trail. In Class III lands, which have moderately valued scenic resources, the landscape character would be partially retained through management objectives prescribed for these lands. On the 2.2 miles of trail within existing VRM Class II lands, scenic values would be retained through the management objectives prescribed for lands within this class. On the remaining 16.9 miles of trail on public lands within the boundaries of the Taos Field Office, no VRM classification has been assigned. Here, scenic values would be considered on a case-by-case basis.

## **Socioeconomics/Social Values/Environmental Justice**

Under Alternative A, the no action alternative, current management activities of the various federal, state, and local agencies, private landowners, and other entities would continue. Since the no-action alternative would provide for a continuation of existing conditions along the route of the NHT, it is expected that the current “baseline” socioeconomic effects and benefits to the local and regional economy would continue. There would be no planned change in direct government employment or in related private-sector employment serving visitors or other service sectors. In addition, there would be no additional revenue generated from increased visitor spending beyond that already anticipated in the baseline. No additional social or economic benefits to area residents would be realized.

Under Alternative A, there would continue to be very limited opportunities for coordination or enhanced interpretation or recreational opportunities. Existing activities and operations would continue, and visitors would continue to travel the current routes and visit existing sites. New related developments, such as El Camino Real International Heritage Center, would be completed as planned. Implementation of the Sister Communities Program, Habitat Chat, and the ongoing cooperative agreements between the NPS, BLM, and INAH would continue. The socioeconomic benefits resulting from these already-planned projects have been accounted for in the baseline.

## **Vegetation/Noxious Weeds/Soils/Water**

Alternative A is a continuation of the existing situation and should provide for little change in the vegetation of the trail zone. However, with the increase in visibility of the trail and opportunities for vehicle travel down the trail with 4x4s, 4-wheelers, and motorcycles, damage to soils and vegetation may occur at some locations. There would be no measurable impacts to surface-water or ground-water resources.

## **Wildlife**

Modification of wildlife habitat is not proposed under this alternative; therefore, there would be no impacts to wildlife.

## **Cumulative Impacts**

Implementation of Alternative A would result in no change from the current situation along El Camino Real. The existing situation of uncoordinated recreational, interpretive, and access improvements would continue, with minor improvements in temporary employment opportunities and revenues as the currently planned development of El Camino Real visitor-serving facilities takes place.

## **ALTERNATIVE B**

### **North American Indians**

The impacts from both Alternatives B and the Preferred would have a neutral or positive impact upon the North American Indian tribes associated with El Camino Real. There would be no evident social or cultural impact upon the tribes.

During implementation of the Preferred Alternative, additional consultation with affected tribes would likely lead to positive impacts by providing them with the opportunity to present their stories from the tribal point of view in exhibits and documents. Tribes that participate in the voluntary certification of sites and segments would be eligible for technical assistance and challenge cost-share monies for preservation, interpretive exhibits, and signage.

Where developments take place (roadside pull-outs and interpretive wayside exhibits as proposed in the Preferred Alternative), a site-specific analysis would take place to ensure that resources are not disturbed, or if resources would be impacted, mitigation measures would take place in consultation with the tribes.

## **Cultural Resources (Archeological/Historical)**

Alternative B emphasizes off-site interpretation of El Camino Real de Tierra Adentro. Under this alternative, public awareness and appreciation of archeological and historical resources related to El Camino Real would increase, and there would be a concerted effort to collect new information about the trail and to generate increasingly accurate and detailed inventories and maps of trail segments and archeological sites associated with the trail. These measures would reduce potential for inadvertent destruction of trail segments and sites related to the trail. Alternative B emphasizes protection of trail resources. In addition to the consideration given to all cultural resources under current federal laws, regulations, and policies, high-potential historic sites and segments would receive particular emphasis and would be subject to more proactive protective measures, such as closure to off-road vehicles where threats to the integrity of the resource develop, and monitoring. Protection would be extended to sites on non-federal lands through active, voluntary partnerships.

Increased public awareness inevitably increases potential for illegal collection of artifacts along portions of the trail that are publicly accessible. Under Alternative B, this would be partially offset by increased monitoring.

## **Energy and Minerals**

Existing mineral leases and mineral material contracts would continue to be managed under existing terms and conditions and management plans. New leasing, lease development, and new contracts would be subject to existing management plans and site-specific environmental assessments. Prospecting and mining claim location would continue to be allowed in areas open to the Mining Law and closed in withdrawn areas. Existing and new surface disturbance under the Mining Law would continue to be regulated by the surface management regulations (43 CFR 3809) and/or the New Mexico Mining Act rules. Use and Occupancy under the Mining Law regulations (43 CFR 3715) would be

enforced to prevent mining or other activities conducted under the pretense of the Mining Law that are not authorized under the Mining Law.

### **Livestock-grazing**

Under Alternative B, the existing livestock- grazing operations on public lands would continue, with no reductions or additional restrictions. The occasional public- land visitor seeking assistance from the rancher would continue to increase due to the increased publicity about the trail. Additionally, damage to range- land improvements from vandalism would continue to occur from time to time but at an increased level to due increased visitor use.

### **Land and Realty Uses**

Effects on Land and Realty Uses under Alternative B would be similar to Alternative A. However, the identification and protection of trail resources on public land would increase pressure on other land uses. In areas designated as auto - tour routes, increased traffic on city, county, and state streets and roads could potentially increase road maintenance requirements. Requests for new rights- of- way and land uses would be allowed only in areas that did not conflict with identified trail resources, and special stipulations might be necessary to protect trail resources.

### **Recreation**

Developing, marking, and interpreting an auto-tour route would contribute to increased public awareness of the NHT. Visitors would benefit from this opportunity to follow the approximate trail route, and to visit related resources and interpretive facilities. Visitor use in Jornada del Muerto would not be expected to exceed 1,500 annual visits under this alternative, and use at the Teypama site would probably not change from existing levels of use.

Although no immediate threats have been identified or closures recommended at this time,

future off- highway- vehicle opportunities on public lands could be restricted in the immediate vicinity of historic or cultural sites for resource protection.

### **Visitor Experience/Information and Education**

The development of a coordinated interpretive and educational program emphasizing resource protection on the NHT would benefit visitors, increasing their awareness of resource values and threats. Visitors would understand how their individual actions contribute to resource protection. In some cases, visitors may be disappointed by the lack of a comprehensive, trail-wide interpretive and education overview, or by the relative inability to have experiences in the trail corridor.

Certification of sites, segments, and interpretive facilities would benefit the visitor experience through the increased identification, interpretation, and use of trail- related resources. Standards of quality reached through the certification process would contribute to the development of accurate and consistent media and programming, and would increase visitor enjoyment and understanding of the trail's history and significance.

Development of an interpretive plan would assist Camino Real Administration and partners in presenting a cohesive, integrated interpretive and educational program, and would result in increased public understanding and appreciation for the trail.

### **Scenery**

As in Alternative A, there would be no change in VRM classifications. Scenic values within the vicinity of the trail would continue to be managed under the objectives of the various assigned VRM classes within the Socorro and Las Cruces field offices. Impacts to scenic values on public lands within the Taos Field Office would continue to be assessed on a case- by- case basis, because no VRM classes have been assigned through a resource management plan for those

lands within the vicinity of the trail. Continued development and human activities on public lands along trail segments and around sites within the three field offices may lead to the loss of historic landscape characteristics and scenery.

### **Socioeconomics/Social Values/ Environmental Justice**

Alternative B would provide for the protection of trail resources and existing recreational and interpretive facilities through new and on-going activities. Trail resources on federal land would be protected; those on private land would be certified. In addition, resources on federal lands would be identified and interpreted by displays and activities or educational opportunities. Resources on state or private lands would also be encouraged to provide interpretation and educational facilities. This alternative would encourage resource preservation through tax agreements (taxing land preserved as open space at a lower rate) and would provide for challenge cost-share programs of up to 50% federal cost sharing for project implementation. The alternative also includes a number of other features to promote public awareness and interest.

The NHT's yearly budget under Alternative B is anticipated to be \$475,000 for administration and related activities, including challenge cost-share program projects. In addition, the state/local challenge cost-share program 50% match would result in another \$60,000 yearly in government expenditures, for a total of \$535,000 expended yearly by all levels of government for identified administration and implementation activities. This expenditure can be expected to generate a net benefit of \$1,190,000 in combined sales, 36 new jobs, and approximately \$92,820 in increased tax revenues in the ESA per year. Note that this estimate of benefits is very conservative and incomplete for the reasons discussed below.

Implementation of Alternative B can be expected to generate some additional recreational travel and heritage tourism visits along the route. After a lengthy period of growth, visitation rates for the ESA have been essentially flat for the past several years, and this situation is expected to continue for the foreseeable future. Any new

visits created by implementation of Alternative B would generate two beneficial effects: They would improve the visitation and continuing viability of the individual trail sites; and they would contribute to the economic activity of the surrounding communities through increased visitor expenditures.

Currently, the best-documented expenditure rate for tourist travel in New Mexico is \$96.45 per day per person. At this point, it is not possible to quantify the number of additional visitors or visitor days that might be generated by implementation of Alternative B. Two important points are stressed:

1. Visitor forecasts to existing and future facilities, such as El Camino Real International Heritage Center and others located on federal, state, and local lands, and on private property, are predicated in part on implementation of an NHT action alternative.
2. It has been the common experience of other designated national historic trails (such as Lewis & Clark, Oregon, Mormon Pioneer, California, and Santa Fe) that increases in visitation are directly related to the quality of the public awareness and promotional programs that are conducted for them. Special events, in particular, greatly improve visitation rates. Therefore, for this analysis, it is too speculative to assume a figure for increased visitation resulting directly from the implementation of Alternative B, but it is recognized that such an increase would occur, and generate additional, but presently unquantified, economic benefits beyond those resulting from direct government expenditures. These benefits are expected to begin immediately upon plan implementation and continue for the indefinite future.

Implementation of Alternative B would result in unquantified social benefits in the ESA. The economic improvements and additional service and hospitality-industry jobs generated by increased visits would enhance the economic stability of communities in the ESA, especially those with higher rates of unemployment. Other benefits would include improved governmental services resulting from increased tax revenues,

and avoidance of future social costs that might otherwise result from continued economic problems. Low- moderate- income families and individuals, at- risk youth, Hispanic residents, and North American Indians (both on reservations and in the larger community) may be expected to find new employment in the service sector. Proportionately, the greatest improvements can be expected in the poorer counties of New Mexico, and to a lesser extent in El Paso County and the Mexican “gateway communities.” This alternative would not impact tribal lands directly; North American Indians would generally benefit from induced economic activity from increased visitation.

Alternative B would add to the effectiveness on ongoing NPS and BLM international outreach efforts, such as Habitat Chat, Sister Communities, and the ongoing cooperative agreements between NPS, BLM, and INAH. This would help these programs to achieve objectives of enhancement and sustainable management of natural resources, maximum efficiency in use of fiscal resources, and coordination of cross- border activities, along with improved information sharing and relationship development.

Implementation of Alternative B may result in unquantified adverse impacts to state and local tax revenues. These would occur if private lands are purchased as part of the plan and thus removed from the tax rolls, or if agreements are made with private landowners to preserve sites by reducing taxes to open- space values. This marginal loss of revenue could negatively impact delivery of government services to an unknown degree. This loss may be more than offset by gains in tax revenues associated with increased economic activity stimulated by the alternative. The magnitude of such gain or loss is unknown at this time.

### **Vegetation/Noxious Weeds/Soils/Water**

Impacts under Alternative B would be similar to Alternative A. With augmented visibility for the trail and the lack of interpretation along the trail, increased visitor use may lead to additional

damage to soils and vegetation at some locations. There would be no measurable impacts to surface water or ground water resources.

### **Wildlife**

Modification of wildlife habitat is not proposed under this alternative; therefore, there would be no impacts to wildlife.

### **Cumulative Impacts**

Implementation of Alternative B is integral to the cumulative visits and economic activity of all trail resource sites along the route.

Improvements at any single site or combination of sites would likewise affect activity elsewhere along the trail. Already mentioned is the nearly completed International Heritage Center, which would add cumulatively to the benefits of the trail along its route. Other certified sites would add to the trail’s overall socioeconomic viability.

The benefits of implementing Alternative B to the local and regional economy would include improvements in both permanent and temporary employment opportunities and revenues as the planned maintenance and improvement of existing facilities and programs are implemented. These benefits would be both local and regional in nature, and would also be international, with enhanced employment opportunities along the Mexican border and southward in the Mexican State of Chihuahua.

Because Alternative B emphasizes off- site interpretation of El Camino Real de Tierra Adentro, cumulative impacts resulting from public visitation at high- value interpretive sites would not occur. These sites would never be opened for public visitation and recreational use as part of heritage tourism.

Increased interest (both legitimate and illegitimate) in the trail would result from public awareness and outreach programs, mostly based out of El Camino Real International Heritage Center. Increased public awareness should result in a growing population of volunteers partici-

pating in local chapters of the statewide site stewardship program. Based on the numbers of sites the Farmington chapter of the site stewards can actively patrol, it is estimated that site stewards in the Rio Abajo region would be able to monitor approximately 300 properties annually. This active patrolling should result in improved site protection and should nullify any increase in looting or “pot- hunting” at El Camino Real-related sites.

### **IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Under Alternative A, there would no change from the current expenditures, because there would be no change from the current management program. Current federal land- management activities would continue, and there would be no certification of private lands or special efforts made to identify trail resources or coordinate recreation and interpretive activities. Therefore, there would be no new irreversible and irretrievable commitment of resources created with this alternative.

Under both Alternatives B and the Preferred, there would be irreversible and irretrievable commitments of resources in terms of funds expended for action plan implementation. This amount is estimated at \$535,000 per year in combined federal funds and local challenge cost- share program match under each alternative. Other unquantified commitments of resources would be created if state and local agencies, trail associations, and the private sector commit them in coordination with the federal government in implementation of either Alternative B or the Preferred Alternative.

### **RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

Current federal land management, and state, local, and private- sector recreation and interpretation activities under Alternative A would continue, and thus would marginally improve the long- term productivity of the socioeconomic environment over both the short and long-term.

Under Alternatives B and the Preferred, enhancement and coordination programs would result in both short- term benefits resulting from construction and long- term benefits from the enhanced operations. The Preferred Alternative would be expected to have the most favorable overall net socioeconomic benefits from increased visitation and economic activity.

### **UNAVOIDABLE ADVERSE IMPACTS**

There would be no unavoidable adverse socioeconomic impacts under Alternative A. The only unavoidable adverse impact under Alternatives B and the Preferred would be the potential loss in local tax revenues from either government purchases of private lands or tax agreements resulting in lowered tax rates.

There is potential under the Preferred Alternative for new surface disturbances totaling 0.9 acres of land in Jornada del Muerto area for recreational development adjacent to areas that have already been subject to human disturbances for many years—primarily roads. Given the relatively small size of these disturbances spread out over five recreation sites (pull- outs) and a short trail, impacts to other resources would be minimal and difficult to measure.

## Chapter 5

# CONSULTATION/COORDINATION

### INTRODUCTION

This chapter describes the consultation and coordination efforts that Camino Real Administration has carried out during preparation of this draft CMP/EIS for El Camino Real de Tierra Adentro National Historic Trail. Work on this draft document began in 2001, following the directive from the Department of the Interior for BLM and NPS to jointly complete a management plan.

Consultation and coordination with federal, state, local, and tribal governments, and interested organizations and individuals, has occurred through formal and informal efforts. Although this public involvement is required by the National Environmental Policy Act of 1969, the Federal Land Policy and Management Act of 1976, and the NPS act of August 25, 1916, both agencies have been placing increasing emphasis on involving communities in planning for the future of the national historic trail.

Consultation and coordination with federal, state, and local governments and non-government organizations in Mexico has occurred informally. A strategy to coordinate with Mexico has been developed jointly by the BLM and NPS, and will be implemented in cooperation with and through Mexico's Instituto Nacional de Antropología e Historia (INAH). INAH is the federal agency in Mexico responsible for cultural resource protection, and it has recognized the significance of the national historic trail in the U.S. and the importance of cooperating with the BLM and NPS. Meetings are planned with the state directors of INAH who have responsibility along El Camino Real de Tierra Adentro Trail in Mexico to discuss the strategy and coordination with Mexico. The BLM, NPS, and INAH have existing agreements that provide the three agencies with the authority to collaborate on this project. The act designating El Camino Real as a national historic trail states that the managing

U.S. federal agency(s) will coordinate with Mexico.

### FORMAL CONSULTATION

A biological evaluation was completed for this plan that made a "no effect" determination for listed threatened and endangered species. Consultation with the U.S. Fish and Wildlife Service (FWS) under Section 7 of the Endangered Species Act of 1973 is required before the BLM or NPS undertake an action that may affect, and is likely to adversely affect, any federal special-status wildlife or plant species or its designated habitat.

### CONSISTENCY WITH OTHER PLANS

BLM planning regulations require that Resource Management Plans (RMPs) be "... consistent with officially approved or adopted resource-related plans, and the policies and procedures contained therein, of other Federal agencies, North American Indian tribes, and State and local governments, so long as the guidance and management plans are also consistent with the purposes, policies and programs of Federal laws and regulations applicable to public lands. . . ." (43 CFR 1610.3- 2). NPS Management Policies (2001) for Park Planning call for cooperative regional planning and ecosystem planning whenever possible. To ensure such consistency, Camino Real Administration has sent letters to the federal, state, and tribal governments and local agencies listed in Table 11.

No inconsistencies are known to exist between the plan and officially approved and adopted resource plans of these other entities. Camino Real Administration will continue coordination and consultation with federal, state, and local agencies and tribal governments.

**Table 11: STAKEHOLDERS/DOCUMENT RECIPIENTS**

**Partial List  
Stakeholders/Document Recipients**

**FEDERAL GOVERNMENT**

International Boundary and Water Commission  
National Aeronautics and Space Administration  
U.S. Bureau of Indian Affairs  
U.S. Bureau of Reclamation  
U.S. Congressional Delegation  
    Senator Jeff Bingaman, (D) NM  
    Senator Pete V. Domenici, (R) NM  
    Senator Phil Gramm, (R) TX  
    Senator Kay Bailey Hutchison, (R) TX  
    Representative Joe Skeen, (R) 1, NM  
    Representative Tom Udall, (D) 3, NM  
    Representative Heather Wilson, (R) 2, NM  
    Representative Silvestre Reyes, (D) 16, TX  
U.S. Department of Agriculture  
    Agriculture Experimental Station  
    USDA Forest Service  
    Natural Resources Conservation Service  
U.S. Department of the Army  
U.S. Army Corps of Engineers  
U.S. Department of Defense  
    White Sands Missile Range  
U.S. Department of Transportation  
    Federal Highway Administration  
U.S. Department of Energy  
    Los Alamos National Laboratory  
U.S. Department of the Interior  
    Environmental Policy and Compliance  
U.S. Environmental Protection Agency  
    Regional Project Manager  
U.S. Fish & Wildlife Service

**STATE GOVERNMENTS**

**New Mexico**

Department of Agriculture  
Department of Economic Development  
Department of Game & Fish  
Department of Parks & Recreation  
Department of Tourism  
Environment Department  
Museum of New Mexico  
Office of Cultural Affairs  
Office of Indian Affairs  
Secretary of State  
State Energy & Resources Department  
State Highway & Transportation Department  
State Historic Preservation Officer  
State Land Commissioner  
State Records Center and Archives

**Texas**

Department of Parks and Wildlife  
Department of Transportation  
Historical Commission  
State Historic Preservation Officer

New Mexico and Texas State Congressional  
Delegations

New Mexico and Texas State Governors' Offices

## TRIBAL GOVERNMENTS

Acoma  
All Indian Pueblo Council  
Cochiti  
Eight Northern Pueblo Indian Council  
Five Sandoval Indian Pueblos  
Fort Sill Apache  
Hopi  
Isleta  
Jicarilla Apache  
Laguna  
Mescalero Apache  
Nambe  
Navajo Nation  
    (Ramah, Tohajiilee, and Alamo Chapters)  
Picuris  
Piro- Manso- Tiwa  
Pojoaque  
San Felipe  
San Ildefonso  
San Juan  
Sandia  
Santa Ana  
Santa Clara  
Santo Domingo  
Southern Ute  
Taos  
Tesuque  
Tortugas  
Ute Mountain Ute  
Ysleta del Sur  
Zia  
Zuni

## LOCAL GOVERNMENTS

City Governments  
City of Albuquerque, New Mexico  
City of El Paso, Texas  
City of Española, New Mexico  
City of Santa Fe, New Mexico  
City of Socorro, New Mexico  
City of Truth or Consequences, New Mexico

## County Commissioners/ Managers/Planning Offices

Doña Ana County, New Mexico  
El Paso County, Texas  
Rio Arriba County, New Mexico  
Sandoval County, New Mexico  
Santa Fe County, New Mexico  
Sierra County, New Mexico  
Socorro County, New Mexico  
Valencia County, New Mexico

## EDUCATIONAL INSTITUTIONS

El Paso Community College  
New Mexico Institute of Mining and  
    Technology – Socorro  
New Mexico State University  
Northern New Mexico Community College  
Northwestern University – Evanston, Illinois  
Santa Fe Community College  
Southern Methodist University – Taos  
University of California – San Diego  
University of New Mexico – Albuquerque  
University of Texas – El Paso  
Center for Inter- American and Border Studies

## MEXICO

El Camino Real de Tierra Adentro Association  
Federal, state, local, and non- government  
    organizations  
Municipalities  
    San Francisco del Oro  
    Santa Bárbara  
    Valle de Allende  
    Ciudad Chihuahua  
State of Chihuahua  
    Congreso de Chihuahua (State Legislature)  
    Governor of Chihuahua  
    External Affairs Director  
    Minister of Education  
    Outreach Director  
University Autonoma of Chihuahua  
Instituto Nacional de Antropología e  
    Historia (INAH)  
University of Chihuahua

## PUBLIC PARTICIPATION

Public participation in this planning effort is a continual process that occurs throughout the development of the plan, and beyond. In addition to formal public participation, informal contacts occur frequently with public land users and interested persons through meetings, field trips, telephone calls, and letters. All applicable public participation is currently documented, analyzed, and kept on file at the NPS Long Distance Trails Group Office in Santa Fe.

Camino real Administration published a notice in the *Federal Register* on May 18, 2001 (Vol. 66,

No. 97, pp. 27682- 4), announcing the formal start of this planning process.

The agencies held several meetings to determine the scope of the planning effort, develop planning issues, and review planning criteria (see Table 12). Prior to these meetings, a letter was sent to numerous individuals and groups, inviting them to participate by attending the meetings and/or providing written comments. Summaries of the scoping meetings were mailed to all individuals and organizations on the mailing list in October 2001. An update, *El Camino Real News*, was printed and mailed in January 2002.

**Table 12: Public Meetings**

Meeting/Group(s)	Location	Date
Scoping	Las Cruces, NM	June 13, 2001
Scoping	El Paso, TX	June 14, 2001
Scoping	Truth or Consequences, NM	June 18, 2001
Scoping	Socorro, NM	June 19, 2001
Scoping	Albuquerque, NM	June 22, 2001
Scoping	Alcalde, NM	June 25, 2001
Scoping	Santa Fe, NM	June 28, 2001
Community Design Session	Albuquerque, NM	August 22, 2001
Community Design Session	Espñola, NM	August 23, 2001
Community Design Session	El Paso, TM	September 19, 2001
Appreciative Inquiry Session	Sunland, NM	October 15, 2001
Appreciative Inquiry Session	Socorro, NM	October 16, 2001
Appreciative Inquiry Session	Albuquerque, NM	October 17, 2001
Appreciative Inquiry Session	Española, NM	October 20, 2001

## NORTH AMERICAN INDIAN CONSULTATION

Letters were sent to all of the North American Indian groups listed in Table 11 on May 18, 2001, asking them to meet with El Camino Real planning team and participate in the NHT planning process. Faxes were sent to all North American Indian groups in June 2001 to also invite them to the public scoping meetings. Letters were also sent in October 2001 inviting participation in the Appreciative Inquiry Sessions. Table 13 lists meetings with North American Indians that have occurred to date.

**Table 13: North American Indian Meetings**

Meeting/Group(s)	Location	Date
Ysleta del Sur Pueblo	Ysleta del sur Pueblo, TX	July 24, 2001
San Juan Pueblo	San Juan Pueblo, NM	August 15, 2001
Santa Domingo Pueblo	Santa Domingo Pueblo, NM	October 17, 2001
Pueblo of Sandia	Pueblo of Sandia, NM	October 23, 2001
Santa Clara Pueblo	Santa Clara Pueblo, NM	October 25, 2001

## PREPARERS OF THE PLAN

This document was prepared by an interdisciplinary team of resource specialists from NPS and BLM. Table 14 lists the names and qualifications of the planning team members.

<b>Table 14: List of Preparers</b>			
<b>Name</b>	<b>Assignment</b>	<b>Education</b>	<b>Related Experience*</b>
Robert Alexander	Vegetation/Weeds/Grazing (BLM-Santa Fe)	B.S., Range Science	BLM – 33 years
John Bristol	Visual Resources (BLM-Albuquerque)	B.S., Landscape Architecture	BLM/USFS – 30 years
Sharon A. Brown	Planning/Visitor Experience/Recreation (NPS-Santa Fe)	Ph.D., American Studies	NPS – 25 years
Charles Carroll	Planning/Environmental Planner	B.A., Anthropology	Environmental Science Private Industry – 8 years BLM – 21 years
Kevin Carson	Visual/Recreation Resources (BLM-Socorro)	B.S., Park Administration	BLM/NPS – 24 years
Bill Dalness	Energy/Minerals (BLM-Santa Fe)	M.S., Geology	BLM – 30 years
Joyce Fierro	International Grants and Partnerships coordinator, BLM, NMSO	International, Grants, Partnerships	BLM – 26 years
Oswaldo Gomez	Recreation/Visual Resources (BLM-Las Cruces)	B.S., Biology	BLM/NPS – 20 years
Jane Harvey	Writer-Editor (NPS-Santa Fe)	B.A., Anthropology	NPS – 24 years
Pamela Herrera Olivas	Wildlife/T&E (BLM-Santa Fe)	M.S., Environmental Science	BLM – 6 years
Clarence Hougland	Lands and Realty (BLM-Santa Fe)	B.S., Recreation/Land Management	BLM – 30 years
Terry A. Humphrey	Joint Team Leader (BLM-Santa Fe)	B.S., Recreation Management, Forestry	BLM/NPS/USFS – 22 years
Patricio R. Martinez	Geographic Information (BLM-Santa Fe)	GIS Specialist	BLM – 12 years
Harry Myers	Joint Team Leader (NPS-Santa Fe)	B.S., Recreation and Park Administration	NPS – 28 years
Ed Natay	American Indian Trust Responsibilities (NPS-Denver/Santa Fe, Intermountain Regional Office Staff)	American Indians Programs Administration/Coordination	NPS – 30 years Indian Assistance/Tribal Liaison
Ramón R. Olivas	International Coordination (NPS-Las Cruces)	M.S., Wildlife Management	NPS – 18 years
John Roney	Cultural Resources (BLM-Albuquerque)	M.A., Anthropology	BLM – 24 years
Dave Ruppert	Ethnography (NPS-Denver)	Ph.D., Cultural Anthropology	BLM/OFI/NPS – 20 years
Joseph P. Sánchez	Spanish Colonial Research Center (NPS-Albuquerque)	Ph.D., History	University professor of history – 12 years NPS – 24 years

<b>Table 14: List of Preparers</b> continued			
<b>Name</b>	<b>Assignment</b>	<b>Education</b>	<b>Related Experience*</b>
Pam Smith	Cultural Resources (BLM-Las Cruces)	B.S., Anthropology	BLM/USFS – 21 years
J. W. Whitney	Advisor (BLM-Santa Fe)	B.S., Botany	BLM – 34 years
Len Brooks	Advisor (BLM-Las Cruces)		
John Conoboy	Advisor (NPS-Santa Fe)		
Sam DesGeorges	Advisor (BLM-Taos)		
Lynn Engdahl	North American Indian Coordination (BLM-Washington)		
Stephen Fosberg	Advisor (BLM-Santa Fe)		
Jon Hertz	Advisor (BLM-Socorro)		
Linda Ray	Visual Information Specialist (NPS-Denver)		
Angela West	Advisor (BLM-Washington)		

Note: Acronyms are as follows:  
 BLM – Bureau of Land Management  
 NPS – National Park Service  
 OFI – Office of the Federal Inspector  
 USFS – USDA Forest Service