



United States  
Department of  
Agriculture  
Tongass  
National Forest  
R10-MB-706

December 2009



# Petersburg Outfitter and Guide Management Plan Environmental Assessment



### Abbreviations and Common Acronyms

ACMP	Alaska Coastal Management Plan	NAGPRA	Native American Graves Protection and Repatriation Act
ADF&G	Alaska Department of Fish and Game	NEPA	National Environmental Policy Act
ADGC	Alaska Department of Government Coordination	NFS	National Forest System
AIRFA	American Indian Religious Freedom Act	NHPA	National Historic Preservation Act
ANCSA	Alaska Native Claims Settlement Act	NMFS	National Marine Fisheries Service
ANILCA	Alaska National Interest Lands Conservation Act	NOAA	National Oceanic and Atmospheric Administration
BMP	Best Management Practices	PCDSCW	Petersburg Creek – Duncan Salt Chuck Wilderness
CCR	Recreation Use Carrying Capacity Report	PRD	Petersburg Ranger District
CEQ	Council on Environmental Quality	ROS	Recreation Opportunity Spectrum
CFR	Code of Federal Regulations	RSNT	Remote Setting Nature Tours
CZMA	Coastal Zone Management Act	RVD	Recreation Visitor Day
DMLW	Division of Land, Mining, Land and	SHPO	State Historic Preservation Officer
DN	Decision Notice	SOPA	Schedule of Proposed Actions
EA	Environmental Assessment	SUA	Special Use Authorization
ESA	Environmental Species Act	T&E	Threatened and Endangered
FONSI	Finding of No Significant Impact	TBKW	Tebenkof Bay and Kuiu Wildernesses
FS	Forest Service	TLMP	Tongass Land Management Plan
FSH	Forest Service Handbook	TNF	Tongass National Forest
FSM	Forest Service Manual	TTRA	Tongass Timber Reform Act
IDT	Interdisciplinary Team	USFWS	United States Fish and Wildlife Service
LNT	Leave No Trace	VCU	Value Comparison Unit
LUD	Land Use Designation	WA	Wilderness Area

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Cover photo: View from Raven's Ridge on Mitkof Island. Sukoi Islands in Frederick Sound with the Coast Range in the background. Photograph by Marina Whitacre.



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File Code: 1950-1

Date: December 14, 2009

Dear Planning Participant,

Enclosed is your copy of the Environmental Assessment (EA) for the Outfitter and Guide Management Plan on the Petersburg Ranger District, Tongass National Forest. This document describes two action alternatives; Alternative 1 (Proposed Action) and Alternative 2 (Increased Solitude). Alternative 2 is the preferred alternative; however, please review both alternatives since either alternative, combination of alternatives, or a new alternative within the range of these alternatives may be selected in the final decision.

Since the distribution of the project's scoping letter in January 2009, a second action alternative (Increased Solitude) was developed to further address user conflicts in the Saginaw/Security/Washington Bays (12A) and Keku Strait/Port Camden (14) study areas. Similar to Alternative 1, Recreation Visitor Days are proportioned out by season, but with reduced outfitter and guide allocations in the spring and fall in Study Areas 12A and 14. Setting allocated use in the spring and fall seasons closer to actual use in these study areas restricts growth in the areas' outfitter and guide use. The intended result would be fewer user conflicts due to a greater opportunity for solitude.

As the Petersburg District Ranger, I am the Responsible Official for this project. I will make the decision on how to manage the outfitter and guide special use program by allocating a portion of the total recreation carrying capacity for commercial use while taking into account the needs of unguided users and forest resources.

The 30-day comment period on the EA will begin on the date the Notice of Availability is published in the Petersburg Pilot, the newspaper of record. Comments should be provided prior to the close of the comment period and should clearly articulate the reviewer's concerns and contentions. The submission of timely and specific comments can affect a reviewer's ability to participate in subsequent administrative review or judicial review.

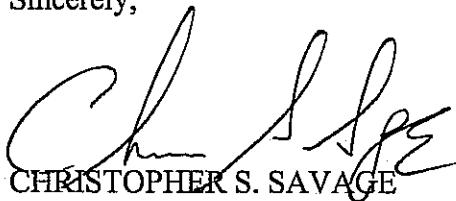
Comments received in response to this solicitation; including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative review or judicial review.

Please send written comments to me, Petersburg District Ranger, or Marina Whitacre, Team Leader/Writer-Editor, Attn. Petersburg Outfitter and Guide Management Plan, U.S. Forest Service, PO Box 1328, Petersburg, AK, 99833-1328. Comments may also be e-mailed to [comments-alaska-tongass-petersburg@fs.fed.us](mailto:comments-alaska-tongass-petersburg@fs.fed.us), with Petersburg Outfitter and Guide Management Plan in the subject line.



If you need additional information or would like additional copies of the EA, please call the Petersburg Ranger District at (907) 772-3871. The document can also be accessed online at: <http://www.fs.fed.us/r10/tongass/projects/projects.shtml>.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Savage", written over the printed name.

CHRISTOPHER S. SAVAGE  
District Ranger



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View from USFS Kake bunkhouse. Photograph by Heath Whitacre.

# CHAPTER 1 – PURPOSE AND NEED FOR THE PROPOSED ACTION

## Document Structure

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The Petersburg Ranger District, Tongass National Forest, has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State law and regulation. This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document has four chapters plus appendices:

- Chapter 1 – Purpose and Need for the Proposed Action. This chapter includes information on the history of the project proposal, the purpose and need for the project, and the agency's proposal for achieving that purpose and need. It also details how the Forest Service informed the public of the proposal and how the public responded.
- Chapter 2 – Alternatives. This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this chapter provides a summary table of the environmental considerations associated with each alternative.
- Chapter 3 – Environmental Considerations. Organized by resource area, this chapter describes the environmental effects of implementing the proposed action and other alternatives.
- Chapter 4 – References and Lists. This chapter provides a glossary, list of preparers and EA recipients, references and an index.
- Appendices. These provide more detailed information to support the analyses presented in the EA.

The project record, located at the Petersburg Ranger District (PRD) office in Petersburg, AK, has additional documentation and more detailed analyses of project area resources.

## Background

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Outfitting and guiding services are a permitted activity on National Forest System (NFS) lands under a variety of laws established by Congress. National policy allows the Forest Service (FS) to issue either temporary or priority special use permits to qualified outfitters and guides.

Temporary special use permits are issued for minor, non-recurring outfitting and guiding activities in amounts of up to 200 service days in a 180-day period and are not be subject to renewal. They may be offered on a first-come, first-served or lottery basis and are issued only for intermittent or transient outfitting and guiding conducted on National Forest System lands (FSH 2709.11, Chapter 41.53j).

# 1 Purpose and Need

Priority special use permits may be issued for up to ten years with a probationary 2-year permit term for new priority use permit holders that may be extended for up to 8 years based upon satisfactory performance. Priority use permits may be issued to institutional and semi-public groups, such as youth, educational, and religious groups (FSH 2709.11, Chapter 41.53l).

Priority use permit allocation is based on the highest amount of actual use in one calendar year during a five year period. Permit holders with 1,000 service days or less can acquire an additional 25 percent of their highest actual use year and permit holders with more than 1,000 service days can acquire an additional 15 percent, provided that the total does not exceed the allocation when the permit was issued (FSH 2709.11, Chapter 41.53m).

This approach to review use allocations takes into account market fluctuations, availability of state hunting licenses, and natural phenomena.

In addition to temporary and priority use permits, temporary and priority use pools may be established. These allow priority use permit holders to apply for a short-term allocation of use to meet a seasonal need (FSH 2700 Chapter 41.53k and n). The process of allocating a percentage of use to the temporary and priority use pools will be determined by the authorized officer who, in this situation, is the Petersburg District Ranger (ibid.).

This 2009 EA replaces the Petersburg Ranger District portion of the 1997 Stikine Area Outfitter and Guide EA. It will not address or authorize assigned sites<sup>1</sup>, ground disturbing activities, and other forms of development. These activities will require a site specific analysis and further NEPA review.

Through this NEPA analysis, the PRD will decide how recreation visitor capacity will be allocated to outfitters and guides by considering the long-term and cumulative effects of issuing temporary and priority use permits. In allocating visitor capacity, the FS will consider uses that serve the public need for outfitter and guide services in ways that protect the natural and cultural resources of the area, and the more primitive social setting desired for an “Alaskan experience”.

## History of the project

In 2004 a review of the 1997 Stikine Area Outfitter and Guide EA was completed to take into account the growth of the outfitter and guide industry. All recommended changes were minor. Calculations or numbers were corrected based on better information or to address public concerns. No change required any further environmental analysis or was significant enough to require a new Decision Notice.

Since the 2004 review, actual use of the PRD by the outfitter and guide industry increased in 2005, then steadily decreased from 2005-2008 (see Table 3.2). To examine the district's ability to accommodate growth, a carrying capacity study (the Petersburg Recreation Use Carrying Capacity Report) was completed in December 2009. The

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<sup>1</sup> An *assigned site* is a specific site designated and authorized for use by a permit holder.

analysis, or allocation process, allows the PRD to manage its recreation use in accordance with the Recreation Opportunity Spectrum<sup>2</sup> (ROS) (USDA 2008, Appendix I) and Forest Plan Standards and Guidelines (USDA 2008, pp. 4-45 to 4-49). These capacity numbers estimate how many people can use a given area annually and helped formulate alternatives responsive to the issues identified in scoping (see Chapter 2 for alternatives). For a detailed explanation of how the carrying capacity report numbers are generated, see the Recreation Use Carrying Capacity Report in Appendix A of this document.

The Recreation Use Carrying Capacity Report for the Petersburg Ranger District shows that despite an increase in commercial use of Forest Service lands, use has not exceeded capacity and there is room for additional growth of the outfitter and guide industry.

There have been some changes in allocation of RVDs by study area and study area acres since the 1997 Stikine Area Outfitter and Guide EA and the 2004 update<sup>3</sup>. Other changes incorporated into this EA include:

- New Tongass Forest direction regarding permitting outfitter and guide services within wilderness. In 2007 the Forest Supervisor determined a need existed for outfitter and guide services within Wilderness Areas on the Tongass. The amount, type and extent of services necessary is determined at the district level prior to issuing outfitter and guide permits in Wilderness (Wilderness Act, FSH 2709.11 41.53e, USDA 2007). Two Determinations of Need for Commercial Services were conducted prior to this EA's analysis: one for the Petersburg Creek – Duncan Salt Chuck Wilderness and another for the Tebenkof Bay – Kuiu Wildernesses. Both analyses are filed in the Petersburg Outfitter and Guide Management Plan EA project record.
- New Washington Office direction on the administration of outfitter and guide permits (FSH 2709.11 – 41.53). The updated FSH sets forth new direction on authorizing and administering temporary and priority use permits and establishing and operating priority and temporary use pools for permit holders. The 2008 changes do not affect the total allocation of commercial use on National Forest System lands. Instead it changes how allocated use might be distributed.
- Study area boundaries. All but three study areas changed during the analysis completed for the Petersburg Carrying Capacity Report. These changes were an effort to group similar recreation uses within a study area. The changes were also a result of five additional years of use data.
- Recreation place boundaries. There were boundary changes made to the recreation places which fall within the larger study areas. These changes were due to land status changes, a re-evaluation of recreation attractors, new information,

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<sup>2</sup> ROS helps identify, quantify and describe the type of recreation settings the district provides.

<sup>3</sup> These changes are listed in Table C of the 2009 Recreation Use Carrying Capacity Report for Petersburg Ranger District.

# 1 Purpose and Need

and the most recent use data. As a result, there are 70,976 fewer recreation place acres today than in 2004.

- An increase in net RVDs. Based on the Proposed Action, there are approximately 95,434 more RVDs available today than when the 2004 update was completed<sup>4</sup>.

## Purpose and Need for Action

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The purpose of this initiative is to:

- Respond to special use permit applications;
- Allocate appropriate outfitter and guide use in the Petersburg Creek-Duncan Salt Chuck, Tebenkof Bay, and Kuiu Wilderness Areas while protecting wilderness character (based on individual Wilderness Needs Assessments); and
- Allocate outfitter and guide recreation use on the Petersburg District to minimize potential impacts to all resources.

This action is needed to analyze the potential impacts of outfitter and guide use on NFS lands and to set reasonable levels of use based on social and environmental conditions. This action responds to the goals and objectives outlined in the Tongass Forest Plan, and helps move the PRD towards the desired conditions described in the plan (USDA 2008a, p. 2-1). The Forest Plan provides standards and guidelines to authorize the services of qualified outfitters and guides to the public where the need for the service has been identified, is compatible with the objectives and management direction of the affected Land Use Designation (LUD) (USDA 2008a, p. 4-46) and to issue priority use permits, whenever possible, supplemented with temporary permits (id.).

Forest Service policy (FSM 2720 and FSH 2709.11) allows for the issuance of special use authorizations for up to 10 years. Applications for multi-year permits allow outfitters and guides to make financial commitments necessary to continue to provide service to the public.

In 2007, the Forest Supervisor determined a need for outfitter and guide services within Wilderness Areas on the Tongass. To address this need, the PRD has written two Determinations of Need for Commercial Services (Determinations): one specific to the Tebenkof Bay and Kuiu Wilderness areas and another for the Petersburg Creek-Duncan Salt Chuck Wilderness area. Both Determinations demonstrated need for commercially guided hunting, freshwater fishing and Remote Setting Nature Tours (RSNT). The Tebenkof Bay and Kuiu Wilderness Determinations also demonstrated a need for commercially guided camping. Because these services are deemed appropriate for these

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<sup>4</sup> This increase is largely due to a change made to a variable (Length of Stay) in the formula used to calculate RVDs (see Appendix A, Recreation Carrying Capacity Report). In 2004 Length of Stay (LOS) was determined by the average amount of time a recreationist was estimated to stay at the recreation place. In the current analysis, LOS reflects the amount of time a recreation place could be occupied by recreationists. For example, many LOSs for recreation places increased from two hours in 2004 to eight hours in 2009. As a result, 2009 net and allocated RVDs increased.

Wilderness areas, the FS may issue Special Use Authorizations (SUAs) to individual(s) or organization(s) (USDA 2008a, p. 3-20) to provide the said service(s).

## Project Area Description ---

The project area consists of the National Forest System lands encompassing the Petersburg Ranger District of the Tongass National Forest (TNF), totaling approximately 1.9 million acres in central Southeast Alaska, including Mitkof, Kupreanof, Woewodski, and Kuiu Islands, a section of the mainland, and several smaller islands. It encompasses the communities of Petersburg, Kupreanof, and Kake. A map displaying the project area is presented in Figure 1. For the purpose of this project, the district is divided into 20 study areas<sup>5</sup>.

## Proposed Action ---

The action proposed by the Forest Service to meet the purpose and need is to authorize outfitter and guide operations through the issuance of special use permits, based on the Petersburg Recreation Use Carrying Capacity Report (see Appendix A). The Petersburg Ranger District (PRD) is proposing to allocate outfitter and guides up to 10 percent of the capacity within and 25 percent outside an identified home range<sup>6</sup>. These allocations would be proportioned out by season; 10% in the spring (April 1 – May 31), 65% in the summer (June 1 – August 31), 15% in the fall (September 1 – October 31) and 10% in the winter (November 1 – March 31) (Table 2.3). Allocating use by season is an effort to limit outfitter and guide use in the spring and fall to reduce user conflicts, provide more opportunities for solitude and indirectly manage outfitter and guide recreation use by activity.

The proposal would authorize up to approximately 39,605 RVDs across the PRD for use by outfitters and guides. The use authorized may be temporary in nature (less than one year) or could be for multiple years. For those operators who have demonstrated satisfactory performance, the District Ranger may issue priority use permits, for a period of up to 10 years, in accordance with FSH 2709.11.

## Decision Framework ---

The Petersburg District Ranger will decide how to manage the outfitter and guide special use program by allocating a portion of the total recreation use carrying capacity for commercial use while taking into account the needs of unguided users and forest resources. In order to maintain a quality recreation experience and a balance between

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<sup>5</sup> *Study area* Study area boundaries were determined using the Forest Plan, Value Comparison Units (VCUs), ROS Classes (2008 Forest Plan, Appendix I), and Watershed Analysis Areas. In some instances study area and recreation place boundaries were revised to better represent where use is occurring and to group lands according to their location. These changes are documented in Table D of Appendix A.

<sup>6</sup> The allocation of 10% and 25% is by recreation place, not by study area.

# 1 Purpose and Need

guided and unguided use, the District Ranger will also decide what level of guided use will trigger additional review by study area. The type of recreation use for any given recreation place<sup>7</sup> will not be established by this document.

Given the purpose and need, the District Ranger will review the proposed action and the other alternatives in order to make the following decisions:

- The locations, limitations, management, and terms of outfitter and guide permits and opportunities on the PRD for the next five to ten years;
- The extent, type, amount, and location of commercial use to allocate within the Petersburg Creek-Duncan Salt Chuck, Tebenkof Bay, and Kuiu Wilderness Areas;
- How best to manage outfitter and guide use on the PRD to minimize potential impacts to all resources; and
- What, if any, mitigation measures and monitoring are needed.

The District Ranger will not address proposals for development<sup>8</sup> in this document. Development proposals, authorized under different Forest Service authorities and policies, are beyond the scope of this analysis.

The decision will be implemented through the Special Uses administrative process. Commercial use permits will be authorized under the direction of the Special Uses Management Manual (FSM 2700) and Handbook (FSH 2709.11). Mitigation measures will be implemented through permit requirements and provisions, and administration and program monitoring. Monitoring will occur during the administration of Special Use permits and as part of the ongoing program of monitoring forest resources (sensitive and invasive plants, wilderness campsites, etc).

Outfitter/guide activities involving the taking of fish or game will be implemented under Alaska Board of Game, Alaska Board of Fisheries, and Federal Subsistence Board regulations.

When commercial use in specific study areas approaches the allocated levels, commercial requests for use may be redirected to other locations. If this measure is not sufficient to accommodate demand, resulting in a competitive interest, use will be allocated among qualified outfitters and guides through a competitive process.

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<sup>7</sup> *Recreation places* are areas used for recreation activities and are easy to access. They are identified based on patterns of use associated with protected boat anchorages and landings, aircraft landing sites and roads; for example, beaches or campgrounds.

<sup>8</sup> *Development* would include construction of resorts, cabins, tent platforms, or any other structure or facility.



## Scoping

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### ***Schedule of Proposed Activities***

The Petersburg Outfitter and Guide Management Plan Environmental Assessment has been listed quarterly on the Schedule of Proposed Actions (SOPA) since April 2008.

### ***Open Houses***

On May 5, 2008, the Petersburg Ranger District hosted an open house at the district office. A second open house was held in Kake on July 8, 2008. A draft of Petersburg's study area maps were posted for viewing at both locations. PRD received no written comments.

### ***Government-to-Government Consultation***

Consultation letters were sent to the Petersburg Indian Association, the Organized Village of Kake and the Wrangell Cooperative Association in April and December 2008. The groups also received the project scoping letters mailed in July 2008 and January 2009. Kake Tribal was mailed a consultation letter in April 2008 and received both scoping letters. In July 2008 Forest Service personnel attended a meeting with the Organized Village of Kake. The Outfitter and Guide Management Plan was discussed and maps of the project were provided.

Indian Tribe consultations are an important part of cultural resource management. In Alaska, Indian Tribes, as defined by the National Historic Preservation Act, include federally recognized tribes and villages and regional corporations created by the Alaska Native Claims Settlement Act. The Organized Village of Kake, the Petersburg Indian Association and the Wrangell Cooperative Association are the tribes that have a cultural affiliation to the project area and were consulted with during the course of project development, as noted above. We also contacted Kake Tribal Corporation, Tlingit and Haida tribes of Alaska and Sealaska.

### ***Scoping Letter***

In July 2008, PRD mailed approximately 360 scoping letters requesting comments on the proposed action. In January 2009, PRD mailed an updated scoping letter to the same recipients that included a revised proposed action that resulted from the concerns and feedback received from the first scoping letter. Three main changes were made:

- Analyze Petersburg and Wrangell Ranger Districts separately. Initially it was proposed to analyze the Wrangell and Petersburg Ranger Districts together and publish one EA. However, the public comments received during the first round of scoping demonstrated that there are different issues on each district that require different alternatives.

# 1 Purpose and Need

- The proposed action was revised to manage outfitter and guide use on a seasonal, rather than annual, basis. Many of the responses from our initial proposed action raised concerns about the proposed RVD allocations being too high in many of the PRD study areas. To address these comments, the project's interdisciplinary team decided to limit commercial use during the spring and fall seasons as a means to reduce user conflicts and provide more opportunities for solitude.
- Revise the reported Recreation Visitor Days associated with day use hunting operations. This user group spends relatively little time on National Forest System (NFS) lands, but can spend a considerable amount of time in areas adjacent to the National Forest. This is especially true for boat-based hunting operations. This use can displace other users, even when not occurring entirely on NFS lands. To account for this incidental use of NFS lands, a multiplier of three was factored into the reported day use hunting that did occur on NFS lands, and is reflected in the 5-year (2004-2008) actual use RVD average.

## ***Response to Scoping***

### **July 2008 scoping letter**

PRD received eleven responses to the July 2008 scoping letter. Respondents included commercial outfitters, Alaska Department of Fish and Game, and State of Alaska (Office of Project Management and Permitting). Comments included:

- Project clarification requests;
- Outfitter and guide use is over-allocated. Study areas specifically mentioned were 2, 10, 12B, 14 and 16;
- Over-allocation has created conflicts between users, specifically in the spring and fall hunting season;
- Permitted uses conflict. Security Bay (12A) was specifically mentioned. It was suggested to authorize different permitted uses at different times;
- There is intentional underreporting in Study Area 12A;
- The Forest Service should assign priority hunts;
- The Forest Service needs a prospectus;
- Kah Sheets and Petersburg Creek receive heavy use;
- Dialog with permitted users and the USFS would be helpful to develop reasonable use levels for the various permitted activities on the Tongass;
- The Forest Service not put restrictions on visitor numbers (guided or unguided) in Wilderness areas.

The concerns and feedback received resulted in conversations with some of the commercial bear hunting operators (Savage 2008) and a revised proposed action and scoping letter.

### January 2009 scoping letter

PRD received seven responses to the January 2009 scoping letter. Respondents included a private citizen, commercial outfitters, Alaska Department of Natural Resources, Department of the Army, City of Kupreanof mayor, and State of Alaska (Office of Project Management and Permitting). No new issues were identified. Comments included:

- Requests to revise the calendar days of use for the spring and summer season;
- Statements about commercial user conflicts;
- Outfitter and guide use is over-allocated;
- Request for group size restriction for outfitters and guides using the Petersburg Lake Trail and the Petersburg Mountain Trail (addressed in Table 2.2 Mitigation Measures by Study Area).

## Issues

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### Key Issues

Key issues help define or predict the resources or uses that could be most affected by the management of NFS lands. These issues are used as a basis to formulate management alternatives or to measure differences between alternatives.

Non-significant issues were those identified as:

- 1) Outside the scope of the proposed action;
- 2) Already decided by law, regulation, Forest Plan, or other higher level decision;
- 3) Irrelevant to the decision(s) to be made; or
- 4) Conjectural and not supported by scientific or factual evidence.

The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 101.7 "...identify, and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec 1506.3)..." A list of non-significant issues and reasons regarding their categorization as non-significant is in the project record.

With regard to key issues, the PRD identified two:

- **Issue 1:** *The proposed action may not provide stable business opportunities for the outfitter and guide industry.*

### Measurements

- Comparison of alternatives will include the percentage of total RVDs allocated to outfitter and guides for the project area.
- Comparison of alternatives will include the number of RVDs allocated to outfitters and guides for each study area by season.

# 1 Purpose and Need

- **Issue 2:** *The proposed action may not adequately address conflicts within the outfitter and guide industry.*

## **Measurements**

- Comparison of alternatives will include the percentage of total RVDs allocated by recreation management season.
- Comparison of alternatives will include the percentage of outfitter and guide allocations for spring and fall seasons.

## **Other Issues and Concerns**

The following issues were considered but determined not to drive an alternative. The rationale is included below.

### **Recreation Demand**

In the 1997 Stikine Area Outfitter and Guide Environmental Assessment, an issue discussed and analyzed was the ability of the proposed action to provide adequate recreation opportunities for guided and unguided forest users. This issue was dropped for this analysis since the number of RVDs allocated to guided and unguided users has not limited use in the past.

### **Affects on Forest Resources**

The project's effects to forest resources were also discussed as a significant issue in the 1997 Stikine Area Outfitter and Guide EA. However, because the previous EA and subsequent monitoring has shown no effect to forest resources, the issue was dropped for the current analysis and is no longer a concern that drives an alternative. It is important to note that affects on forest resources are still considered in the project analysis.

## **Meetings and Consultation with Agencies and Others**

### **State of Alaska – Department of Natural Resources**

The office of Project Management and Permitting coordinated a State agency review of the project. The State concurs with the Forest Service's determination of consistency with the Alaska Coastal Management Program (ACMP). See the Findings and Disclosures section of Chapter 3.

### **National Marine Fisheries Service and U.S. Fish and Wildlife Service**

The Forest Service coordinates planning efforts with the National Marine Fisheries Service and U.S. Fish and Wildlife Service to protect threatened, endangered, and candidate species on National Forest lands. This coordination assures the continued protection of important habitat.

On March 17, 2009, a Forest Service Aquatics specialist discussed the appropriate course of action regarding an Essential Fish Habitat determination for this project's proposal with a Fisheries Biologist at the National Marine Fisheries Service. The project, potential effects to EFH, and the analysis conducted and documented in the EA were explained. The NMFS Fisheries Biologist agreed the potential effects were minimal and suggested

an official EFH determination in the EA was not necessary. The Chapter 3 section in this EA documenting effects to aquatic resources was sufficient for the agency's review. However, a follow-up conversation with a Tongass National Forest Fisheries Biologist suggested including an official EFH determination highlighting the agreement between the USDA Forest Service (Alaska Region) and the National Marine Fisheries Service (document is filed in the project record). A 30-day comment period, initiating the consultation process, will begin when NMFS receives a copy of this EA with the EFH determination.

#### **State of Alaska – State Historic Preservation Officer (SHPO)**

The SHPO reviews compliance with Section 106 of the National Historic Preservation Act, a process to determine the effects of alternatives on cultural resources.

#### ***Federal and State Permits, Licenses and Certifications***

Prior to implementation of the proposed allocation of RVDs to outfitters and guides, various permits need to be obtained from other Federal and State agencies. Some permits are already in place; others would have to be obtained.

Prior to outfitting and guiding on NFS lands, the State requires:

- that commercial outfitters and guides are state licensed, regardless of where they are operating;
- any operator that uses state lands in the course of their commercial activities must either register with the Alaska Department of Natural Resource, Division of Mining, Land and Water (DMLW) under 11 AAC 96.018, or obtain a permit under AS 38.05.850 or lease under AS 38.05.070. More information on commercial day-use registration and DMLW authorizations may be found at [http://www.dnr.alaska.gov/mlw/permit\\_lease/index.cfm](http://www.dnr.alaska.gov/mlw/permit_lease/index.cfm); and
- the operator must also be in compliance with outfitter and guide regulations issued by the Alaska Department of Commerce, Community and Economic Development which address operations primarily occurring on state tidelands and related incidental activities occurring on federal uplands. Regulation details can be found at <http://www.dced.state.ak.us/occ/pgui5.htm>.

Prior to outfitting and guiding on NFS lands, the Federal Government may require verification of current business or operating licenses such as Coast Guard License, State of Alaska Sport Fishing License, etc.

#### **Outfitter and Guide Permit Conditions**

Permitted activities include, but are not limited to: photography, sightseeing, hiking, kayaking, canoeing, wildlife viewing, flying tours, power boating, fishing, hunting, and interpretive services. Short-term overnight camping may also occur when no leveling or

# 1 Purpose and Need

ditching of campsites is made, when *Leave No Trace*<sup>9</sup> practices are used, and when the permit includes the R10-X117 Archaeological-Paleontological Discoveries Clause. This analysis will not address or authorize development of new recreation structures, ground disturbing activities or activities that involve any type of collecting, such as beachcombing.

Outfitters and guides operate under National Forest System permits that include several cultural resource stipulations. Outfitters and guides, who are also responsible for the actions of their clients, are prohibited from collecting artifacts or disturbing cultural resources. Outfitters and guides have an affirmative responsibility to report cultural resource discoveries made in the course of their business. Outfitters and guides must comply with all federal laws and regulations including the National Historic Preservation Act, the Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act. Non-compliance with permit stipulations could result in permit revocation and/or prosecution under the various federal statutes and regulations.

## ***Applicable Laws and Executive Orders***

Shown below is a partial list of Federal laws and executive orders pertaining to project-specific planning and environmental analysis on Federal lands. While most pertain to all Federal lands, some of the laws are specific to Alaska. Disclosures and findings required by these laws and orders are contained in Chapter 3 of this EA.

- The Alaska Coastal Management Act of 1977
- Alaska Native Claims Settlement Act (ANCSA) of 1971
- Alaska National Interest Lands Conservation Act (ANILCA) of 1980 - includes a variety of provisions with direct or indirect implications for recreation management on national forests such as access, traditional activities in wilderness, and taking of fish and wildlife.
- American Indian Religious Freedom Act of 1978
- Archeological Resource Protection Act of 1979
- Bald and Golden Eagle Protection Act of 1940 (as amended)
- Clean Air Act of 1970 (as amended)
- Clean Water Act of 1977 (as amended)
- Coastal Zone Management Act (CZMA) of 1972 (as amended)
- Endangered Species Act (ESA) of 1973 (as amended)
- Executive Order 11593 (cultural resources)

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<sup>9</sup> Go to: [http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/int\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/int_principles_v2.shtml) and LNT main website ([http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)) for more information about Leave No Trace practices.

- Executive Order 11988 (floodplains)
- Executive Order 11990 (wetlands)
- Executive Order 12898 (environmental justice)
- Executive Order 12962 (aquatic systems and recreational fisheries)
- Executive Order 13007 (American Indian sacred sites)
- Executive Order 13084 (consultation and coordination with tribal governments)
- Executive Order 13112 (Invasive plant species)
- Executive Order 13175 (government-to-government consultation)
- Executive Order 13186 (migratory bird protection)
- Executive Order 13443 (hunting heritage and wildlife conservation)
- Federal Cave Resource Protection Act of 1988
- Land and Water Conservation Fund Act of 1964 - “assists in preserving, developing, and assuring accessibility to all citizens of the United States of America...such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable...by providing funds for federal acquisition of certain lands and other areas.” This act also provides for collection of recreation use fees for recreation sites, facilities, equipment, or services.
- Magnuson-Stevens Fishery Conservation and Management Act of 1996
- Marine Mammal Protection Act of 1972
- Migratory Bird Treaty Act of 1918 (amended 1936 and 1972)
- Multiple-Use and Sustained-Yield Act of 1960 - clarifies the purposes for which national forests were established, which include outdoor recreation, range, timber, watershed, wildlife, and fish.
- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990
- National Environmental Policy Act (NEPA) of 1969 (as amended)
- National Historic Preservation Act of 1966 (as amended)
- National Trails System Act of 1968 - established a national system of recreation, scenic and historic trails “in order to provide for the ever-increasing outdoor recreation needs of an expanding population.”
- National Transportation Policy (2001)
- Organic Act of 1897 - instructs the Secretary of Agriculture to preserve and regulate occupancy and use of the national forest.
- Rivers and Harbors Act of 1899
- Wild and Scenic Rivers Act of 1968, amended 1986 - established a system to preserve rivers with “outstandingly remarkable” scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values.

# 1 Purpose and Need

- Wilderness Act of 1964 (as amended) - 1964—established the National Wilderness Preservation System, consisting of federal lands designated among other purposes, to preserve their “primeval character and influence.”

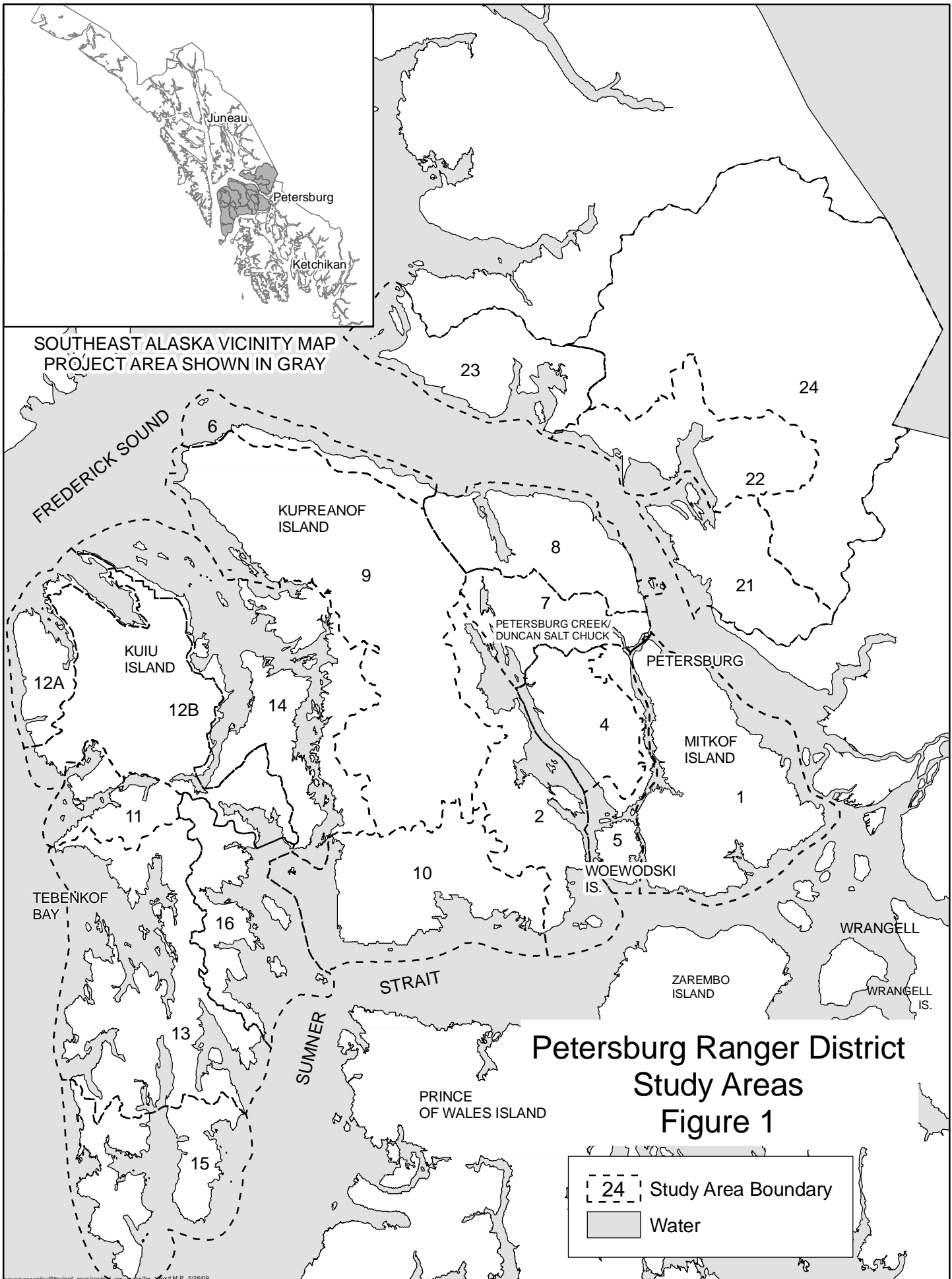
## ***Availability of the Project Record***

An important consideration in preparation of this EA has been reduction of paperwork as specified in 40 CFR 1500.4. In general, the objective of the EA is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental impacts of the alternatives. The project record contains supporting material that documents the NEPA process and analysis from the beginning of the project to the publication of the EA. The project record is located at the Petersburg Ranger District office in Petersburg, Alaska. Reference documents, such as the Forest Plan, are available for review at public libraries and Forest Service offices throughout Southeast Alaska, including the Petersburg Ranger District. The Forest Plan is available on CD-ROM and on the Internet at <http://www.fs.fed.us/r10/tongass/>.



Tongass National Forest. Photograph by Ashley Atkinson.





# 1 Purpose and Need



Fishing at Blind River Rapids on Mitkof Island, Petersburg Ranger District. Photograph by Carin Christensen.

## CHAPTER 2 – ALTERNATIVES

### Key Terms

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**Carrying capacity (recreation)** – Carrying capacity is the estimated number of users that can be accommodated, in a given area, without a loss in the quality of the natural environment or the recreation experience.

**Commercial use or activity** – Any use or activity on National Forest System lands (a) where an entry or participation fee is charged or (b) where the primary purpose is the sale of a good or service and, in either case, regardless of whether the use or activity is intended to produce a profit (36 CFR 251.51) (FSH 2709.11, 41.53d).

**General forest** – For this analysis, general forest is any area that is outside of a developed recreation site.

**Home range** – Home range is a recreation area near a community that is especially important to local residents. Generally, a home range on the Petersburg Ranger District is within a fifteen mile radius of the communities of Petersburg, Kake, Port Protection or Point Baker. Home range recreation places are easy to get to for day trips and receive a fair amount of use. Travel time and the amount of exposed water are factors that limit or extend home range.

**Hunt** – A hunt is an authorization for one guided client on National Forest System lands for the purpose of hunting one or more species in one general geographic area. A hunt does not typically exceed 10 days in length and can be considerably less based on the species pursued. A hunt is an authorization for a land use activity which may or may not result in the harvest of an animal.

**Mitigation** – Measures designed to counteract or reduce environmental impacts.

**Recreation Opportunity Spectrum (ROS)** – A system for planning and managing recreation. It categorizes recreation opportunities into seven classes.

**Recreation Place** – Areas within a study area that include a recreation attractor, such as a trail, a lake, a beach, or a popular fishing stream.

**Recreation Visitor Days (RVDs)** – One RVD is equal to 12 hours of recreation use on National Forest System lands or water by an outfitted or guided client(s). One RVD may be one client for 12 hours, 12 clients for one hour, or any combination that equals 12 hours of use on National Forest System lands.

**Service Day** – A day or any part of a day on National Forest System lands for which an outfitter or guide provides services to a client. One client on the National Forest for 15 minutes in one day is equivalent to one service day. One client on the National Forest for 24 hours in one day is also equivalent to one service day.

**Study Area** – The PRD is divided into 20 study areas and is made up of recreation places and general forest. Study area boundaries were determined using the Forest Plan, Value Comparison Units (VCUs), ROS Classes, and Watershed Analysis Areas. It is at the study area scale that the Forest Service tracks actual use data submitted by permitted commercial operators.



Kayaks at Happy Cove, Petersburg Ranger District. Photograph by Carin Christensen.

## Introduction

This chapter summarizes the development of alternatives considered by the Forest Service to meet the purpose and need and respond to the significant issues described in Chapter 1. Two alternatives are discussed in detail. The alternatives include the Proposed Action (Alternative 1) and the Increased Solitude Alternative (Alternative 2).

There will not be a No-Action alternative in this analysis due to the study area boundary changes made during the update to the Petersburg Recreation Use Carrying Capacity Report. The boundary changes do not allow for a meaningful comparison of past and proposed management actions. Instead, alternatives will be compared to the existing condition, which is represented by five years of actual use numbers (2004-2008) for the newly drawn study area boundaries (FSH 1909.15, Chapter 41.22).

## Existing Condition

Actual use by commercial outfitters and guides is recorded annually by study area and is used in this analysis to describe the existing condition of commercial recreation use on the district. The average actual use by outfitters and guides for 2004-2008 was 4,257 RVDs. The following table shows a breakdown of annual use by season.

Table 2.1. Average actual use by commercial outfitters and guides on the Petersburg Ranger District. Data shown is from 2004-2008.

Spring (April 1 – May 31)	Summer (June 1 – Aug 31)	Fall (Sept 1 – Oct 31)	Winter (Nov 1 – Mar 31)	Annual
361 RVDs	3,450 RVDs	380 RVDs	66 RVDs	4,257 RVDs
8%	81%	9%	2%	100%

The annual five-year actual use average is approximately 11 percent of what is available to outfitters and guides in both action alternatives (39,605 RVDs). See Table 2.3 for a comparison of actual use numbers and proposed allocation numbers by season and alternative.

For detailed descriptions and maps of each study area and recreation place, see Appendix A (Part II) of this document.

## Alternatives Considered in Detail

### *Alternative 1 – Proposed Action*

The action proposed to meet the purpose and need is to authorize outfitter and guide operations through the issuance of special use permits, based on the Petersburg

## 2 Alternatives

Recreation Use Carrying Capacity Report. In this alternative the district proposes to allocate outfitter and guides up to 10 percent of the capacity within an identified home range and 25 percent outside an identified home range<sup>10</sup>. These allocations would be proportioned out by season; 10 percent in the spring, 65 percent in the summer, 15 percent in the fall and 10 percent in the winter (Table 2.3). Allocation by season puts greater limitations on commercial use in the spring and fall, aims to reduce user conflicts by providing more opportunities for solitude and helps indirectly manage outfitter and guide recreation use by activity (i.e., spring and fall outfitter and guide use is mostly for guided black bear hunting).

The proposal would authorize up to approximately 39,605 RVDs across the district for use by outfitters and guides (3,961 RVDs in the spring, 25,743 RVDs in the summer, 5,941 RVDs in the fall and 3,961 RVDs in the winter). The use authorized may be temporary in nature (less than one year) or could be for multiple years. For those operators who have demonstrated satisfactory performance, the District Ranger may issue priority use permits, for a period of up to 10 years, in accordance with FSH 2709.11.

### **Response to Issues**

**Issue 1:** *Provide stable business opportunities for the outfitter and guide industry.*

Eleven percent of the total RVDs available in the project area will be allocated to outfitters and guides. All but one of the study areas<sup>11</sup> have significantly lower actual use numbers than the proposed allocated use, which would allow for the growth of the outfitter and guide industry and help provide stable business opportunities.

**Issue 2:** *Adequately address conflicts within the outfitter and guide industry.*

In the past, user conflicts have been reported in the spring and fall. Allocating use by season allows the Petersburg Ranger District to set outfitter and guide use levels close to actual use during the time of year when conflicts have occurred. As a result, there may be more opportunities for solitude with fewer user conflicts (i.e., a better recreation experience).

### **Alternative 2 – Increased Solitude**

This alternative provides a greater opportunity for recreation experiences with solitude in two study areas that have had reported user conflicts. In particular, it is designed to limit conflict among black bear hunting guides and between black bear hunting guides and fishing guides in the spring and fall.

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<sup>10</sup> The allocation of 10% and 25% is by recreation place, not by study area.

<sup>11</sup> In Study Area 6 (Kupreanof Island – North Shore) the average actual use is higher than the proposed allocated use. Approximately 90 percent of the use is by one outfitter and guide in one recreation site. No user conflicts or resource damage has been reported at the site.

In Alternative 2 RVD allocation is the same as Alternative 1, except that Study Areas 12A (Saginaw/Security/Washington Bays) and 14 (Keku Strait/Port Camden) have a smaller percentage of use allocated to the spring (7 percent) and fall (10 percent) seasons (Table 2.3). As a result, outfitters and guides use is more restricted in the spring and fall in Saginaw/Security/Washington Bays and Keku Strait/Port Camden.

### **Response to Issues**

**Issue 1:** *Provide stable business opportunities for the outfitter and guide industry.*

Eleven percent of the total RVDs available in the project area will be allocated to outfitters and guides. All but one of the study areas<sup>12</sup> have significantly lower actual use numbers than the proposed allocated use, which would allow for the growth of the outfitter and guide industry.

The increased restriction of outfitter and guide use in Study Areas 12A and 14 in the spring and fall seasons may provide greater business stability for the industry by providing an improved recreation experience for clients.

**Issue 2:** *Adequately address conflicts within the outfitter and guide industry.*

By further restricting outfitter and guide use in Study Areas 12A and 14 in the spring and fall seasons, this alternative aims to reduce user conflicts in these areas by setting allocated use closer to actual use, thereby not allowing for an increase in outfitter and guide use.

### **Action Common to Both Alternatives**

Currently the annual actual use for all study areas on the Petersburg Ranger District is less than what is proposed in either action alternative (Table 2.3). However, if a study area nears or exceeds recreation carrying capacity in the future, the Petersburg Ranger District will allocate a percentage of outfitter and guide RVDs by season to temporary and priority use pools as directed in FSH 2709.11 (41.53k and 41.53n). The process of allocating a percentage of use to the temporary and priority use pools will be determined by the authorized officer who, in this situation, is the Petersburg District Ranger (ibid.).

## **Mitigations**

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### **General Mitigation (All Areas)**

The following mitigations are currently required within the Outfitter and Guide Special Use Permit. These standard mitigations are in addition to those listed by study area in Table 2.2.

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<sup>12</sup> In Study Area 6 (Kupreanof Island – North Shore) the average actual use is higher than the proposed allocated use. Approximately 90 percent of the use is by one outfitter and guide in one recreation site. No user conflicts or resource damage has been reported at the site.

## 2 Alternatives

- Land ownership is mixed and it is the responsibility of the permit holder to determine ownership and obtain proper authorization for use of private, Native Corporation, and/or local government-held lands.
- Outfitters and guides will incorporate *Leave No Trace* skills<sup>13</sup> into all activities on National Forest Lands.
- Outfitter guide camps are prohibited within one mile of any Forest Service recreation cabin unless specifically authorized by the permit.
- Outfitter and guide use of public use recreation cabins or their amenities (e.g. skiffs, firewood, fire rings) is prohibited unless specifically authorized by the permit.
- All campfires should be built below high tide, as mound fires (a *Leave No Trace* technique<sup>13</sup>) or in firepans.
- Within designated Wilderness, no more than 12 people (including guides) can occupy a site at one time, unless specifically authorized by the permit. “Site” is defined as an area on the National Forest occupied by persons not within sight and sound of other Forest users.
- Beach Meadows: Outfitters and guides will not establish camps, or allow their clients to camp in these areas. When walking through these areas, people should stay on existing paths and game trails to avoid trampling or damaging vegetation in beach meadows. Located at the margin between marine beaches and the forest fringe, beach meadows are characterized by the presence of tall grasses, beach pea, Indian paintbrush, Pacific silverweed, yarrow, chocolate lily, pretty shooting star, and Nootka lupine. These meadows often have between 20-40 different plant species, some of which are on the sensitive species list.
- Impacts on Bald Eagle Nest Sites: The Forest Service and the U.S. Fish and Wildlife Service have a Memorandum of Understanding which establishes a minimum 330-foot radius habitat management zone around each bald eagle nest tree. Guided groups are prohibited from camping in this zone.

### ***Mitigation by Study Area***

Some areas have special concerns due to competition between outfitter and guide groups and other unguided forest users, resource impacts from increased use, or the area is already under a special use permit. Table 2.2 lists the mitigation measures by study area. Refer to Figure 1 for study area location.

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<sup>13</sup> For more information about Leave No Trace principles, visit:

[http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/Int\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/Int_principles_v2.shtml) or the Leave No Trace website: [http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)



Table 2.2. Mitigation measures by study area.

Study area	Location	Recreation Place	Concern	Mitigation
1	Blind Slough Picnic Area, Manmade Hole Recreation Area, Trumpeter Swan Observatory, Mitkof Island	21004.00	Groups over 20 people at recreation sites, from June to September	Outfitter/guide groups are limited to 20 people (including guides) from June 1 through September 30.
1	Blind River Rapids Trail and Ohmer Creek Interpretive Trail, Mitkof Island	21004.00	Groups over 20 people at recreation sites.	Tours exceeding 20 people (including guides) at one time shall break up into groups not to exceed 20 people (including guides). A separation of at least 15 minutes between groups will be maintained. Operators conducting tours with over 20 people (including guides) at one time are encouraged to contact other outfitters/guides that use these sites to work out schedules that will help avoid crowding.
2	Castle River	21042.01	High use of best fishing areas by outfitter and guide groups during peak season.	Outfitter and guide freshwater fishing on Castle River is limited to Monday through Friday. No weekend use will be authorized.
2	Kah Sheets Creek	21045.00	High use of best fishing areas by outfitter and guide groups during peak season.	Outfitter and guide freshwater fishing on Kah Sheets Creek is limited to Monday through Friday. No weekend use will be authorized.
		21045.01		
		21045.02		
5	Harvey Lake	21128.01	Outfitter and guide impacts on unguided users at public recreation cabin.	Outfitter/guide activities are restricted to the beach area of the lake. Groups will stay as far away from the Harvey Lake recreation cabin as practical to avoid disturbing cabin users. Group size is limited to no more than 40 people (including guides). Tours exceeding 40 people shall break into groups not to exceed 40 people. A separation of at least 15 minutes between groups will be maintained.
7	Petersburg Creek – Duncan Salt Chuck Wilderness	All rec. places within this Wilderness	Outfitter and guide impacts on unguided users and resources.	Group size limited to 12 people (including guides) at one time unless specifically authorized.

## 2 Alternatives

Study area	Location	Recreation Place	Concern	Mitigation
7	Petersburg Lake Trail and Petersburg Mountain Trail	All rec. places along these trails	Outfitter/guide impacts on private land owners adjacent to trails.	Use of the Petersburg Lake Trail and the Petersburg Mountain Trail involve the use of six-foot wide trail easements through private property. Use adjacent to private property along these trails is limited to this easement.  Tours exceeding 20 people (including guides) at one time shall break up into groups not to exceed 20 people (including guides). A separation of at least 15 minutes between groups will be maintained.
7	Petersburg Creek	21054.12	Noise from motorized boats in the Wilderness. Impacts from boat wakes on stream banks.	Outfitters and guides on Petersburg Creek will minimize motorized boat use above the high tide trailhead, and will not be permitted above the log jam (1.8 miles upstream from the Wilderness boundary).
10	Agate Beach	21146.00	Resources	Collecting agates and other material on National Forest System lands adjacent to Agate Beach is prohibited.
13	Kuiu Wilderness	All rec. places within this Wilderness	Outfitter and guide impacts on unguided users and resources	Group size limited to 12 people (including guides) at one time unless specifically authorized.
13	Tebenkof Bay Wilderness	All rec. places within this Wilderness	Outfitter and guide impacts on unguided users and resources	Group size limited to 12 people (including guides) at one time unless specifically authorized.
14	Kadake Creek	21081.01 21081.02	High use of best fishing areas by outfitter and guide groups during peak season.	Outfitter and guide freshwater fishing on Kadake Creek is limited to Monday through Friday. No weekend use will be authorized.
22	Cascade Creek, Thomas Bay	21019.00	Outfitter and guide impacts on unguided users at public recreation cabin.	Outfitters and guides intending to hike Cascade Creek Trail may not put their clients ashore at the beach adjacent to the Forest Service recreation cabin. Clients must go ashore near the trailhead at the mouth of Cascade Creek.

## ***Mitigation by Resource***

### **Botany**

Impacts of recreational users on all types of vegetation are mitigated by informal surveys of recreation sites by district recreation staff, permit requirements that include *Leave No Trace*<sup>14</sup> best practices and permit stipulations. *Leave No Trace* practices minimize damage to vegetation and should effectively confine damage to areas already impacted. Most impacts to dispersed campsites consist of trash and discarded materials which are easily cleaned up with little to no permanent impacts.

Informational pamphlets describing some of the most aggressive invasive plants in Alaska will be distributed to outfitters and guides to increase their awareness of invasive plants and to encourage them to report any infestations they find. Recreation staff is sufficiently trained in plant identification to recognize invasive plants during their surveys of recreation sites.

### **Cultural Resources**

The Forest Service has determined that a finding of No Historic Properties Affected is appropriate for this project. Our Programmatic Agreement (2002) with the State Historic Preservation Officer and the Advisory Council on Historic Preservation recognizes that the undertakings this EA addresses have little to no potential to affect historic properties because of their nature and size. Outfitter and Guide compliance with permit stipulations that require *Leave No Trace*<sup>14</sup> practices and a post-activity site monitoring plan will mitigate potential effects to historic properties.

### **Karst and Cave Resources**

The Petersburg Ranger District has a limited but significant cave<sup>15</sup> resource. All outfitter and guide permits will be monitored to determine if they are using or affecting the cave resource. The monitoring will determine the number of outfitters and guides operating on known karst landforms<sup>16</sup> and of these how many are using caves as part of their permit.

### **Wilderness**

To address concerns due to competition between outfitter and guide groups, as well as with other unguided forest users, mitigation measures were developed to reduce conflicts

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<sup>14</sup> For more information about *Leave No Trace* principles, visit: [http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/lnt\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/lnt_principles_v2.shtml) or the *Leave No Trace* website: [http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)

<sup>15</sup> *Cave* is any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge and which is large enough to permit an individual to enter whether or not the entrance is naturally formed or human made.

<sup>16</sup> *Karst landforms* are any irregular limestone regions with sinkholes, collapse channels, underground streams, caves, and caverns.

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and control resource impacts. The Mitigation Measures are included with all Outfitter and Guide Special Use Permits as Special Stipulations and therefore become part of the permit. Failure to adhere to the Special Stipulations would be a violation of the terms in the Special Use Authorization and could lead to the suspension, revocation or termination of the permit.

Mitigation measures:

1. Campsites will be located at least one mile from recreation cabins, unless specifically authorized in the permit.
2. Campsites will be located on durable surfaces, unless specifically provided for otherwise in the permit.
3. Campfires will be with firepans, below high tideline not on vegetation, or as mound fires; all fires will apply *Leave No Trace* techniques.
4. Use Reports will reflect specific locations of use.
5. In the Tebenkof Bay and Kuiu Wilderness areas, remain at least 100 yards (length of football field) from whales, dolphins, porpoises; and sea otters, seals and sea lions that are on land, or rock (Alaska Marine Mammal Viewing Guidelines).
6. Outfitters and guides will be encouraged to work together to minimize conflicts by scheduling trips to avoid working in the same areas at the same time.
7. Outfitters and guides on Petersburg Creek will be encouraged to minimize impacts from motorized traffic on the creek. Commercially guided, motorized use will be minimized above the high tide trailhead and not permitted above the log jam (1.8 miles upstream from the Wilderness boundary).

The FAA requests that all aircraft maintain a 2,000 minimum altitude above the surface of the lands and waters of the congressionally designated wilderness areas identified on the sectional aeronautical charts. Safety is a factor and the recommendations do not supersede pilot decisions for the operation of the aircraft.

Mitigation measures/special stipulations will continue to evolve in response to current conditions/trends and will continue to be used as a management tool to respond to impacts or conflicts that become apparent during the monitoring efforts.

### Wildlife

The state is responsible for the management, protection, maintenance, enhancement, rehabilitation, and extension of the fish and wildlife resources for the State of Alaska based on the sustained yield principle. The Federal Subsistence Board is responsible for ensuring that the taking of fish and wildlife on federal public lands for non wasteful subsistence uses shall be given priority over the taking of fish and wildlife on such lands for other purposes (Federal Subsistence Board 2008).

The Forest Service and the U.S. Fish and Wildlife Service have a Memorandum of Understanding which establishes a minimum 330-foot radius habitat management zone around each bald eagle nest tree. Guided groups are prohibited from camping in this zone.

The National Marine Fisheries Service establishes regulation to manage and protect marine mammals. Enforcement of these regulations is provided by the National Marine Fisheries Service and the United States Coast Guard. Special use permits require compliance with all federal, state, and local laws and regulations. Outfitter and guide compliance with the marine mammal regulations will mitigate potential impacts to these species.

Mountain goat kidding and wintering habitat will receive protection from aircraft disturbance. Current mitigation by the State of Alaska and the Forest Service for permitted or approved flights requires 1,500 feet vertical and horizontal clearance from such areas and 2,000 feet if flying over wilderness. Flights over kidding areas will be avoided between May 15 and June 15, and between November 15 and December 15, during the breeding season.

While hunting is allowed, populations of waterfowl and shorebirds will continue to be protected by implementing the standards and guidelines provided in the 2008 Forest Plan.

## **Implementation**

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The success of implementation is a function of adequate staffing for enforcement, education and awareness, and the cooperation of permit holders. The amount of field administration needed will likely vary depending upon the use by permit holders, the compliance to conditions of the permits, and behavior of forest users on the Petersburg Ranger District. Where observed uses do not conform to the management of the National Forest, administrative actions (such as permit suspension, revocation, or termination) may occur. Depending upon the severity of the actions, legal actions could and may be taken as appropriate to correct the problem.

## **Monitoring**

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Monitoring and evaluation provide the public and the Forest Service with information on the progress and results of implementing National Forest management decisions. Monitoring and evaluation comprise an essential feedback mechanism to help be responsive to changing conditions. There are two distinct types of monitoring: implementation and effectiveness. Implementation monitoring determines if the permitted activities comply with adopted standards and guidelines: “Did we do what we said we would?” Effectiveness monitoring determines whether the standards and guidelines achieve desired results: “Were the results what we expected?”

Implementation and effectiveness monitoring will be accomplished through the administration of the special use permits issued as a result of this decision. These measures include:

- 1) Special use permits authorized will be monitored as described in Forest Service Handbook 2709.11. This monitoring will consist of routine inspections for permit compliance and compliance with State and Federal regulations.

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- 2) Field inspections of special use permit operations or approved use areas.

Field inspections of a permit holder's operations or approved use will be necessary to ensure compliance with permit provisions. Inspections of approved use areas would provide information regarding site conditions and whether or not additional administrative actions are required.

Permit holders are required to provide actual use reports<sup>17</sup> to the Forest Service within 30 days of the end of their operating season.

- 3) Information provided by the yearly use reports will be compiled and available to all resource disciplines or other areas as requested.

### **Aquatics**

Forest Service staff can readily identify high-use sport fishing locations because outfitters and guides are required to report their activities on National Forest System lands.

Periodic site visits to sport fishing locations by district fishery biologists or hydrologists help evaluate resource status and determine if additional administrative controls or rehabilitations are necessary to protect aquatic resources.

### **Botany**

Botanists will periodically visit a sample of recreation places and follow standard survey protocols to search for sensitive and rare plants. If any sensitive or rare plants are found, mitigation measures would be implemented at that time on a case-by-case basis. These plant surveys would also be used to document any invasive species present. If invasive species are found, measures to control or prevent further spread of the populations would be recommended based on site criteria, such as the invasiveness of the species, size of the population, and the control methods appropriate for the site.

### **Cultural Resources**

Although Forest Service archeologists have determined that recreational activities will not affect sites eligible to the National Register of Historic Places, monitoring can help ensure that the operation of such activities do not adversely affect cultural resources through soil disturbance, rutting, compaction and erosion. Monitoring also addresses issues of outfitter and guide use that may increase the potential for deliberate looting or inadvertent disturbance of fragile sites.

Prior to the start of a season, most outfitters and guides are uncertain exactly where they may take clients on any given day. Factors such as weather, sea conditions and the presence of other people all influence ultimately where an outfitter and guide may take clients. All outfitter and guide permit holders are required to submit annual use and location reports. This information will continue to enable us to visit known use areas.

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<sup>17</sup> *Actual use reports* A form completed by outfitter and guide permit holders and submitted to the District Office at the end of the holder's operating season. The form includes the following information: date(s) of use, number of clients, location(s), and a description of the activity(s) at each location.

Archeologists will periodically visit a sample of use areas and follow standard monitoring protocols. They will conduct a visual inspection of the use area, focusing particular attention on areas with known cultural resources. Soil probes and other subsurface tests may be used to determine the integrity of buried sites. Photographic reference or waypoints will be established at each monitored location to serve as a visual baseline as future visits are made. Information gathered during monitoring will be recorded on standard forest monitoring forms that will be kept on file. Maps, drawings and other references will also be collected to gauge future site conditions.

## Summary

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Implementation and monitoring of special use permits is a part of the ongoing management of resources at the district level. The programs and strategies used to manage resources include education and awareness, field visits, site inspections, and visitor feedback. Methods may vary depending upon resources that are impacted.

If the threshold limits are reached or social and/or environmental issues become a concern, additional use may not be authorized until further site specific review is completed. This review will include all active permits including priority use permits and all pending permit applications.



Fog over the Sukoi Islands in Frederick Sound. Photograph by Heath Whitacre.

## Comparison of Alternatives

Table 2.3. Summary of actual use (existing condition) and proposed recreation visitor days (RVDs) available to outfitters and guides in Alternatives 1 and 2. Existing Condition numbers are the average RVDs reported from 2004-2008. RVDs available to outfitters and guides in Alternative 1 (Proposed Action) are proportioned out by season; 10 percent in the spring, 65 percent in the summer, 15 percent in the fall and 10 percent in the winter. RVDs in Alternative 2 are proportioned out by season the same way as Alternative 1 except with reduced allocations in the spring and fall in Study Areas 12A and 14; 7 percent in the spring, 73 percent in the summer, 10 percent in the fall and 10 percent in the winter.

Study Area	Comparison	Recreation Visitor Days				
		Spring (April 1 – May 31)	Summer (June 1 – Aug 30)	Fall (Sept 1 – Oct 31)	Winter (Nov 1 – Mar 31)	Total Annual <sup>1</sup>
1  Mitkof Island	Existing Condition	22	391	16	0	429
	Proposed Action and Alternative 2	1,278	8,308	1,917	1,278	12,781
2  Duncan Canal – West Side	Existing Condition	4	60	2	0	66
	Proposed Action and Alternative 2	112	729	168	112	1,122
4  Duncan Canal – East Side	Existing Condition	0	0	0	0	0
	Proposed Action and Alternative 2	50	324	75	50	499
5  Wrangell Narrows/Woewodski Is	Existing Condition	0	27	4	0	31
	Proposed Action and Alternative 2	175	1,136	262	175	1,747



Study Area	Comparison	Recreation Visitor Days				
		Spring (April 1 – May 31)	Summer (June 1 – Aug 30)	Fall (Sept 1 – Oct 31)	Winter (Nov 1 – Mar 31)	Total Annual <sup>1</sup>
6  Kupreanof Island – North Shore	Existing Condition	6	349 <sup>2</sup>	8	0	363
	Proposed Action and Alternative 2	45	291	67	45	448
7  Petersburg Ck/Duncan Salt Chuck	Existing Condition	35	179	14	0	228
	Proposed Action and Alternative 2	126	821	189	126	1,263
8  North Lindenberg Peninsula	Existing Condition	11	151	37	8	207
	Proposed Action and Alternative 2	137	892	206	137	1,373
9  Central Kupreanof Is/Road System	Existing Condition	0	8	0	0	8
	Proposed Action and Alternative 2	353	2,293	529	353	3,528
10  Southwest Kupreanof Island	Existing Condition	17	365	2	0	384
	Proposed Action and Alternative 2	147	955	220	147	1,469
11  Rowan Bay/Bay of Pillars	Existing Condition	26	89	16	1	132
	Proposed Action and Alternative 2	96	627	145	96	964

## 2 Alternatives

Study Area	Comparison	Recreation Visitor Days				
		Spring (April 1 – May 31)	Summer (June 1 – Aug 30)	Fall (Sept 1 – Oct 31)	Winter (Nov 1 – Mar 31)	Total Annual <sup>1</sup>
12A  Saginaw/Security/ Washington Bays	Existing Condition	<b>90</b>	<b>308</b>	<b>94</b>	<b>2</b>	<b>494</b>
	Proposed Action	129	839	194	129	<b>1,291</b>
	Alternative 2	90	942	129	129	<b>1,291</b>
12B  Kuiu Island Road System	Existing Condition	<b>23</b>	<b>66</b>	<b>72</b>	<b>1</b>	<b>162</b>
	Proposed Action and Alternative 2	213	1,381	319	213	<b>2,125</b>
13  Tebenkof Bay/Kuiu Wilderness	Existing Condition	<b>54</b>	<b>363</b>	<b>7</b>	<b>2</b>	<b>426</b>
	Proposed Action and Alternative 2	289	1,880	434	289	<b>2,893</b>
14  Keku Strait/Port Camden	Existing Condition	<b>45</b>	<b>283</b>	<b>40</b>	<b>3</b>	<b>371</b>
	Proposed Action	156	1,015	234	156	<b>1,562</b>
	Alternative 2	109	1,140	156	156	<b>1,562</b>
15  South Kuiu Island	Existing Condition	<b>7</b>	<b>264</b>	<b>0</b>	<b>1</b>	<b>272</b>
	Proposed Action and Alternative 2	126	816	188	126	<b>1,255</b>
16  Reid/No Name Bays	Existing Condition	<b>6</b>	<b>136</b>	<b>1</b>	<b>0</b>	<b>143</b>
	Proposed Action and Alternative 2	112	728	168	112	<b>1,120</b>

Study Area	Comparison	Recreation Visitor Days				
		Spring (April 1 – May 31)	Summer (June 1 – Aug 30)	Fall (Sept 1 – Oct 31)	Winter (Nov 1 – Mar 31)	Total Annual <sup>1</sup>
21  Muddy River Area	Existing Condition	0	134	47	31	212
	Proposed Action and Alternative 2	129	841	194	129	1,294
22  Thomas Bay/Point Vandeput	Existing Condition	13	239	13	17	282
	Proposed Action and Alternative 2	126	820	189	126	1,261
23  Farragut Bay/Cape Fanshaw	Existing Condition	1	30	1	0	32
	Proposed Action and Alternative 2	120	780	180	120	1,200
24  Baird/Patterson Glaciers	Existing Condition	1	8	6	0	15
	Proposed Action and Alternative 2	41	265	61	41	407

<sup>1</sup>Totals may vary due to rounding.

<sup>2</sup> This number is higher than proposed allocation; however, 90 percent of the use is from one outfitter and guide in one recreation place. The recreation place is a camp located on a hardened site and it does not experience many impacts. There is some bear hunting and other use in this study area, but conflict between users has not been reported.

## 2 Alternatives

Table 2.4. This table briefly outlines the existing condition and each of the alternatives and shows the differences through a comparison of issues and effects.

Issue		Existing Condition (Actual Use)	Proposed Action	Alternative 2
<b>Issue 1. Does the alternative provide stable business opportunities?</b>				
<i>Measurements</i>				
Guided user RVDs within the project area (percentage of total RVDs)		1.2%	11%	11%
Guided user RVDs by season	Spring	361	3,960	3,874
	Summer	3,450	25,741	25,969
	Fall	380	5,939	5,796
	Winter	66	3,960	3,960
<b>Issue 2. Does the alternative address conflicts within the commercial outfitter and guide industry?</b>				
<i>Measurements</i>				
Allocates use by season to limit outfitter and guide use in the spring and fall to provide for more opportunities for solitude?		Not applicable	Yes	Yes
Addresses conflict between users in Study Areas 12A and 14 by further limiting commercial use in the spring and fall?		Not applicable	No	Yes

## Alternative Considered but Eliminated from Further Study

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A wilderness alternative was considered during the planning process that would have reduced the allocation of outfitter and guide use within study areas that include the Petersburg Creek-Duncan Salt Chuck, Tebenkof Bay, and Kuiu Wilderness areas. However, it was decided that, at this time, there is no need to further reduce or restrict use by commercial outfitters in wilderness on PRD. Also, restricting commercial use in wilderness would contradict the Commercial Services Needs Assessments completed for the three wildernesses on the district. The Needs Assessments support the use of commercial guides to help the public access wilderness for some activities (see Appendix C).



West Point Forest Service Cabin, Petersburg Ranger District. Photograph by Marina Whitacre.



Sea lions at Horn Cliffs, east of Petersburg. Photograph by Chuck Ressler.

# CHAPTER 3 – ENVIRONMENTAL CONSIDERATIONS

## Introduction

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This chapter briefly describes the environmental consequences of each alternative by issue and affected resource. Other considerations are disclosed as required by the National Environmental Policy Act. Included in Appendix A are maps and existing condition summaries for each study area.

### ***Issue 1 - Provide stable business opportunities for the outfitter and guide industry.***

#### *Alternative 1 – Proposed Action*

This alternative allocates use for both guided and unguided recreation use. In home ranges, outfitters and guides are allocated up to 10 percent of the capacity. Unguided users will account for the remaining capacity. Outside home ranges, guided visitors are allocated up to 25 percent of the carrying capacity.

#### *Alternative 2 – Increased Solitude*

This alternative provides the same allocations of use to guided and unguided users for all study areas as Alternative 1 with the exception of Study Areas 12A and 14. In these study areas guided use is reduced in the spring and fall by 3 and 5 percent, respectively.

### ***Issue 2 – Adequately address conflicts within the outfitter and guide industry.***

#### *Alternative 1 – Proposed Action*

In this alternative the district proposes to allocate outfitter and guide use by season; 10 percent in the spring, 65 percent in the summer, 15 percent in the fall and 10 percent in the winter (Table 2.3). Allocation by season puts greater limitations on outfitter and guide use in the spring and fall, aims to reduce user conflicts by providing more opportunities for solitude and helps indirectly manage outfitter and guide recreation use by activity.

#### *Alternative 2 – Increased Solitude*

This alternative provides the same seasonal allocations of use to outfitter and guide users as Alternative 1 with the exception of Study Areas 12A and 14. In these study areas, guided use is reduced in the spring and fall by 3 and 5 percent, respectively. By further restricting outfitter and guide use in these study areas, this alternative aims to reduce black bear hunting guide conflicts and provide more opportunities for solitude.

## Environmental Considerations

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### ***Air Quality***

Outfitter and guide use on the Petersburg Ranger District is not expected to affect air quality in any of the alternatives. Impacts are approximately the same for each alternative.

### ***Aquatic Resources***

This section will primarily address how outfitter and guide use affects the areas' aquatic resources. Four general concerns arise from outfitted and guided fishing.

- 1) Outfitted and guided sport fishing may lead to aquatic or riparian habitat degradation because popular fishing areas will receive use beyond what would normally occur (i.e., use by private individuals only);
- 2) Some species or stocks may be negatively affected by outfitted and guided sport fishing by direct take (i.e., harvest that results in population reduction), delayed mortality from hooking injuries or handling stress, and egg destruction from redd (i.e., spawning nest) trampling;
- 3) Sport fishing activities may lead to invasive species introduction that may cause resource damage through predation, competition, and/or disease introduction; and,
- 4) Reduced resource availability to subsistence users because of competition with sport fishers, including outfitted and guided sport fishers.

These concerns will be discussed throughout this Aquatic Resources section.

### **Affected Environment – Existing Condition of Aquatic Resources**

The affected aquatic resources being considered for this analysis are the submerged and riparian lake and stream habitats and the fish populations within the land management jurisdiction of Petersburg Ranger District (PRD). It is important to note that the management and regulation of fish populations is wholly the responsibility of the Alaska Department of Fish and Game (ADF&G) - sport fish populations are managed by applying regulations onto anglers.

#### ***Habitat***

The approximate 1.9 million acres within the PRD contains numerous watersheds of varying scale ranging from simple island drainages to larger, glacial mainland systems. This region's streams and lakes are physically complex due to the mixture of island and mainland environments, steep topography, and past and present glacial activity.

Most waters are colored from tannins or glacial silt and are generally unproductive because of a limited nutrient base. Most in-stream habitats are formed and controlled by bedrock and large woody debris input. In addition to these physical controls, beavers (*Castor canadensis*) can play a key role in altering stream channel morphology. Riparian habitats are usually densely forested with forest canopies completely shading stream



channels. Stream banks are often occupied by dense shrubs and ground-cover (e.g., mosses and ferns) with very little exposed mineral soil. Overall, these systems tend to be resistant and resilient to most disturbances aside from indiscriminant land management practices or major natural occurrences like landslides.

In general, the aquatic habitats across the analysis area are in good to excellent condition. Most watersheds across PRD are largely intact because logging occurred after many regulations were in place to protect aquatic resources.

#### *Trout and Char*

Cutthroat trout (*Oncorhynchus clarki*), rainbow trout (*O. mykiss* – see next section), and Dolly Varden char (*Salvelinus malma*) are the only trout/char species found in southeast Alaska freshwaters. Cutthroat and Dolly Varden are found in both resident (permanent stream/lake dwelling) and anadromous (sea-going) populations throughout the area. Both species are routinely sought after in sport fisheries, but resident population individuals do not generally attain sizes attractive to sport fishers. Anadromous varieties can be found in area streams and lakes in early spring and fall – these individuals spend their summers at sea taking advantage of the productive coastal environments.

Both resident and anadromous populations are likely stable due to general harvest restrictions promulgated by ADF&G in 1994, with subsequent revisions. The ADF&G manages cutthroat for limited harvest and Dolly Varden for fairly liberal harvest with additional restrictions in place to protect particularly high quality fisheries<sup>18</sup>. However, cutthroat are particularly susceptible to sport fishing over-harvest, and despite conservative restrictions, population declines can still occur when sport fishing pressure increases (Gresswell and Harding 1997).

#### *Steelhead*

Steelhead are the anadromous form of rainbow trout. They are a popular game fish because they are relatively “catchable” with a variety of fishing gear, attain large sizes, and are extremely hard-fighting when played on sport tackle. Steelhead tend to prefer medium-sized and larger stream systems with abundant areas of turbulent, well-oxygenated flows.

Though most area runs tend to be very small (10s to a few hundred fish), PRD encompasses a multitude of systems that support this species. Some of the largest returns occur in Kadake Creek on Kuiu Island (Study Area 12B) and Petersburg Creek on Kupreanof Island (Study Area 7). Recent data suggest steelhead populations throughout Southeast Alaska were once substantially more abundant than they are now (Lohr and Bryant 1999; Harding and Love 2008). In fact, significant population declines prompted the ADF&G to severely restrict steelhead harvest starting in 1994 and continuing to the present day<sup>19</sup>. Steelhead densities appear to have had a mixed response to these regulation changes with some populations during some years having near record returns while

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<sup>18</sup> Please refer to current Southeast Alaska sport fishing regulations for specific regulations.

<sup>19</sup> Please refer to current Southeast Alaska sport fishing regulations for specific regulations.

### 3 Environmental Considerations

others remain stable at very low levels (Harding and Love 2008). The PRD population likely falls into the latter category with a few exceptions.

#### *Salmon*

Salmon – Pink (*O. gorbuscha*), chum (*O. keta*), sockeye (*O. nerka*), coho (*O. kisutch*), and king (*O. tshawytscha*) salmon can all be found at certain times of year in area freshwaters.

Pink salmon are typically the most abundant in terms of sheer numbers, which can substantially fluctuate from year to year. They are widely distributed across PRD. They tend to prefer lower gradient and larger streams, but can be found in most every physically accessible stream. There is likely little harvest of this species by sport fishers because their flesh tends to be pale and soft once they enter freshwater in preparation for spawning.

Chum salmon use similar habitats to pink salmon and share a similar life history. However they tend to be far less abundant and attain a much greater size. Their distribution across PRD is considerably less than that of pink salmon. Like pink salmon, they are typically not highly sought after by sport fishers.

Sockeye salmon are often intimately linked to watersheds containing large lakes as the juvenile of this species mostly rears in these habitats. As such, sockeye have a limited distribution across the area and run sizes usually number a few thousand fish. Sockeye are highly sought by subsistence fishers because of their localized abundance and excellent qualities as a food fish.

Coho salmon can be very aggressive and are highly regarded as a sport fish because of their catchability, size, and quality as a food fish. Coho are widely distributed across PRD, but run sizes are typically only a few hundred fish. They are a very successful species largely because they have a highly tenacious disposition and are good at exploiting a wide range of habitats. Runs in this area are likely stable with minimal to moderate fluctuation from year to year.

King salmon are only found in an artificially maintained run occurs in Blind Slough on Mitkof Island (Study Area 1). Kings are prized sport fish because of their large size and qualities as a food fish. Though regulations allow for liberal harvest of the Blind Slough fishery, ADF&G regulations prohibit fishing for king salmon in freshwaters. Wild stocks in this area could be stable but at low densities.

#### *Subsistence Fishing*

Subsistence and personal use harvest of fishes occurs in both marine and freshwater environments. The State of Alaska manages all personal use and saltwater subsistence harvest, and the Tongass National Forest regulates the subsistence harvest of fishes within the freshwaters of its jurisdiction. There are eight reported personal use and subsistence harvest areas on PRD. Kutlaku Creek (Study Area 11) is the most fished location on this district. Sockeye salmon are the most harvested personal use and subsistence species on the district.

### Direct and Indirect Effects to Aquatic Resources

Alaska's fisheries and aquatic habitats are virtually pristine compared to many places in the world. Despite the areas' robust aquatic resources, many environmental and man-made factors exist that could quickly change this condition. Sport fishing alone can have a profound effect on fisheries resources (Clark and Gibbons 1991; Muoneke and Childress 1994; Bartholomew and Bohnsack 2005; Lewin et. al. 2006). Effects may be more severe on relatively small fisheries like those found around PRD. This analysis examines the effects of outfitter and guide sport fishing on local fisheries.

There is a moderate amount of outfitted/guided sport fishing in the area and most of it is localized to a few key systems. This discussion focuses on those areas that receive the most pressure - areas that have over 50 RVDs (total for all years), for the available record period. The highest use areas (in RVDs) in PRD are Kah Sheets Creek (300.58), Blind River Rapids (251.70), Petersburg Creek (133.88), Big Creek, Mitkof Island (117.25), Alecks Creek (66.30), and Twelvemile Creek (50.50). Effect determinations for each aquatic resource category will be based primarily on local knowledge and professional opinion of these resources and documented information, where available.

#### *Habitat*

Most fishing locations on PRD are somewhat remote and many require a float plane or boat trip to gain access to them. As a result, many locations see very little recreational use and are in a relatively pristine condition. Sites that are more accessible generally have infrastructure improvements (i.e., designed access corridors) that direct movement to and from the fishing location to help minimize habitat disturbance. The combination of these two factors suggests that there are likely very little or no negative effects to aquatic habitats on PRD as a result of outfitted/guided sport fishing. Because the proposed alternatives do not suggest any significant change to the amount of outfitted/guided sport fishing in this area, there should be no significant negative effect to aquatic habitats for either alternative.

#### *Fish*

Recreational effects on fish occur primarily through sport fishing, and trout, steelhead, and salmon are a primary target for many anglers. Sport fishing may have minor or major adverse effects on fish and much of the effect magnitude is dependent upon the fish population/species, environmental conditions, angling methods, and fishing pressure intensity. Adverse effects to fish species or populations as a result of recreational fishing can result from harvest, hooking and/or handling mortality, introduction of diseases or non-native organisms, and litter/pollution (Clark and Gibbons 1991; Muoneke and Childress 1994; Bartholomew and Bohnsack 2005; Lewin et. al. 2006). The following discussion assesses how outfitter and guide recreational fishing activities may affect area fish populations.

Trout and Char – Permitted outfitted and guided sport fishing poses a risk to adversely affecting trout and char populations at high-use locations on PRD. This is possible because trout and char are highly susceptible to sport fishing gear and techniques, harvest is practiced by some anglers and can be high at some locations, and catch-and-release mortality is variable and can be high. Petersburg Creek on PRD is a popular fishery and trout/char comprise a large part of the catch at this location. Average annual outfitted and

### 3 Environmental Considerations

guided fishing at this location is 9.56 RVDs per year. There is, however, no evidence to suggest that this fishery is being negatively affected by outfitted and guided sport fishing at this time. Because the proposed alternatives would not change the current permitted outfitted and guided sport fishing policy in this area, there should be no significant negative effect to trout and char populations.

Steelhead – Permitted outfitted and guided sport fishing poses a risk to adversely affecting steelhead populations at high-use locations on PRD. This is possible because steelhead are susceptible to sport fishing gear and techniques, harvest is practiced by some anglers, and catch-and-release mortality is variable and can be high. Petersburg Creek, Big (Bear) Creek, and Kadake Creek are popular and productive PRD steelhead fisheries. Average annual outfitted/guided fishing use at these locations is 9.56, 8.38, and 7.46 RVD's per year, respectively. There is, however, no evidence to suggest that these fisheries are being negatively affected by outfitted and guided sport fishing at this time. Because the proposed alternatives do not suggest any significant change to the amount of outfitted and guided sport fishing in this area, there should be no significant negative effect to steelhead.

Salmon – Salmon populations in Southeast Alaska vary considerably in size and distribution from year to year. Chum salmon are generally not a popular sport fish and have a relatively limited distribution around PRD. Consequently, there is likely no effect to chum salmon populations as a result of outfitter and guide fishing activities. Pink salmon are widely distributed across PRD and returns to a single system can be in the 1000s. Pink salmon are not a widely popular game fish, and are often caught while fishing for other species. Because of their wide distribution, large overall population size, and low popularity as a sport fish, there is likely no risk to negatively affecting pink salmon populations as a result of outfitter and guide sport fishing activities.

King salmon have a limited distribution across PRD and the only legal fishery in the area occurs at Blind Slough/Blind River Rapids on Mitkof Island. Because this is an artificial or hatchery-supported population, and because there is only one outfitter/guide permitted to access this fishery, there is no risk to negatively affecting this resource as a result of outfitted and guided sport fishing activities.

Sockeye salmon have a limited distribution across PRD and are only a moderately-popular sport fish in this area – sockeye are considerably more important to commercial and subsistence fisheries. There are two locations on PRD where sockeye are abundant. These include Petersburg Creek and Kah Sheets Creek on PRD. Of these systems, Kah Sheets is the only one that has received high outfitter and guide use (21.47 RVDs per year). However, because there is no outfitter and guide currently permitted for this system, there is no risk to adversely affecting this resource as a result of outfitted and guided sport fishing. There would also be little to no risk of negatively affecting sockeye populations at Petersburg Creek as a result of outfitter and guide activities.

Coho salmon are a popular sport fish and can be caught on a variety of tackle. However, despite being a widely pursued sport fish in this area, there is likely little risk to negatively affecting PRD populations as a result of outfitter and guide sport fishing for the following reasons: 1) coho salmon return to area streams and lakes later in the season making them less targeted by outfitters and guides; 2) coho populations are widely

distributed across the region, which distributes sport fishing pressure; and 3) there are no coho population concerns in this area.

#### *Subsistence Fishing*

Subsistence fishing occurs in both salt and freshwaters of Southeast Alaska. A rural Alaska resident can legally subsistence fish for all salmon species, trout, char, and steelhead. Sockeye salmon are the most harvested subsistence and personal use species in this area, and, therefore, have the highest potential to be adversely affected by outfitter/guide sport fishing activities. Kutlaku Creek has the highest reported sockeye harvest (>1000 fish total from 2001-2007). There should be no effect to subsistence/personal use sockeye fisheries at any of these locations because 1) most sockeye subsistence/personal use harvest occurs in saltwater and most recreational fishing occurs in freshwater (i.e., little spatial overlap-little chance for physical interference), 2) the aforementioned location is not a 'high-use' outfitter and guide sport fishing locations (<50 total RVDs reported from 1994-2007), and sockeye salmon are not typically the primary sport fish sought after by recreational anglers in this area.

There is only minimal subsistence or personal use harvest of coho salmon, steelhead, trout, and/or Dolly Varden on PRD. As a consequence, there should be no effect to subsistence or personal use harvest of these species as a result of outfitter and guide sport fishing activities.

#### **Cumulative Effects to Aquatic Resources**

As previously mentioned, many factors can contribute to the condition and sustainability of a fishery. Some of the more prominent variable categories that can negatively affect aquatic resources include natural environmental conditions (climate and habitat), size and species of the fish stock, land management activities, fishing pressure (all types), and, more recently, invasive species.

With respect to aquatic systems on PRD, overall environmental conditions, commercial fishing, and sport fishing likely have the most impact on these systems. Of these three factors, sport fishing likely has the least effect. However, sport fisheries can have localized, and even severe, negative effects to aquatic resources in high-use areas like Blind River Rapids that necessitated access improvements to decrease environmental damage. In general, most negative effects to area aquatic resources should be minimized because administrative controls (i.e., fishing regulations, controlled/directed access points, etc) are already in place to protect these resources.

Based on the rationale above, PRD freshwater aquatic resources should not be at risk due to the additive cumulative effect of outfitter and guide sportfishing for either alternative.

### ***Botany***

#### **Affected Environment – Existing Condition of Botanical Resources**

##### *Threatened and Endangered Species*

The only federally listed or proposed plant in Alaska by the U.S. Fish and Wildlife Service is *Polystichum aleuticum*. It is listed as endangered and is only documented on Adak Island in the Aleutian Island chain. It is not expected to occur on the PRD.

### 3 Environmental Considerations

#### *Sensitive Species*

Sixteen plant species and one lichen species are on the Regional Forester's Sensitive Species List (Bschor 2009) (Table 3.1).

Table 3.1. Alaska Region Sensitive Species. Species known or suspected in the planning area are in bold.

Scientific name	Common name
<i>Aphragmus eschscholtzianus</i>	Eschscholtz's little nightmare
<b><i>Botrychium spathulatum</i></b>	<b>spatulate moonwort</b>
<i>Botrychium tunux</i>	moosewort fern
<i>Botrychium yaaxudakeit</i>	moosewort fern, no unique common name
<b><i>Cirsium edule</i> var. <i>macounii</i></b>	<b>edible thistle</b>
<i>Cypripedium guttatum</i>	spotted lady's slipper
<b><i>Cypripedium montanum</i></b>	<b>mountain lady's slipper</b>
<b><i>Cypripedium parviflorum</i> var. <i>pubescens</i></b>	<b>large yellow lady's slipper</b>
<b><i>Ligusticum calderi</i></b>	<b>Calder's loveage</b>
<b><i>Lobaria amplissima</i></b>	<b>lichen, no common name</b>
<i>Papaver alboroseum</i>	pale poppy
<b><i>Piperia unalascensis</i></b>	<b>Alaska rein orchid</b>
<b><i>Platanthera orbiculata</i></b>	<b>lesser round-leaved orchid</b>
<b><i>Polystichum kruckebergii</i></b>	<b>Kruckeberg's swordfern</b>
<i>Romanzoffia unalaschcensis</i>	Unalaska mist-maid
<b><i>Sidalcea hendersonii</i></b>	<b>Henderson's checkermallow</b>
<b><i>Tanacetum bipinnatum</i> subsp. <i>huronense</i></b>	<b>dune tansy</b>

#### *Rare Plants*

Ninety-six plants are considered rare on the Tongass National Forest. Eleven of these species are recorded in the TNF rareplant GIS data layer, although more species likely exist because the majority of rare plant surveys conducted on the district were not recorded in the data layer.

#### *General Vegetation*

General vegetation cover types include beach fringe, estuarine and supratidal meadows, riparian vegetation, deciduous forest, coniferous forest, mixed deciduous-coniferous forest, young growth, scrub, peatlands, fens, heath, alpine meadows, and rocky areas.

#### *Invasive Plants*

Invasive plants are absent from much of the undeveloped areas of the PRD, but are common on roadsides and occasionally occur on recreation sites, particularly when they

are in close proximity to the road system. Invasive plants have been observed growing in a handful of undeveloped recreation sites on the PRD.

#### **Direct and Indirect Effects to Botanical Resources**

Both alternatives potentially affect the entire range of plant habitats and vegetation cover types present on the PRD. Recreational use can harm plants and vegetation by crushing plants under foot and tents, constructing fire rings, moving of natural materials such as rocks and logs and constructing semi-permanent structures such as tarpaulin frames (Bell and Bliss 1973, Cole and Trull 1992, Monz et al. 2000, Roovers et al. 2004).

No effects are expected to threatened and endangered plants since none have been documented on the district.

Effects to sensitive species are detailed in the project's Biological Evaluation, located in the project record. A "may adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing" determination was made for 11 of the 16 sensitive plant species. No surveys specific to sensitive plants have been conducted within the recreation places covered in this environmental assessment. Due to the largely administrative nature of the proposed action, effects to rare species are expected to be identical to those outlined for sensitive plants.

#### **Cumulative Effects to Botanical Resources**

Compared to National Forests in other parts of the United States, recreational use of the Tongass is light and widespread. Although some sites may experience high levels of impact due to proximity to population centers or unique natural features that are a draw for the recreating public, most sites will experience only minor impacts to vegetation. The cumulative effects of either alternative are not likely to result in adverse impacts to the botanical resources.

Impacts on all types of vegetation are mitigated by an informal process of recreation site evaluation by district recreation staff that has a basic understanding of impacts to vegetation by recreational users who are following the principles of *Leave No Trace* best practices<sup>20</sup>. These practices can be expected to limit harm to vegetation to a reasonable degree, but may not prevent all harm to sensitive or rare species.

### **Cultural Resources**

#### **Affected Environment – Existing Condition of Cultural Resources**

Cultural resources on the Tongass National Forest include a diverse array of ancient and historical sites and are evidence of at least 10,000 years of human occupation and use. Although the exact date of Tlingit occupation is not known, oral histories and

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<sup>20</sup> For more information about Leave No Trace principles, visit: [http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/lnt\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/lnt_principles_v2.shtml) or the Leave No Trace website: [http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)

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ethnographic accounts indicate that the Tlingit people have occupied Southeast Alaska for centuries and were expanding their occupation northward at the time of European contact. The Petersburg Outfitter and Guide analysis area encompasses the central portion of the Tongass National Forest and lies within the traditional territory of the Kake and Wrangell or Stikine Tlingit. The Tlingit Indians have left their mark on the land evidenced by a variety of sites including villages, seasonal campsites, fish traps and weirs, rock art, sacred and religious areas, and subsistence or resource gathering places. The Tlingit continue to recreate, hunt and gather on these lands today.

The historical period in Southeast Alaska began in 1741 when Aleksei Chirikov, a member of Russia's Kamchatka Expedition, sighted land somewhere between Yakobi and Chichagof islands. The Russian's brought back sea otter pelts, which sparked fur trade with the Orient. The trade boomed and the British and American traders soon joined in the pursuit of this valuable commodity. The Russian-American Company rapidly built up its presence in Southeast Alaska and established settlements in Yakutat, Sitka and Wrangell. Russia eventually lost control of the sea otter trade, the company became financially strapped and maintaining a presence in Southeast Alaska became less important. Eventually Russia sold the rights to Alaska to the United States. Since then, enterprises including fishing, whaling, mining, fur farming, tourism, and timber harvest have developed in the analysis area and left evidence on the land.

Archaeological work in the analysis area has occurred over the last several decades. The work is driven primarily by project compliance requirements specified in the National Historic Preservation Act with supplemental Section 110 survey. Most of the work was done by forest service archaeologists with occasional assistance from contract archaeologists. Research partnerships with academic institutions have also added to our knowledge about the area.

A review of our Tongass Sites Database, which tracks all cultural resource work that occurs on the forest, indicates that since 1974, approximately 258 archaeological surveys of varying size and intensity have been conducted within the Petersburg Ranger District boundaries (Area of Potential Effect). Total cultural surveys have covered about 15,000 acres and resulted in the documentation of approximately 554 sites within the study area boundaries which include some state, private, and municipal holdings. Since 2006, Petersburg Zone archaeologists have implemented a monitoring program to assess the effects on historic properties from outfitter/guide use on the Petersburg and Wrangell Ranger Districts. We have visited 32 *Leave No Trace*<sup>21</sup> campsites on Etolin, Kuiu and Kupreanof islands as well as several Day Use Activity areas. All of the outfitter and guide sites we monitored were in the high sensitivity zone for cultural resources. No effects to historic properties were identified at any of the camp or use sites we monitored.

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<sup>21</sup> For more information about Leave No Trace principles, visit: [http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/lnt\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/lnt_principles_v2.shtml) or the Leave No Trace website: [http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)



The Forest Service has consulted with the State Historic Preservation Officer (SHPO) on outfitter and guide permitting in the past. In 1996, the Forest Service and the SHPO agreed that the types of activities addressed in the Stikine Area Outfitter and Guide EA (1997) would have no effect to historic properties if no ground disturbance is allowed. Results of consultation with the SHPO were similar regarding the Shoreline Outfitter and Guide Environmental Impact Statement (2004). The SHPO concurred that there would be no adverse effect to historic properties by Shoreline Outfitter/Guide activities if stipulations such as *Leave No Trace* principles<sup>21</sup> were followed and archaeologists periodically monitored activity sites.

### **Direct and Indirect Effects to Cultural Resources**

Potential effects to cultural resources due to human use come primarily from vandalism. Sites can be dug up, looted, or destroyed. Outfitter and guide permits require the protection of cultural resources and therefore permitted guided use has little, if any, direct effect. Concentrated recreation use at a site can also cause indirect effects such as site trampling, increased erosion, and disturbance and displacement of cultural artifacts. For example, trampling the surrounding area can result in site erosion or plant cover loss, thereby exposing the site to weathering. Effects on historic properties from guided recreation can be eliminated or reduced by avoiding the site or by using mitigation measures to reduce the potential impacts.

Outfitter and guide use will not occur uniformly across the analysis area. Effects on cultural resources will be mitigated through permit stipulations such as the use of *Leave No Trace* practices, oversight and enforcement of pertinent cultural resource laws and regulations, interpretation, and use restrictions where necessary, as referenced in Chapter 2. Past monitoring of outfitter/guide permitted use areas has resulted in our conclusion that the types of activities permitted under this agreement will have no effect on historic properties.

### **Cumulative Effects to Cultural Resources**

Cumulative effects on cultural resources occur through natural erosion, weathering, and decay, as well as from land development and increased visitation. Increases in recreation use may expedite erosion and could lead to vandalism. Monitoring known sites would identify site changes and enable early mitigation to reduce cumulative effects. Site interpretation that includes a strong stewardship message could help to prevent future negative site impacts.

Based on past monitoring of known cultural sites and recreation use, no cumulative effects on cultural resources from the commercial recreation proposed in the alternatives are anticipated beyond the natural decaying process. The types of non-ground-disturbing recreation activities and the relatively low levels of use over the analysis area as a whole combined with mitigation measures, administrative oversight, and enforcement of regulations are expected to result in minimal effects.

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#### **Forest Health and Productivity**

##### **Affected Environment – Existing Condition of Forest Health and Productivity**

###### *Forest Stand Structure*

Stand structures on PRD include uneven-aged (multi-storied), two-aged (two-storied), and even-aged (single-storied). Uneven-aged structure accounts for the majority of the suitable timber lands and is typically greater than 300 years old. Western hemlock is typically the dominant overstory tree species, with cedars and spruce present in varying amounts. Hemlock typically dominates the lower stories too.

Most timber stands originate from wind disturbance. Single large wind events and several smaller wind events have resulted in the variety of stand age and structural characteristics found across the landscape.

###### *Species Composition*

PRD tree species composition by basal area includes: western hemlock, mountain hemlock, Sitka spruce, yellow-cedar, western redcedar and shore pine.

###### *Wind Disturbance*

Wind is the major natural disturbance agent on PRD. It occurs in two forms: small-scale gap-phase disturbance and large-scale stand-replacing disturbance. During gap-phase windthrow events individual trees, or small groups of trees, blow over during wind storms, opening the canopy and allowing young trees to grow to fill the openings. This results in complex, multi-aged stands. Areas exposed to severe but infrequent storms are subject to large-scale windthrow events resulting in complete or partial stand replacement. The resulting stand structure is typically even-aged or two-aged, depending on the level of disturbance. Stands in high-risk wind-hazard areas rarely attain ages greater than 250 years old, and are more often replaced before reaching 150 years old.

Nearly all forested lands in Southeast Alaska contain evidence of past windthrow, but not all lands are subject to the same windthrow risk (Harris 1989). Wind hazard can be strongly influenced by topography (Harris 1989, Harcombe et al. 2004) increasing with slope, elevation, soil hazard and aspect (exposure to prevailing winds) (Nowack and Kramer 1998, Kramer et al. 2001). Windthrow patches can be the result of single wind events or multiple events over time (Harcombe et al. 2004).

###### *Hemlock Dwarf-mistletoe*

Dwarf mistletoe (*Arceuthobium tsugense*), a parasitic plant, reduces the vigor and growth rate of western and mountain hemlock and often produces low quality timber. Cankorous swellings often occur at the point of infection on limbs and main stems. These cankers offer an entrance for wood-destroying fungi, which can lead to heart rot.

###### *Yellow-cedar Decline*

Yellow-cedar mortality became abnormal around 1900 and has accelerated (USDA 2007). Mortality occurs in open canopy stands occupying wet, poorly drained soils (Hennon et al. 1997). Research suggests that the primary cause of approximately 500,000 acres of yellow-cedar mortality in Southeast Alaska is freezing plant tissue (USDA 2007b). Over the past 100 years, a warming trend has diminished the historic protective snow pack at lower elevations, allowing solar radiation to warm up the forest floor

earlier, triggering early loss of cold tolerance in the cedar's shallow fine-root system, and predisposing the Alaska yellow-cedar to late spring freezing injury (USDA 2007b). Cedar mortality ranges in intensity from scattered patches to larger contiguous areas.

#### *Decay Fungi*

Decay fungi are present on the PRD at various levels. Approximately one-third of the volume of old-growth in southeast Alaska is defective due to heart rot (USDA 2007b). Root diseases are also considered significant.

#### *Porcupine Damage*

Porcupine (*Erethizon dorsatum*) presence is island specific in Southeast Alaska. Porcupine can negatively affect tree regeneration, defect, and growth in young stands (particularly stands 15 to 35 years of age) (Sullivan and Cheng 1989). The inner bark of dominant and co-dominant spruce and hemlock trees is the major foods for porcupine during the winter months; in summer they prefer grasses, forbs, and shrubs (Sullivan et al. 1986). Cumulative porcupine damage to regenerating stands can result in slower tree growth, creation of entry points for stem decay due to scarring, and eventual girdling of the tree - causing dead tops or tree mortality.

#### **Direct, Indirect and Cumulative Effects to Forest Health and Productivity**

Outfitter and guide use on the Petersburg Ranger District is not expected to effect forest health and productivity in any of the alternatives. Impacts are approximately the same for both alternatives.

### ***Karst and Cave Resources***

#### **Affected Environment – Existing Condition of Karst and Cave Resources**

An inventory of many of the karst areas has been completed for the Petersburg Ranger District and it has been determined that the district has a limited but significant cave and karst resource.

Most caves<sup>22</sup> on PRD are known as solution caves. They form from water dissolving soluble carbonate bedrock, usually limestone and marble. As rain falls in Southeast Alaska, it absorbs carbon dioxide from the atmosphere and soil to produce diluted carbonic acid. This carbonic acid migrates directly from the soil through small joints and fractures in the limestone. Because the limestone is very soluble, the carbonic acid dissolves it and over time creates caverns or caves. Many times the surface above the cave collapses and sink holes develop. Areas where these collapse features are particularly numerous are said to display karst topography<sup>23</sup>.

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<sup>22</sup> A *cave* is any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge. It is large enough to permit an individual to enter whether or not the entrance is naturally formed or human-made.

<sup>23</sup> *Karst topography* is an irregular limestone region with sinkholes, collapse channels, underground streams, caves, and caverns.

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Carbonate bedrock is less common on the PRD than on other areas of the Forest. Therefore, where karst and caves have formed, the specialized habitats and features create unique opportunities.

Limestone caves have the potential for unique and fragile interior mineral formations. These formations are called speleothems and can take the form of white strawlike structures known as soda straws, hanging curtains of stone, circular pompoms, or soft gelatinous white material known as moon milk.

Another type of cave found on the PRD is the littoral cave. Littoral caves are sea caves usually found on shores and formed by wave action.

#### **Direct, Indirect and Cumulative Effects on Karst and Cave Resources**

Outfitter and guide use on PRD is not expected to affect the ecological or geological processes that create the karst landforms. Likewise, outfitter and guide use of caves will be regulated and little damage is anticipated for all alternatives.

### ***Recreation and Tourism***

#### **Affected Environment – Existing Condition**

##### *Recreation*

The Petersburg Ranger District offers an impressive array of features, including muskeg, glaciers, offshore islands and bays, and abundant fish and wildlife populations. Forested mountains rising from the saltwater provide unique and remote coastal recreation opportunities. These experiences impart a feeling of vastness, wildness, and solitude and are enhanced by the small resident population and relative absence of development compared to most other national forests. There are, however, abundant opportunities for local, concentrated recreation use on the district.

Residents and non-residents alike can enjoy day-use activities, such as hiking, fishing, hunting, and scenery and wildlife-viewing on the national forest, just a short distance from Petersburg. Other activities such as the winter use of snowmobiles or the use of off-road vehicles and mountain bikes are steadily increasing on the district. The wheelchair-accessible, Blind River Rapids Trail is one of the most popular recreation sites on Mitkof Island. It offers visitors a chance for picnicking and also accesses the mouth of Blind Slough for excellent coho and king salmon fishing. A few miles south, the Blind Slough Recreation Area, Man Made Hole, and the Swan Observatory are also available for fishing and sightseeing. The Three Lakes Trail system contains miles of hiking trails, with fishing platforms, picnic tables, and rowboats at each of the lakes. The newly-constructed Adirondack-style shelter on an adjacent lake is also a convenient destination.

If visitors are seeking overnight accommodations, the Ohmer Creek Campground is open most of the year. Ohmer Creek offers fair to good trout and salmon fishing in late summer and fall. The Twin Creek Shelter, up the Twin Creek Road from Mitkof Highway, has a three-sided shelter with a stove that can also be used for overnight stays. In the winter months, the surrounding area offers some of the best skiing, snowshoeing, and snowmobiling that the National Forest on Mitkof Island has to offer.

Across the Wrangell Narrows from Petersburg lies the town of Kupreanof, with access to the Petersburg Mountain and Petersburg Lake Trails. The hike up Petersburg Mountain can be accomplished in a day, and gives visitors a challenging experience with a grand view. The Petersburg Lake Trail follows Petersburg Creek, which is popular with hikers (both guided and unguided), fishermen, boaters, and kayakers, and opens up to the Petersburg Creek-Duncan Salt Chuck Wilderness.

Also within the Petersburg Ranger District is the town of Kake, located on the northwest side of Kupreanof Island. It can be reached by the Alaska Marine ferry, boat, or floatplane. The north end of Kupreanof Island has an extensive road system, which makes available hiking trails and fishing spots on the National Forest.

Twenty Forest Service public recreation cabins are available for rental, and are scattered throughout the district, accessible to the towns of Petersburg, Kupreanof and Kake. They are located at remote lakes, streams, and on saltwater beaches, with some only accessible by floatplane. The cabins are semi-restricted to non-commercial use.

The marine setting is a predominant feature within the Tebenkof Bay and Kuiu Wildernesses, located on Kuiu Island about 50 miles west of Petersburg. Recreation users have a higher expectation of wildness and solitude in these areas. Those seeking a remote experience often fly to the areas to participate in hiking, fishing, hunting, and sightseeing, while traveling by kayak or boat. Visitors often seek the knowledge of commercial outfitters and guides for fishing and hunting in these areas.

Hunting (both guided and unguided) is the predominant recreation activity occurring along shorelines in the spring and fall during black bear and deer hunting seasons. Black bear hunting occurs mainly along the shoreline and for distances up streams, while deer hunting may occur anywhere inland. Residents and non-residents may also hunt for moose or mountain goat inland and in the alpine areas. Because the spring and fall hunts are in the shoulder seasons (rather than the peak summer season), the number of other non-hunting recreation users in spring and fall is less than during the summer season. Conflicts in certain areas of the district during the shoulder seasons have occurred, however, between some user groups.

Because of the remote and rugged nature of the Tongass, much of the forest requires good outdoor skills and/or specialized equipment for recreation. Many people do not have the skills or equipment but have the desire to try a particular activity or visit a remote area. For this reason, commercial outfitters and guides are important recreation partners with the Forest Service. They are able to provide access to the Tongass National Forest, where appropriate, for those people who cannot or do not desire to experience the area on their own. Commercial outfitters and guides often provide outdoor education and an appreciation of the natural environment. They are also required by their permits to follow the *Leave No Trace* principles<sup>24</sup>, and limit group size in Wilderness. They can help

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<sup>24</sup> For more information about Leave No Trace principles, visit: [http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/lnt\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/lnt_principles_v2.shtml) or the Leave No Trace website: [http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)

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maintain different classes of recreation settings by distributing people into underused areas. Commercial providers of recreation activities base much of their marketing strategy on particular environmental settings and identified recreation places within those settings.

Commercial outfitters and guides operating on national forests are required to have a special use permit authorizing them to provide commercial services to the public. Commercial use is defined as any use of the National Forest for which a fee is charged by the outfitter or guide. Types of activities provided by outfitters and guides on the Petersburg Ranger District include big game hunting, freshwater fishing, remote setting nature tours and wildlife viewing, and camping. They also provide gear, boats, and access to the national forest.

Both residents and non-residents may use the services of outfitters and guides. However, non-residents use outfitters and guides more often because they lack the knowledge or necessary equipment. Residents express more concerns than non-residents that some areas are too crowded or will be too crowded in the near future. There is often a strong local interest in maintaining the status quo. Although difficult to predict, areas such as the Tebenkof Bay and Kuiu Wildernesses may see an increase in use as more people seek remote places for the sense of wildness and solitude.

There are reports of illegal outfitting and guiding (outfitters and guides without permits to operate on National Forest System lands), which does not show up in the actual commercial use data; however, this use is minor in relation to the overall amount of authorized commercial use.

#### *Tourism*

The Forest Service recognizes the importance of the tourism industry to the economy of Southeast Alaska. Much of the tourism use on the Petersburg Ranger District is associated with small cruise ships and ferries that travel southeast Alaska's Inside Passage. The majority of tourists experiences the area from the water, and may only go ashore in towns and communities.

Tourists, or non-resident recreation users, can be broadly categorized into two major groupings: the *independent visitor* and the *package visitor*. The independent visitor constitutes a small, but growing group. The independent visitor is one who arrives by ferry or airplane and engages in a variety of activities. They are able to spend more time in the communities and on the Forest than the package visitor. The independent visitor has itineraries that are planned mostly by themselves and may include the services of outfitters, guides, motels, and transportation services. Package visitors include cruise ship clients, and some who arrive by ferry or airplane. These visitors usually spend less time on the National Forest, and often follow pre-planned itineraries. This group uses the forest primarily as a scenic resource. Although excursions into the Forest are increasing, they are mainly oriented around boat and flight-seeing trips.

#### **Direct and Indirect Effects to Recreation and Tourism**

The effects of either alternative on the recreation and tourism experience are varied. While outfitters and guides may accommodate new users or visitors to Alaska, local users

may be adversely affected by perceived or realized overcrowding. This is especially likely at popular fishing, hiking, viewing or hunting areas near the shore of local island or mainland recreation places. Once inland, competition or crowding becomes less likely or evident.

Solitude and the Alaska wildland experience are important components of the recreation experience for both guided and unguided recreation users. Solitude is a social experience measured in terms of the expected number of groups encountered and the size of those groups. The opportunities for solitude for each alternative can be measured by the total commercial outfitter and guide allocation by season for each study area. Both alternatives offer the same opportunities for solitude with the exception of Study Areas 12A (Saginaw, Security, and Washington Bays) and 14 (Keku Strait, Port Camden) in Alternative 2 where allocated use to outfitters and guide is reduced in the fall and spring seasons (Table 2.3).

Concerns from black bear guides prompted the development of the Increased Solitude Alternative (Alternative 2). Black bear guiding activities are directly affected by the presence of other user groups, specifically in Study Areas 12A and 14. Black bear hunting occurs mainly along the shoreline and up streams, and any disturbance, whether from large or small groups, can be unfavorable. In both study areas the allocated use is still higher than or equal to the actual use for both alternatives. Other user groups, such as sightseeing and fishing outfitters and guides were also considered in Alternative 2, as a reduction in spring and fall allocations affects their commercial services as well.

Both alternatives allow outfitters and guides to continue to facilitate and accommodate resident and non-resident recreation users. In every study area on the district, except one, the actual use numbers are significantly lower than allocated numbers, allowing for the growth of the commercial outfitter and guide industry.

### **Cumulative Effects to Recreation and Tourism**

Many of the cumulative effects were analyzed at the Forest Plan level when recreation and tourism levels and effects were determined. Given the programmatic nature of this planning document, it is not possible to predict site-specific changes that would occur under either alternative. Potential impacts to recreation places and recreation activities in other areas would be evaluated on a project-by-project basis and in accordance with the applicable Forest Plan standards and guidelines under all alternatives.

Recreation and tourism in Southeast Alaska and on the Tongass is influenced by a number of factors that are largely independent of forest management decisions. For example, factors affecting the current level of visitation to the region likely include the current economic downtrend. Tourism demand is difficult to predict with any precision and no attempt is made to quantify future demand in this analysis.

### **Socioeconomics**

This EA is limited to the management and allocation of commercial guiding activities on the Petersburg Ranger District. The following discussion concentrates mainly on the socioeconomic aspects of recreation and tourism within this analysis area. For more

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information on the overall socioeconomic conditions in Southeast Alaska, see the analysis completed for the Tongass Forest Plan Amendment EIS (USDA 2008b).

#### **Affected Environment – Existing Conditions for Petersburg and Kake's Socioeconomics**

##### *Petersburg Community Profile*

Petersburg is the largest community in the analysis area (population approximately 3,050) and a center for recreation use by both local residents and out-of-state tourists. Tourism is a significant contributor to the local economy during the summer months. Scheduled jet flights and air taxis are available at the Petersburg Airport. The Port of Petersburg has a variety of marine services such as fuel service, boat ramps, grids and hoist, professional marine repair and shipwright services and engine repair. Petersburg's harbors feature a total of 499 berths, 105 transient spaces and can accommodate vessels up to 140 feet. The Alaska State ferry system transports people and vehicles between several ports in Southeast Alaska, and Prince Rupert, British Columbia and Bellingham, Washington.

Since its beginning, Petersburg's economy has been based on commercial fishing and timber harvests. Petersburg currently is one of the top-ranking ports in the U.S. for the quality and value of fish landed. 469 residents hold commercial fishing permits. Several processors operate cold storage, canneries and custom packing services. Petersburg is the supply and service center for many area logging camps. Independent sportsmen and tourists utilize the local charter boats and lodges, but there is no deep water dock suitable for cruise ships (ACDED 2009,

[http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm), accessed July 31, 2009).

##### *Kake Community Profile*

Kake is located on the northwest coast of Kupreanof Island, approximately 38 air miles from Petersburg. It was once a traditional Tlingit village, but is now home to a number of different cultures: Tsimshian, Haida, Yupik as well as some of the Lower 48 native cultures. The American Indian (Alaska Native) population accounts for about 75% of the community (<http://www.kakealaska.com/AboutKake.html>, accessed July 31, 2009). The village has a fishing, logging and subsistence lifestyle.

As of 2007 the Kake population was 519. The population has been experiencing a steady decline since the 2000 census. The decline is likely due to its economy being hard hit in 2003 when two of their major employers virtually eliminated their workforce. Kake is currently pursuing tourism income and opportunities, but has not experienced the increase in tourism that larger communities in the region have (ACDED 2009, [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm), accessed July 31, 2009).

##### *Importance of the Tongass National Forest in SE Alaska's Socioeconomics*

The Tongass National Forest plays an important role in the formal and informal economies of Southeast Alaska. The formal economy includes those economic activities that are recorded in official statistics. The informal economy includes activities that are not typically recorded in official statistics. Elements of the informal economy include



subsistence activities, in-kind contributions, non-cash income, unpaid labor and labor exchanges, and care-giving to the young and old.

*Importance of Recreation and Tourism in SE Alaska's Socioeconomics*

Recreation and tourism are heavily represented in the economy of Southeast Alaska. Recreation and tourism-related activities are distributed over a number of standard economic sectors, mainly retail trade and services.

The largest and fastest growing element of recreation and tourism in Southeast Alaska is the cruise ship industry. One estimate places the total number of visitors that could come to Petersburg by cruise ship in 2009 at about 8,800 (Viking Travel 2009). Whether this expansion can continue, however, is open to question, and anecdotal evidence suggests that total tourism growth in Alaska may be slowing (Colt et al. 2002).

As stated in the 2008 Forest Plan FEIS, the number of visitors to Southeast Alaska has grown substantially since the early 1990s. Summer visitors to Southeast Alaska more than doubled between 1993 and 2006 (USDA 2008b, p. 3-511). Outfitter and guide data for the Tongass indicates a twenty-two percent increase from 2004 to 2005 in the number of clients served by outfitters and guides. In the Petersburg area, outfitter and guide use increased over 2004 actual use by 25 percent in 2005, 22 percent in 2006, nine percent in 2007. In 2008 outfitter and guide use decreased 6 percent from 2004.

Table 3.2. Actual use by study area from 2004 to 2008.

Study Area	Actual Use (RVDs)				
	2004	2005	2006	2007	2008
1	377	610	487	334	335
2	79	117	73	43	20
4	0	0	0	0	0
5	58	42	7	50	0
6	397	379	467	344	230
7	309	339	179	150	164
8	168	178	355	167	170
9	0	0	42	0	0
10	176	619	318	407	396
11	108	174	147	117	120
12A	366	479	554	678	396
12B	189	127	148	188	160
13	545	456	668	274	187
14	355	404	388	403	300
15	177	396	162	208	416

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Study Area	Actual Use (RVDs)				
	2004	2005	2006	2007	2008
16	50	128	96	171	273
21	124	197	348	324	70
22	246	339	319	221	286
23	14	12	62	56	17
24	23	22	6	13	6
	<b>3,761</b>	<b>5,018</b>	<b>4,826</b>	<b>4,148</b>	<b>3,546</b>

The majority of clients who utilize Petersburg area outfitters and guides come from cruise/tour ships, are independent travelers, or part of a guided group such as the National Outdoor Leadership School (NOLS).

Out-year predictions of the outfitter and guide industry remain speculative. As the industry grows, it will be important to anticipate changes in the clientele or local conditions to continue prosperous growth. Southeast Alaska generally imparts a feeling of vastness, wildness, and solitude. Various management activities on the Forest might change how a person/visitor views this vastness, wildness, and solitude to the area. Continued growth of the outfitting and guiding industry in Southeast Alaska will not only depend upon management influences but on the success of the outfitters and guides to provide for the satisfaction of their guests and the ability to market their services effectively.

#### **Direct and Indirect Effects to Petersburg's Socioeconomics**

In Alternative 2 there may be less potential growth in the outfitter and guide industry in Study Areas 12A and 14 in the spring and fall seasons due to fewer allocated RVDs. In general, however, actual use is much lower than the proposed allocated use in both alternatives and as demonstrated in the Carrying Capacity Report for this project (Appendix A), the area has the capacity to accommodate more users on National Forest System lands.

Growth in outfitter and guide business does not guarantee business equity. Competition at popular locations may diminish the experience for some users or displace other guided or unguided users. Coordination within the industry may alleviate some of these problems. However, to maintain the integrity of the experience for users or to maintain viable businesses there may be some situations where limitations of the number of RVDs or the number of permits issued for either a particular location or activity may be considered.

For local residents, it is reasonable to assume the more commercial use allocated, the more potential there is for that use to negatively affect their experience. The total capacity allocated to commercial use across the district, however, far exceeds overall use. As such there should be very little difference in effects on local users for both alternatives.

The local economies of Petersburg and Kake would likely find advantages to the increase in outfitter and guiding activities as needed fuel, supplies, or goods are likely to be purchased in those communities.

### **Cumulative Effects to Petersburg's Socioeconomics**

Cumulative effects of both alternatives in terms of increased employment and revenue on Petersburg and Kake's economies would likely be positive. The higher the alternative's allocation is to outfitters and guides, the more potential the alternative will have for cumulative growth in this sector.

However, another less tangible, but no less important, factor is the amenity values and recreation opportunities provided by the national forest. These values and opportunities are a major ingredient in the quality of life enjoyed by the residents of Southeast Alaska. This analysis centers around how commercially guided recreation fits within the context of non-commercial recreation and the area's natural character, which is highly valued by residents and non-residents alike. Growth in regional population and independent travelers who do not use outfitting and guiding services will continue to reduce the opportunities for experiencing solitude in certain areas.

## **Soils**

### **Affected Environment – Existing Condition for Soils**

Soil productivity is the inherent capacity of a soil to support the growth of specific plants or plant communities. It is critical to the forest because it affects the productivity of most other forest resources. Soil productivity is a product of soil quality and can be affected by on-site disturbances ranging from natural erosion and landslides to human-related disturbances, such as roads, boat ramps, recreation trails and picnic areas. Tree growth, wildlife and fish habitat, and recreation opportunities are all influenced by soil quality.

Soil productivity varies between soil types. In mineral soils most nutrients are produced and stored in the upper organic layers. Soil drainage, texture, depth, and site characteristics (including elevation, slope, and aspect) all determine the soil's productivity. The most productive soils, which generally support coniferous forest stands, are well drained to moderately well drained and moderately deep. They are found on floodplain terraces, moderately stable alluvial fans, hillslopes, mountain slopes, and uplifted beaches.

Most organic soils are found in non-forested and forested wetlands that support low-volume forest, scrub-shrub, peat lands and alpine meadow plant communities. Organic soils are not considered highly productive, in terms of timber stand volume, but they are productive in terms of species richness and biomass. Poorly to very poorly drained organic soils support a wide variety of plant communities with high biomass and species diversity, and they are home to many species of fish and wildlife.

### **Direct and Indirect Effects to Soils**

Recreation management practices that tend to reduce soil productivity include construction of roads, trails and campgrounds. Loss of productivity is caused by removal of surface organic layers and disturbance of surface and subsurface layers. The recreation

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activities proposed in the alternatives do not involve any construction or ground-disturbing activities and will not have an effect on soil productivity.

Some amount of soil disturbance is an unavoidable consequence of recreation use on the land due primarily to trampling. The level of disturbance varies with management practices and site characteristics. Soil Quality Standards (FSM 2554) address the potential of affecting soils from compaction, puddling, displacement, surface erosion, altered wetness, and damage by severe burning. Soil Quality Standards are national standards that set the limits on the amount of an activity area that can be in a disturbed soil condition. The Soil Quality Standards in the shoreline zone limit soil disturbance to 15 percent of the activity area. Any greater soil disturbance, exceeding the standards, constitutes significant impairment to the productivity of the land. The effects of soil disturbance are minimized through the implementation of Best Management Practices (FSH 2509.22) and mitigation measures provided in Table 2.2.

The effects of recreation use on soils are not well documented. However, the guided recreation uses proposed in the alternatives are not expected to have any significant direct or indirect effects on soils because of the relatively low impacts of the activities and the low levels of use spread across the analysis area.

Both alternatives would meet or exceed Forest Plan standards and guidelines. Recreation activities proposed in the alternatives might have minor effects depending on the amount and type of guided activity that actually occur and the soil type on which it would occur. These effects would be mitigated with Best Management Practices and protection measures listed in Table 2.2. Monitoring would indicate when recreation use approaches Soil Quality Standards. If adverse effects on the soil resource should be noticed, recreation use will be limited or restricted or the site will be hardened to prevent or mitigate adverse soil effects.

#### **Cumulative Effects**

Cumulative effects of the proposed actions on long-term soil productivity are directly related to the amount of soil disturbance that occurs through time and the amount of recovery that takes place in the soil system in that time. Since the alternatives do not propose any activities that cause soil disturbance, no cumulative effects are expected.

Minor soil disturbance, erosion, and the associated loss of productivity resulting from the proposed activities could occur from recreation use. Most effects of recreation would be relatively short term; they would last until disturbed sites recover with indigenous species sufficient to protect the soil surface and maintain soil productivity. Any necessary re-vegetation of disturbed sites, either through natural regeneration or by planting, would depend on the level of disturbance at each site.

Cumulatively, the level of soil disturbances from guided recreation use within each study area or recreation place is estimated to be far less than 1 percent of these areas. It would not exceed or approach the Soil Quality Standard of 15 percent of the area.

## ***Subsistence***

### **Affected Environment – Existing Condition for Subsistence**

A number of the wildlife species on the PRD are important for subsistence, general hunting, or trapping. Sitka black-tailed deer, mountain goat, brown bear, black bear, moose, wolf, marten, river otter, and waterfowl (collectively) are all species with hunting and/or trapping seasons managed by the ADF&G. These species are also important for a variety of native and traditional uses that vary across the geographic area and cultural framework of Alaska.

Section 810 of ANILCA requires the analysis of the potential effects on subsistence uses of all actions on federal lands in Alaska. This analysis focuses on those food-related resources most likely to be affected by commercial outfitter and guide use.

Three factors related to subsistence uses are specifically identified by ANILCA: 1) resource distribution and abundance, 2) access to resources, and 3) competition for the use of resources. These factors are discussed in general terms in the following paragraphs.

#### ***Resource Distribution and Abundance***

Southeast Alaska subsistence resources include terrestrial wildlife (including deer, moose, mountain goat, black and brown bear, furbearers, and small game), waterfowl (including ducks, geese, and seabirds), marine mammals (harbor seal), salmon, other finfish, marine invertebrates, plants, and firewood. The abundance and distribution of these resources appears to be stable or increasing on the Tongass as described in the 2008 Forest Plan. Marine mammals are inherent to the coast and are managed through regulations issued by NMFS and the USFWS.

#### ***Access to Subsistence Resources***

Southeast Alaska is comprised of isolated islands unconnected by road systems; however, with the transportation means available (floatplanes, ferry systems, automobiles, boats), Southeast Alaska residents are very mobile in their subsistence resource use activities. Petersburg, the fourth largest community in Southeast Alaska, has documented their subsistence gathering from the southern tip of Prince of Wales Island to Yakutat, covering most of the islands in between (Kruse and Muth 1990, USDA 2008b). The majority of community use is on Mitkof Island, Kupreanof Island, and the mainland between Le Conte Bay and Thomas Bay. Road management recommendations that have the potential to affect access will be carried forward and analyzed during the District Access Travel Management process.

#### ***Competition for the Use of Resources***

The Petersburg Ranger District contains large amounts of undeveloped land and includes extensive subsistence resources. These resources are not, however, distributed or used evenly across the district. Where the resources are confined to island groups or river systems and access is costly or nonexistent, use of the resources is low. Where the resource is abundant, and a community is present but access by other communities is costly, the resource tends to be used primarily by the community that resides in the area.

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Where resources are abundant and access is available to local and other communities of Southeast Alaska, competition for resources may exist.

The improvement of access, as well as increased interest in non-consumptive uses, could increase the competition for the use of some resources in specific locations. However, an increase in competition may not be fully attributed to outfitter and guide use since uses by unguided forest users and general population growth in Southeast Alaska will also contribute to the competition for resources. Historically, allocations have not been fully utilized by guides in most locations, and the increases in allocations in either alternative from existing conditions would not necessarily result in increased use of any particular area important for subsistence users.

Of all subsistence species important to local residents, competition for resources with guided users is most likely to occur for species that are commonly targeted by hunting and fishing guides. Deer, mountain goat, black bear, and steelhead are the most likely subsistence resources that could be restricted through competition with guided users.

Competition does not seem to exist between federally qualified and non-federally qualified deer hunters. Few nonresidents hunt deer in Unit 3, and most hunters are local residents. Non-residents comprised just 3 percent and 2 percent respectively, of all Unit 3 deer hunters in 2004 and 2005. Deer populations are greater and seasons and bag limits more liberal in other nearby units, attracting most non-local hunters to those areas (ADFG 2007).

Competition exists between federally qualified and non-federally qualified goat hunters. This competition is managed by the State and Federal governments to prevent restrictions to subsistence users. Goat harvest numbers are reviewed annually and non-federally qualified goat hunters may be restricted to maintain subsistence opportunities.

Demand for black bears as a subsistence resource is thought to be low, and if implementation of either alternative in this project results in a restriction to subsistence users, permitting of guided bear hunting would need to be reviewed and adjusted to ensure that the needs of subsistence users are met. Allocations proportioned out by season at 10 percent in the spring, 15 percent in fall and 10 percent in winter are thought to address any issues. There is currently a moratorium on the number of outfitters and guide hunts for black bear at the 2007 levels on the Tongass National Forest (Cole 2008). Use at this time is within the existing limit. No new black bear hunting guide permits will be issued through this project.

Guided steelhead fishing is currently very limited within the project area, which has eliminated competition with most local subsistence users for this resource.

#### **Direct, Indirect, and Cumulative Effects on Subsistence Resources**

As demonstrated in the Carrying Capacity Report for this project, the area has the capacity to accommodate more users on National Forest System lands. An increase in outfitter and guide use could occur in both the alternatives presented in this analysis; however increasing the allocated use days will not necessarily result in an increase in permitted or used allocated use days by guides in general, or by hunting or fishing guides

in particular. The need to monitor effects of use on subsistence is important to its management.

The Forest Plan provides a comprehensive analysis of subsistence resources and potential effects, both Tongass-wide and for each rural community of Southeast Alaska. The Forest Plan determined that the primary subsistence resource likely to be significantly affected by Forest Plan actions was Sitka black-tailed deer. Therefore, deer are considered the “indicator” for potential subsistence resource consequences concerning the abundance and distribution of the resources (USDA 2008b, p. 3-428). Neither of the alternatives propose ground disturbing activities and none are anticipated to have a negative effect on deer habitat or any other subsistence resources.

#### *Potential Impacts on Distribution and Abundance*

No affect to the distribution and abundance of wildlife is anticipated. Of the wildlife species discussed, mountain goat and black bear appear to be the most sensitive species to human disturbance on land. Reportedly, these creatures temporarily abandon habitat as a result of road building, and other have been found to utilize less of their range due to construction noise and human disturbance (USDA 2008b, pp. 3-232 and 3-235). There are no ground disturbing activities proposed, and impacts to mountain goats and black bears are expected to be minimal.

Marine mammals can be harvested by Alaska Natives for traditional use. Outfitters and guides will not affect the long-term abundance and distribution of marine mammals.

#### *Potential Impacts on Access*

Neither of the alternatives will unduly result in a significant restriction to subsistence access. Instead, the expansion of outfitter and guide activities may facilitate access to subsistence resources. Recommendations for additional road closures, use designations, and road decommissioning were developed through the update of the Kake Road System RAP. While these road management objective recommendations have the potential to affect access, they were carried forward and analyzed during the District Access Travel Management process (USDA 2009a). Implementation of the road management objectives are dependent on the decisions made in the Petersburg District Access and Travel Management Plan Decision Notice and FONSI (USDA 2009b).

#### *Potential Impacts Due To Competition*

Competition for future subsistence resources is difficult to predict. The number of rural and urban hunters may increase in the foreseeable future. A continued use and increase in non-consumptive guided activities could contribute to the competition for resources.

Should undue competition between urban and rural residents become a problem for any subsistence resource, the Southeast Alaska Federal Subsistence Regional Advisory Council may recommend that the Federal Subsistence Board restrict sport or commercial competition for subsistence species. Additionally, the State Board of Game may also choose to intervene in order to protect the long-term health of wildlife populations.

#### *ANILCA 810 Subsistence Determination*

This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect abundance or

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distribution of any subsistence resource, nor will it change access to or competition for those resources.

#### **Wetlands**

##### **Affected Environment – Existing Condition for Wetlands**

Wetlands are defined as:

“...areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” {40 CFR 230.41 (a)(1)}.

According to the wetlands resource inventory database, approximately 842,896 acres or 44 percent of the PRD is inventoried as wetlands. The major types of wetlands occurring in the project area include: muskegs, estuaries, freshwater sedge meadows, forested wetlands, and freshwater streams. These wetlands were classified according to the Federal Interagency Committee for Wetland Delineation, 1989.

Executive Order 11990, as amended, requires Federal agencies exercising statutory authority and leadership over federal lands to avoid, to the extent possible, the long and short-term adverse impacts associated with the destruction or modification of wetlands.

##### **Direct, Indirect, and Cumulative Effects to Wetlands**

No outfitter or guide activities that result in long-term impacts (filling, dredging, etc.) to wetlands will be permitted under this document (USDA Forest Service Manual 2527.01-04). Therefore, none of the alternatives are expected to have an impact on wetlands within the project area.

#### **Wilderness**

On December 2, 1980 as a part of the enactment of Public Law 96-487, the Alaska National Interest Lands Conservation Act (ANILCA), Congress designated two Wilderness areas on the Petersburg Ranger District (Tebenkof Bay and the Petersburg Creek – Duncan Salt Chuck). On November 28, 1990, the President signed Public Law 101-626, the Tongass Timber Reform Act (TTRA). This act amended ANILCA in part, and designated an additional Wilderness on the Petersburg Ranger District, the Kuiu Wilderness area.

The National Wilderness Preservation Act of 1964 mandates that designated

“wilderness areas ...shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.”

The Act prohibits commercial services within wilderness but allows for,



“Commercial services ...within the wilderness areas ...to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the area.”

Agency policy pertaining to the management of the wilderness is as stated in Forest Service Manual 2320 and Regional Supplements.

A component of the wilderness experience is a sense of solitude, and a feeling of risk and challenge associated with use of the wilderness. Increased use by outfitters and guides is likely to affect wilderness users several ways. The risk and challenge associated with the use of a wilderness may be diminished depending upon the number and types of encounters one may have. As most use of the wilderness is water-based, there is likely to be some loss of isolation along the perimeter since more persons come to see or visit these areas. Persons using the uplands will likely be less affected as this use is generally more arduous and infrequent.

In September 2007, the Forest Supervisor completed a Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest. In this document, the Forest Supervisor determined that there is a need for commercial uses within wilderness areas on the Tongass National Forest. Subsequent decisions regarding the type, extent, amount, and location of commercial use for all wilderness areas on the Tongass are to be made on a wilderness-by-wilderness basis. A Determination of Need for Commercial Services has been completed for the three Wilderness Areas on the district (see Appendix B). The determinations of need are tiered to the Forest Plan.

### **Affected Environment – Existing Condition for Wilderness**

#### *Tebenkof Bay Wilderness*

The 66,812 acre Tebenkof Bay Wilderness is on central Kuiu Island, north of the Kuiu Wilderness. The area is a complex system of bays, islets and coves that first attracted the Tlingit Indians to the bay long ago. Even the most remote beaches in the bay have had a human presence in the past. The land offered hunting, trapping, camping and gardening, and the water was rich with a variety of shellfish and saltwater and freshwater fish. In the mid-1900's, fox farm operations were abundant on the small islands, and today commercial fishing is an important way of life. Most of the time, it is a serene place, where the only sound in the distance is the call of a young sea otter or the blow of a humpback whale.

The area's main attractions are its: remoteness and solitude, protected waters in relation to the surrounding unprotected waters of lower Chatham Strait and the Pacific Ocean, terrestrial and marine wildlife, and subsistence value for the community of Kake.

In 2008 the Tebenkof Bay Wilderness had seven active permits.

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#### *Kuiu Wilderness*

The 60,581 acre Kuiu Wilderness is on the south-central portion of Kuiu Island which is contained by two large bodies of water: Sumner Strait to the east and Chatham Strait to the west. The Tlingit Indians braved these waters and sought protection in the deep bays that now make up the Kuiu Wilderness. The remoteness of this wilderness, coupled with the challenge and risk of travel by water or land, offers excellent opportunities for solitude. Kuiu Island has a high density of black bears, which visitors are more likely to encounter than a human.

There were three active permits in the Kuiu Wilderness in 2008.

#### *Petersburg Creek – Duncan Salt Chuck Wilderness*

The 46,849 acre wilderness is composed of two major sections: the Petersburg Creek watershed, and the area surrounding the salt chuck at the head of Duncan Canal. The eastern border of the wilderness is about five miles west of the City of Petersburg. It abuts the small community of Kupreanof on the east. The western side of the wilderness can be reached by boating or flying to the Duncan Salt Chuck at the northern end of Duncan Canal. Petersburg Lake is in the central portion of the wilderness and can be reached by hiking or flying into the lake.

Petersburg Creek spills down a typical u-shaped glacier-cut basin with mountain peaks overlooking the valley. With the close proximity to the communities of Petersburg and Kupreanof, the mouth of the creek is enjoyed by residents of Petersburg, Kupreanof and visitors alike, for picnicking, fishing for salmon and steelhead, paddling and hiking. The Petersburg Lake Trail and the primitive Portage Mountain Loop trail allow access to two Forest Service public cabins. The Duncan Salt Chuck, a large, tidally influenced salt marsh, offers wonderful opportunities for bird watching, coho and trout fishing, hunting, and exploring.

In 2008, there were two outfitter/guides that operated in the Petersburg Creek – Duncan Salt Chuck Wilderness.

#### **Direct and Indirect Effects on Wilderness**

The Forest Service is directed to manage wilderness areas in such a manner as will preserve wilderness character (Wilderness Act of 1964). Commercial recreation use in wilderness could affect wilderness character, including the qualities of untrammeled, natural, undeveloped, and solitude or primitive and unconfined recreation.

#### **Cumulative Effects on Wilderness**

**Untrammeled** – *Wilderness is essentially unhindered and free from modern human control or manipulation.*

There have been very few, if any, actions that manipulate plants, animals, pathogens, soil, water, or fire, within these three wilderness areas. An exception has been the removal of very small populations of non-native plants at old fur farm sites in Tebenkof Bay.

The wilderness has been managed over the years to allow natural processes to operate freely and that is expected to continue.

**Undeveloped** – *Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation.*

There have been few outfitters and guides that use base camps and when they have, there has not been any structures built for camp use. Outfitters and guides are required to have an annual operation plan and a camp plan if using a camp. The Forest Service has worked closely with outfitters and guides with the development of the camp plans to incorporate *Leave No Trace* techniques<sup>25</sup> to minimize impacts.

There can be use by cruise ships in the waters nearby the two wilderness areas on Kuiu Island. These highly developed boats with many luxuries, and the boat's lights and sounds, can influence the impression of the wilderness being undeveloped. Even though the use is taking place off of the wilderness, the waterways can intertwine with the National Forest in a way that allows this use to appear to be within the wilderness area.

In general, outfitter and guide activities and operations in these three wilderness areas do not have a negative effect on the undeveloped character of the wilderness.

**Natural** – *Ecological systems are substantially free from effects of modern civilization.*

The goal is for the trend for the effects of outfitter and guide activities on plant, animal, pathogen, physical, and biophysical resources to be stable or decreasing. At this time there have been no studies showing otherwise. The natural characteristics of the wilderness have had effects from modern civilization upon them, such as introduction of non-native plant species, but this change has not been shown to be linked to outfitter and guide activities. Past timber harvest activities have also affected the natural characteristics, but again are not from outfitter and guide activities.

The current number of outfitters and the types of uses in PRD wilderness areas are not having a negative effect on the natural conditions in the wilderness.

**Opportunities for solitude or primitive and unconfined recreation** – *Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation.*

The goal is for a trend that is stable or improving for: remoteness from sights and sounds of people inside and outside wilderness; number of facilities that decrease self-reliant recreation; number of trails and level of trail classes; and amount of management restrictions on visitor behavior. Due to the remoteness of these two wilderness areas, solitude is an especially valuable characteristic and the goal is to preserve the opportunity.

While floatplanes are allowed on lakes through enabling legislation (ANILCA), permitting guides to conduct this activity does allow a higher level of motorized activity and could contribute to a loss of solitude in these areas. As long as these activities are low

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<sup>25</sup> For more information about Leave No Trace principles, visit: [http://www.fs.fed.us/r10/outdoor\\_ethics/leave\\_no\\_trace/intro/lnt\\_principles\\_v2.shtml](http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/lnt_principles_v2.shtml) or the Leave No Trace website: [http://www.geocities.com/yosemite/falls/9200/leave\\_no\\_trace.html](http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html)

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levels of use, day-use and temporary in nature, they would not be expected to significantly impact the natural, untrammelled and undeveloped qualities already present.

There is potential for permit requests for commercial use in the Tebenkof Bay and Kuiu Wilderness areas by operators using small or medium-sized cruise ships. It was not evaluated in the 2009 commercial services needs assessment since this is not an existing use nor has there been a demand. If this type of use is requested in the future, it would be a significant change in the type of use occurring and the wilderness areas' needs assessment would be revisited (Forest Service Handbook 2709.11, 41.53e).

The number of outfitters and guides who have used the Petersburg Creek – Duncan Salt Chuck Wilderness area between 2002 and 2008 has ranged from one to three. The RVDs have ranged from two to 10.

The number of outfitters and guides who have used the Tebenkof Bay and the Kuiu Wilderness areas between 2002 and 2008 has ranged from seven to 13. RVDs have increased over the past five years from 15 to 29.

#### **Wildlife**

##### **Affected Environment – Existing Condition for Wildlife**

###### *Threatened and Endangered Species*

Federally listed threatened and endangered species are formally listed by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) under authority of the Endangered Species Act (ESA) of 1973, as amended. Endangered species are those listed in the Federal Register as being in danger of extinction throughout all or a significant portion of its range [ESA Section 3(6)]. Threatened species are those likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range [ESA Section 3(20)].

The humpback whale and Stellar sea lion are federally listed wildlife species within the boundary of the Tongass National Forest. Humpback whales are commonly observed in the waters adjacent to the project area. No critical habitat for these species has been designated on the PRD.

###### *Sensitive Species*

Sensitive species are those identified by the Regional Forester for which population viability is a concern on National Forest System (NFS) lands within the region. The goal of the Forest Service Sensitive Species Program (FSM 2670) is to ensure that species numbers and population distribution are adequate so that no federal listing will be required and no extirpation will occur on NFS land.

The Queen Charlotte/Northern goshawk, Kittlitz's murrelet, and black oystercatcher are known or suspected to occur within the analysis area. The Aleutian tern is not known on the Tongass National Forest outside of the Yakutat area. This project does not propose to change or alter any habitat. Forest Plan provides standards and guidelines to maintain nesting habitat and general direction for sensitive species and seabird rookeries and shorebirds. This project is not expected to disturb sensitive species especially during nesting season. If a disturbance occurs it is expected to be infrequent and very short in

duration, therefore no impacts are expected for these species as a result of the activities associated with the project.

#### *Management Indicator Species*

Management Indicator Species (MIS) are species whose population changes are believed to indicate the effects of management activities (36 CFR 219.19(a)(1), 1982). MIS are also used to predict the likely response of other species with similar habitat requirements. NFMA regulations of 1982 require the selection of MIS during development of forest plans (36 CFR 219.19(a), 1982) with clearly stated rationale.

Terrestrial MIS species or their habitat found on the PRD include: Alexander's Archipelago wolf, American marten, bald eagle, black bear, brown bear, brown creeper, hairy woodpecker, mountain goat, red-breasted sapsucker, red squirrel, river otter, Sitka black-tailed deer, and Vancouver Canada goose.

The Forest coordinates with the Alaska Department of Fish and Game (ADF&G), other state agencies, the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), tribal governments, and other cooperators and partners during the planning of activities that may affect these wildlife species.

#### *Migratory Birds*

Neotropical migratory birds (referred to as migratory birds) are far ranging species that require a diversity of habitats for foraging, breeding, and wintering. Many of the 298 species of birds that occur regularly in Alaska are migratory, some coming from as far away as Central or South America to their nesting, breeding, and rearing grounds in Alaska. Approximately 236 species of birds occur regularly in Southeast Alaska. Roughly, 160 species are known or suspected to breed in Southeast Alaska (Armstrong 2000). Migratory birds that occur but generally only winter in or migrate through Southeast Alaska include species of seabirds, gulls, and shorebirds.

The Migratory Bird Treaty Act of 1918 (amended in 1936 and 1972) prohibits the taking of migratory birds, unless authorized by the Secretary of Interior. Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) provides for the conservation of migratory birds and their habitats and requires the evaluation of the effects of Federal actions on migratory birds, with an emphasis on species of concern. Federal agencies are required to support the intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory birds when conducting agency actions.

A Memorandum of Understanding (MOU) was entered into between the Forest Service and the FWS to strengthen migratory bird conservation (USDA 2008c). The MOU identifies strategies that promote conservation and avoid or minimize adverse impacts on migratory birds through enhanced collaboration between the Forest Service and FWS and in coordination with State, Tribal, and local governments. The MOU requires that the Forest Service, within the NEPA process, evaluate the effects of agency actions on migratory birds, focusing first on species of management concern along with their priority habitat and key risk factors. This includes, to the extent practicable, evaluating and balancing the long-term benefits of projects against short and long-term adverse

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effects, pursuing opportunities to restore or enhance habitat, and considering approaches to identify and minimize take.

#### *Endemics*

The Federal Endangered Species Act (ESA) defines endemic as “a species native and confined to a certain region; having comparatively restricted distribution.” Forest Plan standards and guidelines for endemic mammals direct the Forest to “maintain habitat to support viable populations and improve knowledge of habitat relationships of rare or endemic terrestrial mammals that may represent unique populations with restricted ranges.”

Due to its historic isolation, ecological complexity and narrow distribution between the Pacific Ocean and coastal mountain ranges the North Pacific Coast is considered a hot spot of endemism (Cook and McDonald 2001, Cook et al. 2006). Southeast Alaska has been found to be a region with an especially high degree of endemism in its small mammal fauna, principally because of the combination of its archipelago geography and its highly dynamic glacial history (Demboski et al. 1998). In “Conservation of highly fragmented systems: The north temperate Alexander Archipelago” (Cook et al. 2006) Kupreanof Island rated relatively low as was not considered a real hotspot in comparison to other southeast islands.

The following species are known to occur in the project area: Northern flying squirrel, red squirrel, American beaver, meadow jumping mouse, Long-tailed Vole, meadow vole, southern red-backed vole, muskrat, Keen's mouse, northern bog lemming, brown rat, North American porcupine, common shrew, dusky shrew, water shrew, silver-haired bats, Keen's myotis, little brown bat, long-legged myotis, mountain lion, wolf, black bear, wolverine, northern river otter, American marten, northwestern pine marten, ermine, American mink, American moose, elk, Sitka black-tailed deer, mountain goat, Canada lynx (mainland only), Northwestern salamander, long-toed salamander, rough-skinned newt, boreal toad, Pacific treefrog, and Columbia spotted frogs (MacDonald and Cook 2000, MacDonald and Cook 2007).

#### **Direct, Indirect and Cumulative Effects for Wildlife**

Impacts to wildlife resources are anticipated to be minimal. There are areas of concern that have been listed in this EA in Chapter 2 in the Mitigation section that will be monitored. However, it is hard to determine if future impacts will increase from outfitter and guide use or general population growth.

#### *Threatened and Endangered Species*

Forest Service authorized and approved that concentrated human activities will be located as far from known marine mammal haul outs and known concentration areas as feasible to meet the Alaska Coastal Management Program (ACMP) consistency requirements and Marine Mammal Protection Act (MMPA).

Direct effects to humpback whales and Steller sea lions can result from disturbances that adversely affect individuals or their young. Indirect and cumulative effects can result if activities alter potential foraging habitat or reduce limiting habitats or long-term productivity.

Humpback whales and Steller sea lions may inhabit shallow coastal areas where they are increasingly exposed to human activity. Recovery plans for the humpback whale (NMFS 1991) and the Steller sea lion (NMFS 2008) identified potential human induced factors that could affect individual reproductive success, alter survival, and/or limit the availability of habitat for these species. National Forest management activities that could have an effect on habitats or populations of these species generally fall into the categories of direct disturbance, acoustic disturbance and habitat degradation (including effects to prey species). These effects are generally associated with the development and use of marine access facilities (MAFs), increased marine activities, and activities that alter stream habitats that flow into marine environments.

Marine transits between the islands and mainland will occur. However, neither the humpback whale nor the Stellar sea lion are known to congregate in any known marine transit areas where outfitters and guides may be operating with a Forest Service permit. Existing permitted levels have not exceeded allowable RVDs with the exception of one study area<sup>26</sup>.

Though humpback whales and the eastern Distinct Population Segment of Steller sea lions regularly occur in the waters surrounding the Tongass National Forest, the proposed activities are limited to the land-based permitting system, and would not affect stream or marine environments, so would result in a negligible level of influence and “no effect” to these species as well. No critical habitat for these species has been designated on the PRD. The MMPA (NMFS 2004) and 50 CFR 224 establish measures to protect marine mammals. These measures includes prohibiting the harassment, hunting, capturing, or killing of any marine mammal and prohibiting approaching within 100 yards of a humpback whale.

Outfitters and guides are expected to abide by the Marine Mammal Viewing Guidelines (<http://www.fakr.noaa.gov/protectedresources/mmv/guide.htm>) and are required by the Outfitter and Guide special use permit (see Chapter 2 for specific mitigation).

#### *Sensitive Species*

Neither of the alternatives will impact the habitat of sensitive species. Direct effects can result from disturbances that adversely affect individuals or their young. Indirect and cumulative effects to bird species can result if activities alter potential nesting or foraging habitat or reduce limiting habitats or long-term productivity. Concentrated human activities will be located at distances minimizing disturbance at known nesting sites or areas of concentration. Both alternatives include mitigation to minimize disturbance. A determination of ‘no impact’ was made for all sensitive species.

#### *Management Indicator Species*

Direct effects to MIS can result from disturbances that adversely affect individuals or their young. Indirect and cumulative effects can result if activities alter potential breeding

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<sup>26</sup> In Study Area 6 (Kupreanof Island – North Shore), 90 percent of the use is from one outfitter and guide in one recreation place. The recreation place is a camp located on a harden site and it does not experience many impacts. There is some other use the study area, but the users do not conflict.

### 3 Environmental Considerations

or foraging habitat or reduce limiting habitats or long term productivity. Neither of the alternatives (proposed allocations) will have an impact to habitat for these species. Neither of the alternatives propose to alter potential breeding or foraging habitats or reduce limiting habitats or long-term productivity. Concentrated human activities will be located at distances minimizing disturbance at known nesting and denning sites, or areas of concentration. Habitat descriptions and other factors looked at with regard to MIS are displayed in the Wildlife Specialist Report for this project.

#### *Migratory Birds*

Direct effects to migratory birds can result from disturbances that adversely affect individuals or young including removing active bird nests or causing nest abandonment. Indirect effects result from a reduction in perching, foraging, and nesting habitat.

The magnitude of effects would vary depending on the bird species, the amount of habitat altered and the season in which disturbance would occur. Migratory birds would be most susceptible to impacts from activities occurring in suitable nesting habitat during the nesting/fledging period; which generally begins in mid-April and ends about mid-July when young birds have fledged. Productive old growth habitat can be used to assess changes in nesting habitat because most migratory bird species use hemlock/spruce/cedar forest as primary or secondary habitats. Effects to birds can be minimized by altering the season of activity, retaining snags, maintaining the integrity of breeding sites, considering key winter and migration areas, and minimizing pollution or detrimental alteration of habitats (USDA 2008c). The FWS recommends times to avoid vegetation clearing (USDI FWS 2006d) (see Appendix II of Fish and Wildlife Resource Report). Neither of the alternatives will have an impact to migratory bird habitat. Neither of the alternatives propose to alter potential breeding or foraging habitats or limit habitat or long-term productivity.

#### *Endemics*

Direct effects to endemic species can result from disturbances that adversely affect individuals or their young. Indirect and cumulative effects can result if activities alter potential breeding or foraging habitat or reduce limiting habitats or long-term productivity. Neither of the alternatives will have an impact to habitat for these species. Neither of the alternatives proposes to alter potential breeding or foraging habitats or limit habitat or long-term productivity. Concentrated human activities will be located at distances minimizing disturbance at known nesting and denning sites, or areas of concentration.

## Findings and Disclosures

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Several of the laws and executive orders listed in Chapter 1 require project specific findings or other disclosures. These are included here, and will be included in the Decision Notice and FONSI (Findings of No Significant Impacts). They apply to all alternatives considered in detail in this EA.

#### **National Forest Management Act**

All project alternatives fully comply with the Forest Plan. This project incorporates all applicable Forest Plan Forest-wide Standards and Guidelines and management area



prescriptions as they apply to the project area, and complies with Forest Plan goals and objectives. All required interagency review and coordination has been accomplished; new or revised measures resulting from this review have been incorporated.

The Forest Plan complies with all resource integration and management requirements of 36 CFR 219 (219.14 through 219.27). Application of Forest Plan direction for the Petersburg Outfitter and Guide Management Plan ensures compliance at the project level.

### **Endangered Species Act**

Neither of the alternatives is anticipated to have a direct, indirect or cumulative effect on any threatened or endangered species in or outside the project area. A Biological Evaluation was completed to analyze threatened, endangered, and petitioned species and is included in Appendix C. Consultation with the FWS and NMFS is contained within that record.

### **Bald Eagle Protection Act**

The Bald Eagle Protection Act provides for special management for the bald eagle. Bald eagle habitat will be managed in accordance with the Interagency Agreement established with USFWS to maintain habitat to support the long-term nesting, perching, and winter roosting habitat capability for bald eagles. Coordinate with USFWS for bald eagle habitat management.

Bald eagle nests are protected under agreement with the U.S. Fish and Wildlife Service. Currently, a 330-foot radius protective habitat management zone surrounds all identified bald eagle nest trees (USDI 2002) and a 1,000 foot beach buffer is maintained along the shoreline (USDA 2008a, p. 3-239). Activities of outfitters and guides in all alternatives will be restricted away from nest trees through the permitting process.

### **National Historic Preservation Act**

The Forest Service program for compliance with the National Historic Preservation Act (NHPA) includes locating, inventorying and evaluating the National Register of Historic Places eligibility of historic and archeological sites that may be directly or indirectly affected by scheduled activities. Regulations (36 CFR 800) implementing Section 106 of the NHPA require Federal agencies to consider the effects of their actions on sites that are determined eligible for inclusion in or are listed in the National Register of Historic Places (termed "historic properties"). The Alaska Region of the USDA Forest Service, the Alaska State Historic Preservation Officer, and the Advisory Council on Historic Preservation have established streamlined Section 106 review guidelines and stipulations in a Programmatic Agreement (Agreement # 02MU-111001-076, 2002).

Outfitter and guide use is not expected to result in the discovery or disturbance of human remains. However, if human remains are discovered, they will fall under the inadvertent discovery provisions of the Native American Graves Protection and Repatriation Act (NAGPRA).

Outfitter and guide use is also not expected to restrict Alaska Native access to traditional religious or spiritual sites that are protected under the American Indian Religious Freedom Act (AIRFA) and Forest Service standards and guidelines for the treatment of sacred sites (USDA 2008a, p. 4-19).

### 3 Environmental Considerations

A Forest Service archeologist has reviewed this project and made a determination of No Historic Properties Affected in the area of potential effect for the proposed project. Obligations using modified procedures of the 36 CFR 800 review process, as defined in the Programmatic Agreement, have been met.

#### **Federal Cave Resource Protection Act**

No known significant caves in the project area will be directly or indirectly affected by project activities. Forest Plan Karst and Caves Standards and Guidelines are applied to areas known or suspected to contain karst resources.

#### **Alaska National Interest Lands Conservation Act (ANILCA)**

An ANILCA Section 810 and 811 subsistence evaluation was conducted. The evaluation can be found in the Subsistence section of this chapter. No significant restrictions on the abundance and distribution of, access to, or competition for subsistence resources in the project area are anticipated. (See the Subsistence Report in the project record.)

#### **Clean Water Act**

The decision based on this analysis will not authorize any ground disturbance, or use of or discharge of potential pollutants. Implementation will not result in non-point or point sources of pollution; therefore the project is fully compliant with the Clean Water Act.

#### **Clean Air Act**

No emissions are anticipated from the implementation of any project alternative; therefore the State of Alaska ambient air quality standards (18 AAC 50) will not be exceeded.

#### **Coastal Zone Management Act and the Alaska Coastal Zone Management Program (ACMP)**

Under the Coastal Zone Management Act (CZMA) of 1972, activities conducted by the Forest Service that affect the coastal zone must be consistent, to the maximum extent practicable, with the enforceable policies of the Alaska Coastal Management Program (ACMP). In addition, activities affecting the coastal zone that are conducted by non-federal parties under a Forest Service permit must also be consistent with the ACMP. The types of Forest Service permits that the State of Alaska and the Forest Service have agreed are likely to affect the coastal zone—and therefore require ACMP consistency review of the permit applicant's proposal—are listed in section 302 of the Memorandum of Understanding (MOU) between the State and the Forest Service on CZMA/ACMP consistency reviews. The types of special use permits that will be authorized for issuance by this decision are not among those listed in the MOU as requiring ACMP review.

#### **Magnuson-Stevens Fishery Conservation Act of 1996**

Essential Fish Habitat (EFH) is the water and substrate necessary for fish spawning, breeding, feeding, or growth to maturity. The marine EFH in Alaska includes estuarine and marine areas from tidally submerged habitat to the 200-mile exclusive economic zone (EEZ). The freshwater EFH includes streams, rivers, lakes, ponds, wetlands and other bodies of water currently and historically accessible to salmon. EFH for Pacific salmon recognizes six critical life history stages: (1) spawning and incubation of eggs, (2) juvenile rearing, (3) winter and summer rearing during freshwater residency, (4) juvenile

migration between freshwater and estuarine rearing habitats, (5) marine residency of immature and maturing adults, and (6) adult spawning migration. Habitat requirements within these periods can differ significantly and any modification of the habitat within these periods can adversely affect EFH.

Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act states that all federal agencies must consult the National Marine Fisheries Service (NMFS) for actions or proposed actions that may adversely affect Essential Fish Habitat. The Act promotes the protection of EFH through review, assessment, and mitigation of activities that may adversely affect these habitats. On August 25, 2000 the Forest Service, Alaska Region, and NMFS came to an agreement on how consultation will be accomplished in Alaska.

This EA satisfies the consultation requirements by providing a description and assessment of EFH in the project area, a description of the Petersburg Outfitter and Guide Management Plan and its potential impacts on these habitats, and a description of the mitigation measures that would be implemented to protect these habitats. The formal consultation will start when NMFS receives a copy of the Environmental Assessment with the EFH Assessment. NMFS may then respond in writing as to whether it concurs with the findings of the assessment or make conservation recommendations. The USDA Forest Service must respond to any recommendations made by NMFS within 30 days. For specific information on the location and the alternatives under consideration, please refer to the EA.

The project area includes the entire land area of the Petersburg Ranger District of the Tongass National Forest. The streams and lakes within the project area support a variety of anadromous and resident fish species. Anadromous species that spawn in freshwater streams or lakes in the project area include: pink salmon (*Oncorhynchus gorbuscha*), chum salmon (*O. keta*), sockeye salmon, (*O. nerka*), coho salmon (*O. kisutch*), chinook salmon (*O. tshawytscha*), coastal cutthroat trout (*O. clarkii*), steelhead (rainbow) trout (*O. mykiss*), and Dolly Varden char (*Salvelinus malma*). The project area also supports resident populations coastal cutthroat trout (*O. clarki*), rainbow trout (*O. mykiss*), Dolly Varden char (*Salvelinus malma*), and non-game fish species including sculpin (*Cottus spp.*) and three-spined stickleback (*Gasterosteus aculeatus*).

The analysis area provides a large amount of EFH and includes all of the freshwaters on the Petersburg Ranger District. Since no Marine Access Facilities would be utilized for the proposed project, marine habitats would not be affected and are therefore not analyzed with this project.

This EA would authorize a variety of outfitted and guided activities around the Petersburg Ranger District. The Aquatic Resources section of this EA specifically examines the effects of outfitted and guided sport fishing, which is the primary activity that would affect EFH, on the aquatic resources around the district.

The Forest Service believes that the Petersburg Outfitter and Guide Management Plan EA may adversely affect EFH. However, the effects, as described in the EA, will be minimal or virtually immeasurable. By implementing Forest Plan Standards and Guidelines, Best Management Practices, and Outfitter and Guide permit stipulations, effects to EFH should not occur. Additional impacts to EFH may occur only from unforeseen events.

### 3 Environmental Considerations

#### **Executive Order 11593**

Executive Order 11593 directs federal agencies to provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation. The work accomplished in accordance with Section 106 of the National Historic Preservation Act for the Petersburg Outfitter and Guide Management Plan meets the intent of this Executive Order.

#### **Executive Order 11988**

No outfitter and guide permits will be issued that seek to permanently develop floodplains within the project area; therefore the project is fully compliant with Executive Order 11988.

#### **Executive Order 11990**

No outfitter or guide activities that result in short-term (disturbance to wetland vegetation and soil drainage) or long-term impacts (filling, dredging, etc.) to wetlands will be permitted under this document (USDA Forest Service Manual 2527.01-04).

#### **Environmental Justice/Civil Rights**

A specific consideration of equity and fairness in resource decision-making is encompassed in the issue of environmental justice and civil rights. As required by law and Title XI, all federal actions will consider potentially disproportionate effects on minority or low-income communities. Disproportional potential impacts or changes to low-income or minority communities in the project area due to the proposed action should be considered. Where possible, measures should be taken to avoid impact to these communities or mitigate the adverse effects.

The issuance of outfitter and guide permits will have no disproportionate effect on minority or low-income populations.

#### **Executive Order 12962**

With the application of Forest Plan Standards and Guidelines, including those for riparian areas, no significant adverse effects to freshwater or marine resources will occur.

#### **Effects on Prime Farm Land, Range Land, and Forest Land**

No prime farm land or range land exists in the project area. Forest land will maintain its productivity.

#### **Threatened, Endangered and Sensitive Species (TES)**

A biological evaluation was completed for TES plants. A biological evaluation/assessment was completed for TES vertebrates. Consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to review the effects of this project on threatened, endangered, and proposed species is not required. ESA does not require consultation for “no effect” determinations. Standards and guidelines have been applied as needed to ensure that any listed threatened or endangered species or its habitat will not be adversely affected. The Forest Plan contains standards and guidelines for each designated sensitive species, and these are incorporated into the project as applicable.

**Wild and Scenic Rivers Act**

Neither alternative will affect rivers eligible for Wild and Scenic River designation.



Swan Observatory on Mitkof Island, Petersburg Ranger District. Photograph by Carin Christensen.

### 3 Environmental Considerations



Columbine flower, Tongass National Forest. Photograph by Ashley Atkinson.

# CHAPTER 4 – REFERENCES AND LISTS

## Glossary

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### **Alaska National Interest Lands Conservation Act (ANILCA)**

The Alaska National Interest Lands Conservation Act of December 2, 1980, Public Law 96-487, 96th Congress, 94 Stat. 2371-2551. Passed by Congress in 1980, this legislation designated 14 national forest wilderness areas in Southeast Alaska. Section 810 requires evaluations of subsistence impacts before changing the use of these lands.

### **Alpine/subalpine habitat**

The region found on a mountain peak above tree growth, generally above 1,500 feet in elevation.

### **Anadromous Fish**

Fish (such as salmon and steelhead) that spend part of their lives in fresh water and part of their lives in salt water. Anadromous fish ascend from the sea to spawn in freshwater streams.

### **Beach Fringe**

The area, typically forested, that is inland from saltwater shorelines.

### **Best Management Practices (BMP)**

These are common-sense actions required by law to keep soil and other pollutants out of streams and lakes. BMPs are designed to protect water quality and to prevent new non-point source pollution.

### **Biological Assessment**

A type of biological evaluation conducted for major federal actions requiring an environmental impact statement, in accordance with legal requirements under Section 7 of the Endangered Species Act (16 U.S.C. 1536(c)). The purpose of the assessment and resulting document is to determine whether the proposed action is likely to affect a species that has been listed or proposed as an endangered or threatened species.

### **Biological Evaluation**

A documented Forest Service review of Forest Service programs or activities in sufficient detail to determine how an action or proposed action may affect any species that has been listed or proposed as threatened, endangered, or sensitive.

### **Carrying capacity (recreation)**

The estimated number of users that can be accommodated, in a given area, without a loss in the quality of the natural environment or the recreation experience.

### **Cave**

Legally defined under federal law as “any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge and which is large enough to permit an individual to enter, whether or not the entrance is naturally formed or human-made. Such term shall include any natural pit, sinkhole or other feature which is an extension of the

## 4 References and Lists

surface,” (Federal Cave Resource Protection Act of 1988). Speleologists use “cave” to refer to all parts, regardless of size, of an underground system that links openings and chambers and that may connect the system to the surface. Included in the term caves are tree molds and lava tubes associated with lava flows, erosional caves, and those formed by dissolution of bedrock.

### **Commercial use or activity**

Any use or activity on National Forest System lands (a) where an entry or participation fee is charged or (b) where the primary purpose is the sale of a good or service and, in either case, regardless of whether the use or activity is intended to produce a profit (36 CFR 251.51).

### **Cultural Resources**

The remains of sites, structures, or objects used by people in the past.

### **Cumulative Effects**

The impacts on the environment resulting from the addition of the incremental impacts of past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions occurring over time.

### **Day Use Activity Area**

A developed recreation area/site intended for day use activities.

### **Desired Future Condition**

A statement of the ultimate goal for resources and uses of an area.

### **Developed Recreation**

Recreation that requires facilities that, in turn, result in concentrated use of an area, such as campgrounds and picnic areas. Facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water, and buildings (see Dispersed Recreation).

### **Direct Effects**

Environmental effects that occur at the same time and place as the initial cause or action.

### **Dispersed Recreation**

Recreation activities that are not confined to a specific place and are generally outside developed recreation sites. This includes activities such as scenic driving, hiking, backpacking, hunting, fishing, snowmobiling, cross-country skiing, and recreation in primitive environments (see Developed Recreation).

### **Endangered Species**

Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plant or animal species are identified by the Secretary of the Interior as endangered in accordance with the 1973 Endangered Species Act.



**Environmental Assessment (EA)**

An analytical document authorized by the National Environmental Policy Act (NEPA) of 1969. It is prepared with public participation to determine whether an Environmental Impact Statement (EIS) is needed for a project or action. If an EA determines an EIS is not needed, the EA becomes the document allowing agency compliance with NEPA requirements.

**Essential Fish Habitat (EFH)**

Includes all freshwater streams accessible to anadromous fish, marine waters, and intertidal habitats. This includes all Class I streams, marine waters, and intertidal habitats of the Shoreline Outfitter/Guide analysis area.

**Estuary**

An ecological system at a stream mouth, where fresh and saltwater mix, and where salt marshes and intertidal mudflats are present. The landward extent of an estuary is the limit of salt-intolerant vegetation, and the seaward extent is a stream's delta at mean low water.

**Executive Order**

An order or regulation issued by the President or some administrative authority under his direction.

**Flood Plain**

The level or nearly level land with alluvial soils on either or both sides of a stream or river that is subject to overflow flooding during periods of high water.

**Forbs**

A category of herbaceous plants that are not included in the grass, shrub, or tree categories; generally smaller flowering plants.

**Forest Health**

The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance.

**Forest Plan**

The Tongass Land and Resource Management Plan is the source of management direction for the Tongass National Forest. It specifies activity and output levels for a 10–15 year period.

**Forest Land**

Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest use.

**Forest-wide Standards and Guidelines**

A set of rules and guidance that directs management activities and establishes the environmental quality, natural renewable and depletable resource requirements, conservation potential, and mitigation measures that apply to several land use designations.

**General forest**

For this analysis, general forest is any area that is outside of a recreation place.

## 4 References and Lists

### **Geographic Information System (GIS)**

A computerized map database that is used to store and evaluate site-specific information.

### **Gross Recreation Visitor Days**

The maximum carrying capacity of an area, excluding off-season use. It includes the unguided public and the clients of outfitters and guides.

### **Habitat**

The sum total of environmental conditions of a specific place that is occupied by an organism, population, or community of plants or animals.

### **Historic Property**

Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. The term includes artifacts, records, and remains that are related to and located within such properties.

### **Home Range**

A recreation area near a community that is especially important to local residents. Generally, a home range on the Petersburg Ranger District is within a fifteen mile radius of the communities of Petersburg, Kake, Port Protection or Port Baker. Home range recreation places are easy to get to for day trips and receive a fair amount of use. Travel time and the amount of exposed water are factors that limit or extend home range.

### **Hunt**

An authorization for one guided client on National Forest System lands for the purpose of hunting one or more species in one general geographic area. A hunt does not typically exceed 10 days in length and can be considerably less based on the species pursued. A hunt is an authorization for a land use activity which may or may not result in the harvest of an animal.

### **Indirect Effects**

Effects that occur later in time or are spatially removed from the activity but would be significant in the foreseeable future.

### **Karst**

A type of topography that develops in areas underlain by soluble rocks, primarily limestone. Dissolution of the subsurface layer results in areas of well-developed, surface drainage that are sinkholes, collapsed channels, or caves.

### **Land Use Designation (LUD)**

A defined area of land, identified by the Forest Plan, to which specific management direction is applied.

### **Large Woody Debris (LWD)**

Any large piece of relatively stable woody material having a least diameter of greater than 3.9 inches (10 centimeters) and length greater than 39 inches (one meter) that intrudes into the stream channel.

**Length of Stay (LOS)**

Represents the amount of time (in hours) a recreation place is available for use per day (not the average amount of time a user occupies a site). The LOS varies depending on the activity and the attractor.

**Managed Season of Use**

The period of time a recreation place is primarily used. The general recreation season for the Petersburg Ranger District is May to September, or approximately 150 days.

**Management Concern**

An issue, problem, or condition that constrains the range of management practices identified by the Forest Service in the planning process.

**Management Direction**

A statement of multiple-use and other goals and objectives, the associated land use prescriptions, and standards and guidelines for attaining them.

**Management Indicator Species (MIS)**

Vertebrate or invertebrate wildlife species whose response to land management activities can be used to predict the likely response of other species with similar habitat requirements. The National Forest Management Act regulations prescribe the use of management indicator species.

**Management Practices**

The activities applied to a defined area of land (land use designation as defined in the Forest Plan) to attain multiple-use and other goals and objectives.

**Memorandum of Understanding (MOU)**

An agreement between the Forest Service and other agencies resulting from consultation between agencies that states specific measures the agencies will follow to accomplish a large or complex project. A memorandum of understanding is not a fund obligating document.

**Mitigation**

Measures designed to counteract or reduce environmental impacts. These measures may include: avoiding an impact by not taking a certain action or part of an action; minimizing an impact by limiting the degree or magnitude of an action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or compensating for the impact by replacing or providing substitute resources or environments.

**Monitoring**

A process of collecting information to evaluate whether or not objectives of a project and its mitigation plan are being realized. Monitoring can occur at different levels: to confirm whether mitigation measures were carried out in the matter called for (Implementation Monitoring); to confirm whether mitigation measures were effective (Effectiveness Monitoring); or, to validate whether overall goals and objectives were appropriate (Validation Monitoring).

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### **Muskeg**

A bog, often dominated by sphagnum moss, tussocky sedges, and an open growth of scrubby trees, frequently with deep accumulations of organic material. Occurs in wet, poorly drained northern regions.

### **National Environmental Policy Act of 1969 (NEPA)**

An act declaring a national policy to encourage productive harmony between humans and their environment, to promote efforts that will prevent or eliminate damage to the environment and the biosphere and stimulate the health and welfare of humans; to enrich the understanding of the ecological systems and natural resources important to the nation and to a Council on Environmental Quality.

### **National Forest Management Act (NFMA)**

A law passed in 1976 that amends the Forest and Rangeland Renewable Resources Planning Act, requires the preparation of Forest plans, requires the identification of management indicator species, and defines parameters for timber suitability.

### **National Register of Historic Places**

A register of cultural resources of national, state, or local significance, maintained by the Department of the Interior.

### **No-Action Alternative**

The most likely condition expected to exist in the future if current management direction were to continue unchanged.

### **Non-commercial use**

In this analysis, refers to unguided use; use for which no special uses permit is necessary and for which no one receives financial remuneration or other gain for services provided on the national forest.

### **Old-growth Forest**

Ecosystems distinguished by old trees and related structural attributes. Old growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics that may include larger tree size, higher accumulations of large dead woody material, multiple canopy layers, different species composition, and different ecosystem function. The structure and function of an old-growth ecosystem will be influenced by its stand size and landscape position and context.

### **Old-growth Habitat**

A contiguous unit of old-growth forest habitat to be managed to maintain the integrity of the old-growth forest ecosystem.

### **Outfitter/guide**

Those who, generally for compensation, facilitate the use, enjoyment, understanding, and appreciation of national forest recreation settings where the need for service has been identified and is compatible with objectives and management direction.

**Pattern of Use**

The relationship between the average weekend and weekday use of recreation places. It recognizes there can be a difference in the amount of use for these periods (e.g. more local people generally recreate on the weekends).

**Persons at One Time (PAOT)**

Used to measure how many people can use a recreation site at one time.

**Priority Special Use Permit**

Permits issued to an outfitter/guide who has demonstrated successful performance in conducting operations on National Forest System lands for two or more consecutive years. Priority use, if authorized by the Deciding Officer, guarantees the operator a certain level of use for up to a 10-year period (FSH 2709.11, Chapter 40).

**Productive Old-Growth (POG)**

Old-growth stands of 8,000 or more board feet of timber per acre, capable of producing at least 20 cubic feet per acre per year.

**Proposed Action**

An initial proposal by a federal agency to authorize, recommend, or implement an action.

**Public Participation**

Meetings, conferences, seminars, workshops, tours, written comments, responses to survey questionnaires, and similar activities designed and held to obtain comments from the public about Forest Service planning.

**Rare Plants**

Those plants with potential conservation concerns on the Tongass National Forest. They may be common elsewhere; however, the edge of their range is known or suspected to be on the Tongass National Forest, or disjunct populations of the plant species occur the Tongass National Forest. The Alaska Natural Heritage Program tracks rare plant species, and gives them a state ranking of S1 to S5. This database is the basis of the rare plant list for the Tongass National Forest. See the Alaska Natural Heritage plant list for guidance on rare plants known or suspected to occur on the Tongass National Forest.

**Recreation Carrying Capacity**

A social recreation carrying capacity is the estimated maximum number of people who could recreate in an area and still have a specified type of recreation experience.

**Recreation Carrying Capacity Report**

The analysis used to determine the recreation carrying capacity for the Petersburg Ranger District (see Appendix A).

**Recreation Opportunity Spectrum (ROS)**

A system for planning and managing resources that categorizes recreation opportunities into seven classes. Each class defines the degree to which certain recreation experience needs are met. Classes are based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area, and the relative density of recreation use.

## 4 References and Lists

### **Recreation Place**

Areas within a study area that include a recreation attractor, such as a trail, a lake, a beach, a roadside area, or a popular fishing stream.

### **Recreation Site**

A specific site and/or facility occurring within a recreation place. Some examples of recreation sites are: recreation cabins, trailheads, picnic areas, and wildlife viewing blinds.

### **Recreation Visitor Days (RVDs)**

A measure of recreation use for an area. One RVD is equal to 12 hours of recreation use on National Forest System lands or water by an outfitted or guided client(s). One RVD may be one client for 12 hours, 12 clients for one hour, or any combination that equals 12 hours of use on National Forest System lands.

### **Resident Fish**

Fish that are not anadromous and that reside in fresh water on a permanent basis. Resident fish include cutthroat trout and arctic grayling.

### **Sacred Site**

A place that has traditional spiritual values for Alaska Native people, reverently dedicated to a person or object or event or activity, and secured against violation or infringement or interference. Executive Order 13007 defines a sacred site as “any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.”

### **Scoping Process**

Early and open communication with the public used to determine the scope and significance of a proposed action, what level of analysis is required, what information is needed, and what level of public participation is appropriate. Scoping focuses on the issues surrounding the proposed action and the range of actions, alternatives, and impacts to be considered in an EA or EIS.

### **Service Day**

A day or any part of a day on National Forest System lands for which an outfitter or guide provides services to a client. One client on the National Forest for 15 minutes in one day is equivalent to one service day. One client on the National Forest for 24 hours in one day is also equivalent to one service day.

### **Sensitive Species**

Animal and plant species identified by the Forest Service Regional Forester as potentially susceptible or vulnerable to activity impacts or habitat alterations and, therefore, in need of special considerations during land management activity planning.

**Significant Issue**

Under NEPA, refers to issues that are used to formulate alternatives, prescribe mitigation measures, or analyze environmental effects. Issues are ‘significant’ because of the extent of their geographic distributions, the duration of their effects, or the intensity of interest or resource conflict. ‘Significantly’ requires considerations of both context and intensity, as developed in the CEQ regulations, sec. 1508.27.

**Soil Productivity**

The capacity of a soil, in its normal environment, to produce a specific plant or sequence of plants under a specific system of management.

**Special Use Authorization**

A permit, term permit, temporary permit, lease, or easement that allows occupancy or use of, or rights and privileges on National Forest System lands.

**Special Use Permit**

Permits and granting of easements (excluding road permits and highway easements) authorizing the occupancy and use of land.

**Stand**

A group of trees occupying a specific area and sufficiently uniform in composition, age arrangement, and condition as to be distinguishable from the forest in adjoining areas.

**State Historic Preservation Officer**

The official appointed or designated pursuant to Section 101(b)(1) of the National Historic Preservation Act of 1966, as amended, to administer the State Historic Preservation Program.

**Study Area**

The PRD is divided into 20 study areas and is made up of recreation places and general forest. Study area boundaries were determined using the Forest Plan, Value Comparison Units (VCUs), ROS Classes, and Watershed Analysis Areas. It is at the study area scale that the Forest Service tracks actual use data submitted by permitted commercial operators.

**Subsistence**

Section 803 of the Alaska National Interest Lands Conservation Act defines subsistence use as, “the customary and traditional uses by rural Alaska residents of wild renewable resources for direct, personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade.”

**Subspecies**

An aggregate of similar populations of a species generally inhabiting a geographic subdivision of the range of the species and differing taxonomically (for example, different size or color) from other populations of the species.

## 4 References and Lists

### **Temporary Special Use Permit**

Permit issued for less than one year.

### **Threatened Species**

Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and that has been designated in the Federal Register by the Secretary of the Interior as a threatened species under the Endangered Species Act.

### **Threatened Species**

A plant or animal species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified and defined in accordance with the 1973 Endangered Species Act and published in the Federal Register.

### **Value Comparison Unit (VCU)**

A distinct geographic area that generally encompasses a drainage basin containing one or more large stream systems. Boundaries usually follow easily recognizable watershed divides. These units were established in the Forest Plan to provide a common set of areas for which resource inventories could be conducted and resource value interpretations made.

### **Viable Population**

Fish or wildlife populations that have the estimated number and distribution of reproductive individuals to ensure their continued existence and that are well distributed in the national forest.

### **Watershed**

That area that contributes water to a drainage or stream; portion of a forest in which all surface water drains to a common point. Can range from a few tens of acres that drain a single small intermittent stream to many thousands of acres for a stream that drains hundreds of connected intermittent and perennial streams.

### **Wetlands**

Areas that are inundated by surface or ground water with a frequency sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include muskegs, marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs.

### **Wild and Scenic River**

River or section of a river so recommended or designated under the 1968 Wild and Scenic Rivers Act or by an act of the Legislature of the state or states through which the river flows.

### **Wilderness**

Area designated under the 1964 Wilderness Act. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions. In Alaska, the Tongass Timber Reform Act of 1990 and ANILCA also have designated wilderness areas.



**Wildlife Analysis Area (WAA)**

A division of land used by the Alaska Department of Fish and Game for wildlife analysis.

**List of Preparers**

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NEPA Coordinator

USDI Bureau of Land Management,  
BLM Alaska State Office

USDI Fish and Wildlife Service

USDI National Park Service, Alaska  
Area Region

US Department of Transportation,  
Federal Aviation Administration

US Department of Transportation,  
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Lisa Murkowski, United States Senator

Sean Parnell, Alaska Governor

Bert Stedman, Alaska State Senator

Peggy Wilson, Alaska State  
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Don Young, United States Congressman

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President  
Organized Village of Kake, President  
Wrangell Cooperative Association,  
President

### ***Media***

KFSK Public Radio  
Petersburg Pilot

### ***Organizations / Businesses***

Alaska Glacier Adventures  
Alaska on the Home Shore  
Alaska Passages, Inc.  
Alaska Waters, Inc.  
Anchor Excursions, Inc.  
Aqua Sports Enterprises  
Bluewater Adventures, Ltd.  
The Boat Company  
Citizen's Advisory Commission on  
Federal Areas  
Coastal Helicopters, Inc.  
Glacier Guides, Inc.  
Maple Leaf Adventures  
The Nature Conservancy  
Parker Guide Service, Inc.  
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Sealaska Corporation, President

Sealaska Heritage Institute, President  
Southeast Alaskan Adventures  
Southeast Alaska Regional Subsistence  
Council  
Southern Southeast Regional  
Aquaculture Association  
Stikine River Song Charters  
Temsco Helicopters, Inc.  
Wrangell Resource Council

### ***Libraries***

Craig Public Library  
Haines Public Library  
Hollis Public Library  
Hyder Public Library  
Kake Public Library  
Kasaan Community Library  
Ketchikan Public Library  
Kettleson Memorial Library  
Pelican Public Library  
Petersburg Public Library  
Quinney Library, Utah State University  
Tenakee Springs Library  
Thorne Bay Community Library  
University of Minnesota Forestry  
Library  
USDA National Agricultural Library  
Wrangell Public Library

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Coho salmon, Tongass National Forest. Photograph by Ashley Atkinson.

## 4 References and Lists



Mountain hemlock (*Tsuga mertensiana*), Tongass National Forest. Photograph by Ashley Atkinson.

## **APPENDIX A**

### **Recreation Use Carrying Capacity Report**

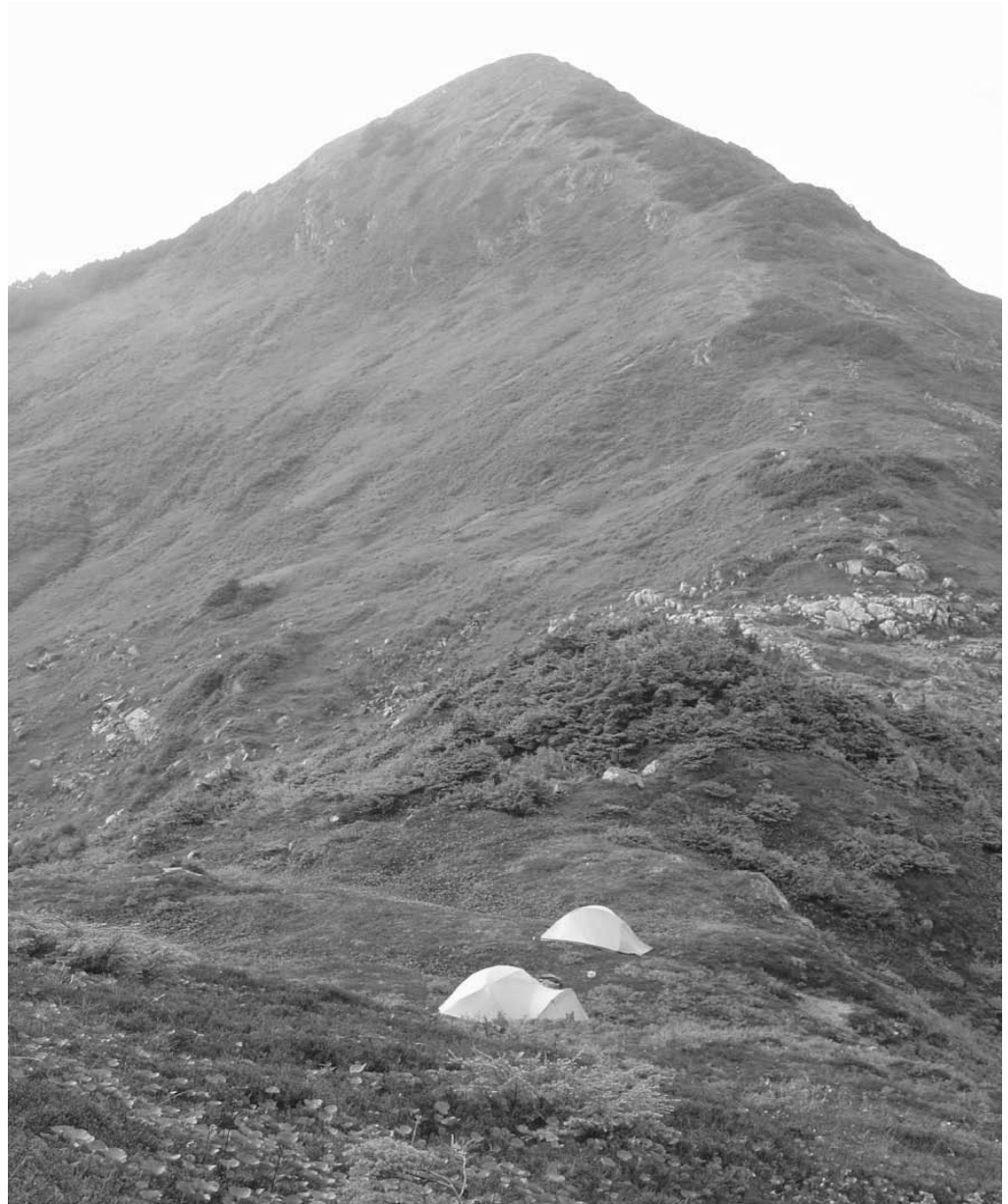




US Department of  
Agriculture  
Tongass National  
Forest  
Petersburg Ranger  
District  
December 2009

# Recreation Use Carrying Capacity Report

Petersburg Ranger District



**Prepared by:**

Kathy Rodriguez, Team Leader, Tongass National Forest Supervisor's Office

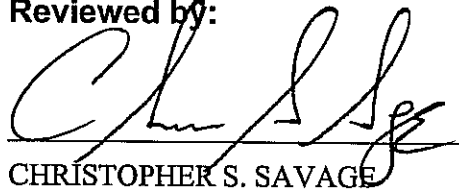
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Cover photo: Alpine area above Bear Harbor in the Kuiu Wilderness, Petersburg Ranger District, Alaska.  
Photograph by Carin Christensen.

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Kah Sheets Lake, Petersburg Ranger District. Photograph by Jeff Robinson.



# Part I

## Calculating Recreation Use Carrying Capacity



Low tide at Big John Creek, Tongass National Forest, Petersburg Ranger District. Photograph by Heath Whitacre.

## **Introduction**

---

The Petersburg Ranger District (PRD), Tongass National Forest, conducted an analysis to determine the recreation carrying capacity for the district. The purpose of this document is to provide a management tool and rationale to guide decision-making for allocating outfitter and guide use. The information in this report will allow managers to accommodate a growing outfitter and guide industry while maintaining integrity of the resources to the benefit of all users.

This report was first completed in August 1996 and presented to the public as an Appendix to the Stikine Area Outfitter and Guide Environmental Assessment (EA) (November 1996). Many comments to the 1996 EA provided information about how the public uses the Tongass National Forest. In 1997, the PRD updated the EA to incorporate those comments.

In 2004 a review of the Stikine Area Outfitter and Guide EA was completed. As a part of that process minor revisions to the Petersburg Ranger District recreation carrying capacity were made.

In 2009, the district reviewed and revised the 1997 Stikine Area Recreation Carrying Capacity Report and the 2004 update. During this process all but three study area boundaries on the PRD were changed. These changes were an effort to group similar recreation uses within a study area. The boundary changes were also a result of new information and use data from the last five years. Boundary changes were also made to the recreation places which fall within the study areas. These changes were due to land status changes, a re-evaluation of recreation attractors, new information, and historical use data. As a result, there are 70,976 fewer recreation place acres than in the 2004 update.

This report replaces the PRD portion of all the previous Stikine Area recreation carrying capacity reports. It includes all National Forest System (NFS) lands managed by the PRD. Non-NFS lands (state, Native and private), however, were taken into account when determining the carrying capacity of adjacent NFS land.

### **Why Do an Allocation Process?**

It is the goal of the Tongass National Forest to provide a range of recreation opportunities consistent with public demand, emphasizing locally popular recreation places and those important to the tourism industry. This analysis, or allocation process, allows the PRD to manage its recreation use in accordance with the Recreation Opportunity Spectrum (ROS) (USDA 2008, Appendix I) and Forest Plan Standards and Guidelines (USDA 2008, pp. 4-45 to 4-49). ROS helps identify, quantify, and describe the type of recreation settings the district provides.

## **Existing Direction and Guidance**

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The Tongass Land and Resource Management Plan (USDA 2008) provides Forest-wide Standards and Guidelines for the management of Recreation and Tourism as it relates to the ROS system and the Tongass National Forest Recreation Places Inventory.

## Process Used to Determine Recreation Use Capacity\_\_\_\_\_

In order to determine the recreation capacity for the district, the existing condition and recreation carrying capacity for each recreation place were assessed. This process is described in detail below.

### A. Existing Conditions

To determine existing conditions and calculate recreation carrying capacity for this analysis both the ROS<sup>1</sup> and recreation place<sup>2</sup> databases were reviewed and updated in the Geographic Information System (GIS). With updated GIS layers, maps from the 1997 Stikine Area Tongass National Forest Recreation Use Carrying Capacity Report were re-created with editorial modifications suggested by team members. The biggest change is, as previously mentioned; all but three study area boundaries were changed. Study area maps showing recreation places are located with the existing condition cards in Part II.

Recreation carrying capacity is dynamic. Changes in the landscape (existing condition) lead to changes in capacities. For instance, the construction of new roads, trails or other facilities change the capability of the land to attract and absorb higher numbers of people and may change the expectation of the recreation visitors. If new activities become prevalent, such as snowboarding or mountain biking, they can also change the recreation picture of recreation places and study areas. This is reflected by a modification in the ROS classification and/or by the creation of new recreation places.

This recreation carrying capacity analysis looks at the existing recreation capacity of the PRD. Recreation carrying capacities will continue to be revisited through future carrying capacity reports to determine whether they still represent existing conditions.

### B. Recreation Use Carrying Capacity

Recreation carrying capacity is defined as "...a measure, by Recreation Opportunity Spectrum class, of the maximum number of people who can obtain given kinds of recreation experiences at an established standard on the Forest within the constraints of the resource capability. Capacity indicates the maximum recreation opportunity supply" (USFS 1986, p. IV-21). In other words, carrying capacity determines the number of users that can be accommodated, in a given area, without a loss in the quality of the natural environment or the recreation experience.

The Petersburg Outfitter and Guide Management Plan EA and Decision Notice will accomplish implementation and effectiveness monitoring through the administration of special use permits that are issued as a result of that decision. The district will use the results of the monitoring set forth in the EA/DN to manage its recreation use.

The administration of special use permits helps determine any necessary future adjustments in the carrying capacity calculations. Since actual use by commercial

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<sup>1</sup> The ROS system is a planning tool used by recreation managers to stratify and define classes of outdoor recreation environments. It portrays the combination of activities, settings, and experience expectations along a continuum that ranges from highly modified to primitive environments (2008 Forest Plan, Appendix I).

<sup>2</sup> Recreation places are areas that are generally easy to access and include a recreation attractor, such as a trail, a lake, or a popular fishing stream.

outfitters and guides is recorded annually by study area, it is used to track use trends across the district. Also through the permit process, the Forest Service Special Use Administrator receives comments from commercial users regarding user conflicts and public use of the area. These comments also help with future Recreation Visitor Day (RVD) allocation recommendations.

The method used to calculate recreation carrying capacity is guided by the ROS Book<sup>3</sup> (USFS 1986, p. IV-21 and 2008 Forest Plan (Appendix I)). There are two ways to view or interpret the capacity concept – “maximum theoretical” or “practical maximum.” This report uses the “practical maximum” concept, which represents a more realistic maximum capacity because it takes into account factors such as usable versus unusable acres, weekend versus weekday use, and season of use.

For this report, recreation carrying capacity is analyzed by recreation place, rather than study area, in an effort to primarily include usable acres and the actual footprint of the activity. Scenic landscape is excluded as criteria in boundary location. For example, Study Area 6 (Kupreanof Island - North Shore) consists of six recreation places – Big Creek (upland), Big Creek (shoreline), Schooner Island Anchorage, Turnabout Island, Tongass Camp (shore), and Tongass Camp (upland) – which collectively totals 1,478 acres, or approximately 13 percent of the total area of Study Area 6. If we didn’t narrow the analysis down to recreation place(s), the total capacity figure would be very large, well above the level of crowding generally expected for Southeast Alaska.

Recreation carrying capacity is affected by both social and physical factors (*i.e.*, expectation for solitude, landtypes, vegetation) and is a function of how these factors interact to absorb, or screen the sights and sounds of human activity, and absorb physical use (ROS Book, p. 36). Physical and environmental factors were considered but were not found to be the critical limiting factors. The current analysis is affected primarily by social factors due to the district’s conservative approach to account for the “Alaska Experience” many visitors expect.

The following 11 variables were used to calculate recreation carrying capacity. See Table A for a summary of the RVD calculations by study area and Table B for detailed study area and recreation area calculations.

## 1) Study Areas

- The 1997 Recreation Use Carrying Capacity Analysis divided the analysis area into manageable units identified as study areas. The PRD was divided into 28 study areas. Study area boundaries were determined by using a combination of the 1997 Tongass Land Management Plan Revision, Value Comparison Units (VCUs)<sup>4</sup>, ROS classes, and Watershed Analysis Areas to help group areas with similar environmental and social characteristics.

<sup>3</sup> The 1986 ROS Book was created to gather a variety of Recreation Opportunity Spectrum material into one document, share ideas and concepts, provide Land Management Plan and ROS coordination and update the ROS system. The ROS Book is not a decision or policy document.

<sup>4</sup> VCUs were first developed for the 1979 Tongass Land Management Plan as distinct geographic areas that generally encompass a drainage basin containing one or more large stream systems. Boundaries usually follow easily recognizable watershed divides.

The 2009 Recreation Use Carrying Capacity Analysis modified the boundaries of all but three (10, 13, and 15) of the original study areas on the PRD. Now the PRD is divided into 20 numbered study areas. The main purpose of the boundary modification was to better differentiate water-based and road-based recreation use. Another goal of the modification was to include road systems into a single study area. For example, the Kuiu Island road system was previously in five study areas. That road system is now within one. In some instances study area boundaries were modified to better coincide with ROS and recreation place boundaries. It is expected that the modifications will result in more efficient management of outfitter/guide use for both road and water-based activities.

- A Forest-wide Outfitter and Guide Actual Use Database tracks actual use data submitted by permitted commercial operators. The actual use from 2004-2008 is included in the Existing Conditions cards developed for each study area (Part II). The cards include study area descriptions, non-NFS lands, recreation uses, brief descriptions of each recreation place, resource considerations, and actual use by outfitters and guides. The Existing Condition cards also document recreation uses, especially as it relates to day-use versus overnight-use and its influence on Length of Stay (LOS).

### 2) Recreation Places

- As mentioned previously, each study area consists of both recreation places and general forest. Recreation places include a recreation attractor, such as a trail, a lake, a dispersed campsite, or a popular fishing stream. Recreation places provide a basis to make the capacity a “practical maximum” by recognizing recreation use in significant numbers does not take place on every acre of the forest. Instead it takes place in primary locations that have key recreation attractors. For this report, “general forest” is any area outside of a recreation place.
- All Forest Development Roads classified as “open” in the 2009 Petersburg Ranger District Access Travel Management Plan were included in the carrying capacity analysis as recreation places. The extent of the recreation place for these roads was 300 feet on either side of the road centerline, for a total recreation place corridor that is 600 feet wide.

### 3) Acres

- Total acres reported for each study area only include acres that fall within a recreation place. For example, study area 6 consists of 11,170 total acres within its boundary, but the total recreation place acres equals 1,478 (Big Creek upland = 209 acres; Big Creek shoreline = 288 acres; Schooner Island Anchorage = 90 acres; Turnabout Island = 177 acres; Tongass Camp shore = 433 acres; and Tongass Camp upland = 281 acres). Recreation place acreage was determined using GIS. No private or other non-NFS lands were included in the acre calculations.
- Water acres in recreation places that include a lake less than 100 acres **were** included in total recreation place acres. Water acres in recreation places with lakes over 100 acres **were not** included in the total recreation place acres.

#### 4) ROS Capacity Coefficient

- ROS capacity coefficient was determined using the inventoried ROS class and capacity coefficient ranges shown in Table 8 of the ROS Book (1986). For each ROS class there is a range of coefficients that may be applied to a recreation place. For example: the coefficient for the Primitive ROS class ranges from 0.002 to 0.025. The general strategy was to apply the lower or more conservative coefficient to provide for a more primitive type of experience (the “Alaska Experience”) most visitors expect. However, the district applied variations of that strategy. For example, higher ROS values were sometimes used for recreation places that have recreation cabin use, which results in a higher capacity. Other examples of where higher ROS values were used are in recreation places that have a high number of contacts between recreation users and where users expect other people at the site. Professional judgment and knowledge of public use patterns were the basis for these changes. These exceptions are identified in Table C.

#### 5) Persons at One Time (PAOT)

- PAOT was calculated by multiplying recreation place acres by the ROS capacity coefficient. For example, Study Area 5, Whiskey Pass recreation place is 909 acres and in ROS class Semi-Primitive Motorized (SPM). We used a ROS coefficient of 0.008, which represents the low end for that ROS class. Thus:

$$\text{PAOT} = (\text{recreation place acres}) \times (\text{ROS coefficient})$$

or

$$\text{PAOT} = (909 \times 0.008) \text{ or } 7.272 \text{ (rounded to 7.0)}$$

- In other words, the maximum number of forest users allocated to this recreation place at one time is 7.
- In instances where a Forest Service recreation cabin is located within a recreation place, and the PAOT for the recreation place was calculated to be less than the design capacity of the cabin, the PAOT was revised to equal the design capacity of the cabin. These exceptions are identified in Table C.
- In some instances the calculated PAOT was revised to a lower value for roads that are identified as recreation places. This occurred when professional judgment indicated that visitors would expect to see few other users on the more remote road systems. These instances are identified in Table C.

#### 6) Managed Season of Use

- Managed Season of Use (MS) is the period of time a recreation place is primarily used. The general recreation season for PRD is May to September, or approximately 150 days. In some instances the season varied, depending on the existing recreation use in each recreation place (i.e., MS for most of the road system recreation places on Mitkof Island = 180 days).

### 7) Pattern of Use

- Pattern of Use (PU) is the relationship between the average weekend and weekday use of recreation places. It recognizes there can be a difference in the amount of use for these periods (*i.e.*, more local people generally recreate on weekends).
- Pattern of Use ranges from 0.65 (ratio of 1:2 - weekday to weekend use) to 1.00 (ratio of 1:1 - weekday to weekend use). PU for the Kah Sheets Trail recreation place is 0.80.

### 8) Length of Stay

- Length of Stay (LOS) is intended to represent the amount of time (in hours) a recreation place is available for use per day (not the average amount of time a user occupies a site). The LOS varies depending on the activity and the attractor.
- Some recreation places include recreation attractors in addition to the overnight site/facility. These places tend to have a higher LOS (up to 24 hours) since the user may take part in an activity within that recreation place during day light hours. Conversely, when the only attractor is the overnight site or facility, the LOS tends to be smaller.
- When a recreation place has existing day use and overnight use, we calculated each use separately, and then added them together. We based potential for overnight use upon whether the recreation place has overnight facilities, camp sites, and current camping use (*i.e.*, for Kah Sheets Lake day LOS = 4; overnight LOS = 24).
- Overnight use is not included when the use is only related to cabins and tent platforms authorized by Special Use Permits. These capacities were not included in the total because these facilities are not used by outfitters and guides.

### 9) Gross Recreation Visitor Days

- The gross RVD<sup>5</sup> number reflects the total public “practical maximum” carrying capacity, excluding off-season use. It includes the unguided public and the clients of outfitters and guides.
- To calculate the gross RVDs for the proposed action, we used the following equation:

$$RVD = \frac{(PAOT) \times (MS) \times (PU) \times (LOS)}{12}$$

Where:

- PAOT = (recreation place acres) x (ROS coefficient);
- MS = Managed season of use, in days;

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<sup>5</sup> One RVD is equal to 12 hours of recreation use on National Forest System lands or water by an outfitted or guided client(s). One RVD may be one client for 12 hours, 12 clients for one hour, or any combination that equals 12 hours of use on National Forest System lands.



- PU = Pattern of use, or the relationship between the average weekend use and average weekday use of sites and/or areas;
  - LOS = Average length of time the area or site is occupied, in hours;
  - 12 is the constant for 12 hrs or one RVD;
- If we continue with our example of Study Area 2, recreation place Kah Sheets Lake:

$$\text{Gross day RVDs} = \frac{(13.88) \times (150) \times (0.65) \times (4)}{12}$$

$$\text{Gross day RVDs} = 451 \text{ (rounded)}$$

$$\text{Gross night RVDs} = \frac{(13.88) \times (150) \times (0.65) \times (24)}{12}$$

$$\text{Gross night RVDs} = 2,707 \text{ (rounded)}$$

$$\text{Gross total RVDs} = 451 + 2707 = 3,158 \text{ (rounded)}$$

## 10) Cabin Capacity

- The Forest Service recreation cabins on the PRD are available for outfitters and guides to use in their operations on a limited basis. Direction given by the Deputy District Ranger (USDA 2006) identifies: each cabin and the corresponding time periods and number of days the cabins are available for commercial use.
- The Cabin Capacity RVDs, as used in Table B (Capacity Calculations by Recreation Place) is the number of RVDs that cabins are not available for commercial use, as directed by the above-referenced letter (USDA 2006). Those RVDs were subtracted from the gross RVDs and are not included in the net RVDs (i.e., there are 990 Cabin Capacity RVDs not available for commercial use for the Kah Sheets Lake recreation place).

## 11) Net Recreation Visitor Days

- Using the Kah Sheets Lake recreation place in Study Area 2 as an example, net RVDs (2,168) were calculated by subtracting Cabin Capacity RVDs (990) from gross RVDs (3,158). Refer to Table A for net RVDs by study area and Table B for net RVDs by recreation place.
- The calculated net RVDs in Table B are the recreation carrying capacity available for further analysis in the 2009 Petersburg Outfitter and Guide Management Plan EA. For example in the 1997 Decision Notice, outfitters and guides were allocated 10 percent of the net RVDs in the Kah Sheets Lake recreation place

since it is within an identified home range<sup>6</sup> (2,168 x 10 percent = 217 RVDs available for commercial use). Alternatives will be developed and analyzed in the 2009 EA which will help the Decision Maker determine how to allocate capacity to outfitters and guides.

### C. Findings

There is opportunity for growth of the recreation and tourism industry on the Petersburg Ranger District of the Tongass National Forest, based on the following assumptions:

- funding for maintenance and reconstruction of recreation facilities will allow for maintenance at an acceptable level for the health and safety of the public;
- the public will continue to learn about *Leave No Trace* practices to lessen their impacts;
- fish and wildlife populations will remain healthy;
- and the PRD will have adequate funding to monitor and administer outfitter and guide activities.

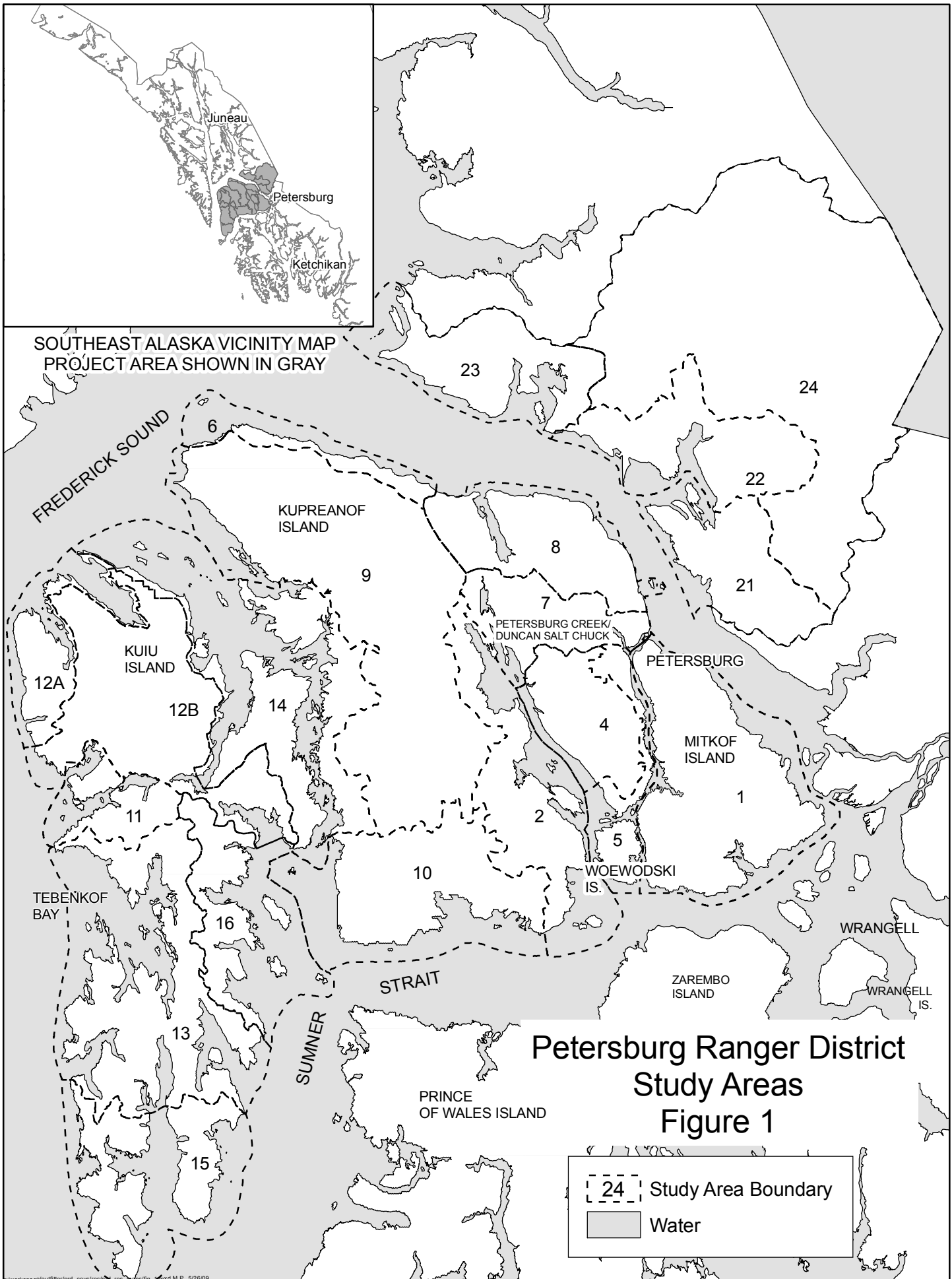
Actual use by commercial outfitters and guides is recorded annually by study area. These numbers also show that there is opportunity for growth in the recreation and tourism industry due to low actual commercial use in all study areas. Actual commercial use is less than 10 percent of the net RVDs available for the managed season of use for all study areas. The three study areas with the highest documented commercial actual use are Study Area 6 (Kupreanof Island – North Shore), Study Area 15 (South Kuiu Island) and Study Area 12A (Saginaw/Security/Washington Bays) with 8.1, 5.4 and 4.1, respectively, percent usage of the net RVDs.

There are two study areas that have experienced conflicts between user groups (12A – Saginaw/Security/Washington Bays and 14 – Keku Strait/Port Camden) even though actual use is 4.1 and 2.4 percent of the net RVDs available for the managed season of use. These conflicts are attributed to black bear guiding activities being directly affected by the presence of other user groups. Bear hunting occurs mainly along the shoreline and up streams, and any disturbance, whether from large or small groups, can be unfavorable. Concerns from black bear guides will likely prompt the development of an alternative that reduces the number of RVDs available for commercial use in these study areas.

Periodically revisiting the calculations in Table B will be necessary to adjust for unforeseen circumstances and changes in recreation use carrying capacity.

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<sup>6</sup> The district allocates outfitter and guides 10 percent of the recreation place capacity when the recreation place is within an identified home range and 25 percent of the recreation place capacity when the recreation place is outside of an identified home range.



## Recreation Use Carrying Capacity Calculations\_\_\_\_\_

### Introduction to Tables

Table A provides a summary of the net Recreation Visitor Days (RVDs) by study area on the Petersburg Ranger District as calculated using direction from the ROS Book, Chapter 4, p. 23 (USDA 1986). Also included are the average actual use numbers by outfitters and guides from 2004 through 2008 and a list of the primary commercial uses within each study area. Table B provides a display of the numbers used for the recreation carrying capacity calculations. Table C provides an explanation of special circumstances for the recreation carrying capacity calculations and the adjustments by recreation place that influence a study area's total net RVDs.



Raven's Roost recreation cabin on Mitkof Island near Petersburg, Alaska. Photograph by Marina Whitacre.

**Table A.** A summary of the net Recreation Visitor Days (RVDs) by study area on the Petersburg Ranger District as calculated using direction from the 1986 ROS Book (Chapter 4, p. 23). Also included are the average actual use numbers by outfitters and guides from 2004 through 2008 and a list of the primary commercial uses within each study area.

<b>Study Area</b>	<b>Net Recreation Visitor Days (RVDs) for Managed Season of Use</b>	<b>Average Actual Use by Outfitters and Guides from 2004-2008</b>	<b>Primary Commercial Uses<sup>7</sup></b>
<b>1</b> Mitkof Island	127,806	429	Sightseeing, hiking swimming, picnicking, fishing, camping, black bear hunting
<b>2</b> Duncan Canal – West Side	10,349	66	Sightseeing, hiking, fishing, camping, black bear hunting
<b>4</b> Duncan Canal – East Side	4,989	0	None
<b>5</b> Wrangell Narrows/Woewodski Island	17,466	31	Hiking, sightseeing, camping
<b>6</b> Kupreanof Island – North Shore	4,484	363	Hiking, sightseeing, camping, black bear hunting
<b>7</b> Petersburg Creek/Duncan Salt Chuck	12,634	228	Fishing, hiking , sightseeing, black bear hunting
<b>8</b> North Lindenberg Peninsula	12,220	207	Fishing, camping, hiking, sightseeing, black bear and deer hunting
<b>9</b> Central Kupreanof Island/Road System	34,621	8	Camping
<b>10</b> Southwest Kupreanof Island	12,302	384	Camping, black bear hunting, sightseeing

<sup>7</sup> For more detailed use descriptions for each study area, see the Existing Condition Cards in Part II of this document.

## Appendix A - Part I

<b>Study Area</b>	<b>Net Recreation Visitor Days (RVDs) for Managed Season of Use</b>	<b>Average Actual Use by Outfitters and Guides from 2004-2008</b>	<b>Primary Commercial Uses<sup>7</sup></b>
<b>11</b> Rowan Bay/Bay of Pillars	4,996	132	Camping, hunting (black bear, deer, wolf), sightseeing, fishing
<b>12A</b> Saginaw/Security/Washington Bays	11,982	494	Camping, hunting (black bear, deer, wolf), sightseeing, fishing
<b>12B</b> Kuiu Island Road System	21,247	162	Camping, hunting (black bear, wolf), sightseeing, fishing
<b>13</b> Tebenkof Bay/Kuiu Wilderness	11,573	426	Camping, hunting (black bear, wolf), sightseeing, fishing
<b>14</b> Keku Strait/Port Camden	15,621	371	Camping, hunting (black bear, deer), sightseeing, fishing
<b>15</b> South Kuiu Island	5,064	272	Camping, hunting (black bear, wolf), sightseeing
<b>16</b> Reid/No Name Bays	11,190	143	Camping, black bear hunting, sightseeing
<b>21</b> Muddy River Area	12,944	212	Camping, hunting (deer, mountain goat, wolf, black bear), guided trapping, outfitting kayaks, sightseeing
<b>22</b> Thomas Bay/Point Vandeput	12,149	282	Camping, hunting (deer, mountain goat, wolf, black bear), guided trapping, outfitting kayaks, sightseeing, fishing
<b>23</b> Farragut Bay/Cape Fanshaw	4,802	32	Camping, hunting (mountain goat, black bear, wolf), outfitting kayaks, sightseeing, fishing
<b>24</b> Baird/Patterson Glaciers	1,630	15	Helicopter landing tours, mountain goat hunting
<b>Total</b>	<b>350,071</b>	<b>4,257</b>	

**Table B.** Capacity calculations by Recreation Place.

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
1	December Cove	21003.00	46	RN	0.083	3.8	150	0.65	8.0	0.0	246	0	0.10	246
1	Blind Slough	21004.00	3,660	RN	0.083	267.0	150	0.65	12.0	16.0	60,743	0	0.10	60,743
1	South Blind Slough	21004.02	209	RM	0.083	17.4	150	0.65	12.0	0.0	1,695	0	0.10	1,695
1	Snake Ridge	21006.01	136	RM	0.083	11.3	150	0.65	8.0	0.0	731	0	0.10	731
1	Crystal Mt.	21006.02	1,346	SPNM	0.008	10.8	150	0.65	8.0	0.0	700	0	0.10	700
1	3 Lakes Trail Head	21007.01	238	RN	0.083	19.7	150	0.65	12.0	0.0	1,922	0	0.10	1,922
1	3 Lakes Recreation Area	21007.08	1,381	SPNM	0.016	22.1	150	0.65	12.0	0.0	2,154	0	0.10	2,154
1	Ideal Cove (northwest)	21007.09	403	SPM	0.008	3.2	150	0.80	10.0	0.0	322	0	0.10	322
1	Twin Creek Recreation Area	21012.00	2,899	RM	0.083	50.0	150	0.65	12.0	0.0	4,875	0	0.10	4,875
1	Ravens Roost Cabin	21012.01	139	SPNM	0.008	6.0	150	0.65	8.0	20.0	1,365	900	0.10	465
1	Pt. Alexander (1 mile east)	21209.00	21	RN	0.083	1.7	150	0.65	0.0	16.0	225	0	0.10	225
1	Road 6246	21210.00	270	RM	0.083	22.4	180	0.65	12.0	0.0	2,620	0	0.10	2,620
1	Road 6280	21211.00	101	RM	0.083	8.4	180	0.65	12.0	0.0	982	0	0.10	982

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
1	Road 6281	21212.00	244	RM	0.083	20.3	180	0.65	12.0	0.0	2,374	0	0.10	2,374
1	Road 6282	21213.00	334	RM	0.083	27.7	180	0.65	12.0	0.0	3,239	0	0.10	3,239
1	Roads 6245, 6286	21215.00	692	RM/RN	0.083	57.5	180	0.65	12.0	0.0	6,723	0	0.10	6,723
1	Road 6233	21218.00	9	RM	0.083	0.7	180	0.65	12.0	0.0	87	0	0.10	87
1	Road 6224	21219.00	27	RM	0.083	2.3	180	0.65	12.0	0.0	264	0	0.10	264
1	Road 6222	21220.00	57	RM	0.083	4.7	180	0.65	12.0	0.0	551	0	0.10	551
1	Road 6221	21221.00	135	RM	0.083	11.2	180	0.65	12.0	0.0	1,315	0	0.10	1,315
1	Road 6220	21222.00	57	RM	0.083	4.8	180	0.65	12.0	0.0	557	0	0.10	557
1	Roads (several)	21224.00	3,223	RM/RN	0.083	267.5	180	0.65	12.0	0.0	31,301	0	0.10	31,301
1	Road 6235	21225.00	56	RM	0.083	4.6	180	0.65	12.0	0.0	540	0	0.10	540
1	Road 6205	21235.00	80	RM	0.083	6.6	180	0.65	12.0	0.0	772	0	0.10	772
1	Road 6206	21236.00	80	RM	0.083	6.6	180	0.65	12.0	0.0	778	0	0.10	778
1	Road 6207	21237.00	132	RM	0.083	11.0	180	0.65	12.0	0.0	1,282	0	0.10	1,282
1	Blind Slough LTF	21238.00	7	RN	0.083	0.6	180	0.65	12.0	0.0	71	0	0.10	71
1	Road 6204	21239.00	28	RN	0.083	2.3	180	0.65	12.0	0.0	272	0	0.10	272
<b>Totals</b>			<b>16,009</b>											<b>127,806</b>
2	Towers Arm	21039.00	136	SPM	0.008	4.0	150	0.65	8.0	24.0	1,040	600	0.25	440
2	Castle River (upper)	21042.00	265	SPNM	0.008	2.1	150	0.80	8.0	0.0	169	0	0.10	169



Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
2	Castle River (mouth)	21042.01	1,248	SPM	0.008	10.0	150	0.80	8.0	24.0	3,194	1,980	0.10	1,214
2	Castle Islands (north)	21043.00	252	SPM	0.083	20.9	150	0.65	8.0	0.0	1,361	0	0.10	1,361
2	Castle Islands (south)	21043.01	24	RM	0.083	2.0	150	0.65	8.0	0.0	127	0	0.10	127
2	Kah Sheets Bay	21045.00	955	RM	0.010	9.6	150	0.80	8.0	16.0	2,293	792	0.10	1,501
2	Kah Sheets Trail	21045.01	350	SPNM	0.008	2.8	150	0.80	8.0	0.0	224	0	0.10	224
2	Kah Sheets Lake	21045.02	694	SPM	0.020	13.9	150	0.65	4.0	24.0	3,158	990	0.10	2,168
2	Kah Sheets Bay (northeast)	21046.00	211	SPM	0.083	17.5	150	0.65	8.0	0.0	1,137	0	0.10	1,137
2	Level Island	21067.00	205	RM	0.083	17.0	150	0.65	8.0	0.0	1,108	0	0.10	1,108
2	Breiland Slough	21196.00	132	SPM	0.083	11.0	150	0.65	8.0	16.0	2,139	1,380	0.10	759
2	Indian Point	21197.00	26	SPM	0.083	2.2	150	0.65	8.0	0.0	142	0	0.25	142
<b>Totals</b>			<b>4,498</b>											<b>10,349</b>
4	Mitchell Slough	21047.00	212	SPM	0.016	3.4	150	0.80	8.0	0.0	271	0	0.10	271
4	Ohmer Slough	21054.01	497	RM	0.016	7.9	150	0.80	8.0	0.0	636	0	0.10	636

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
4	Tonka Road System	21201.00	3,536	RM	0.083	40.0	180	0.65	10.0	0.0	3,900	0	0.10	3,900
4	Ohmer Slough (north)	21202.00	142	SPM	0.016	2.3	150	0.80	8.0	0.0	181	0	0.10	181
<b>Totals</b>			<b>4,386</b>											<b>4,989</b>
5	Alexander Cove	21002.00	326	RN	0.083	27.1	150	0.65	8.0	0.0	1,760	0	0.10	1,760
5	Green Rocks	21049.00	240	RN	0.083	19.9	150	1.00	8.0	0.0	1,990	0	0.10	1,990
5	Green Rocks Lake and Trail	21049.01	130	SPNM	0.083	10.8	150	1.00	8.0	0.0	1,075	0	0.10	1,075
5	Green Rocks Lake Trail	21049.02	80	SPM	0.083	6.7	150	1.00	8.0	0.0	667	0	0.10	667
5	Beecher Pass	21126.00	626	RN	0.083	20.0	150	1.00	8.0	16.0	6,000	824	0.10	5,176
5	Whiskey Pass	21127.00	909	SPM	0.008	7.3	150	0.65	8.0	0.0	473	0	0.10	473
5	Harvey Lake Trail Head	21128.00	109	RN	0.083	9.1	150	0.65	8.0	0.0	589	0	0.10	589
5	Harvey Lake	21128.01	830	SPM	0.020	16.6	150	1.00	8.0	24.0	6,637	900	0.10	5,737
<b>Totals</b>			<b>3,250</b>											<b>17,466</b>

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
6	Big Creek (upland)	21056.00	209	SPNM	0.016	3.3	150	0.80	8.0	0.0	267	0	0.10	267
6	Big Creek (shoreline)	21056.01	288	SPM	0.016	4.6	150	0.80	8.0	16.0	1,106	0	0.10	1,106
6	Schooner Island Anchorage	21064.00	90	SPM	0.008	0.7	150	0.65	8.0	16.0	141	0	0.10	141
6	Turnabout Island	21070.00	177	SPM	0.008	1.4	150	0.65	8.0	0.0	92	0	0.10	92
6	Tongass Camp (shore)	21157.00	433	SPM	0.030	13.0	150	1.00	0.0	16.0	2,597	0	0.10	2,597
6	Tongass Camp (upland)	21157.01	281	SPNM	0.008	2.2	150	1.00	10.0	0.0	281	0	0.10	281
<b>Totals</b>			<b>1,478</b>											<b>4,484</b>
7	Portage Mt. Loop Trail	21054.00	320	SPNM	0.008	2.6	150	0.65	8.0	0.0	166	0	0.10	166
7	Portage Mt. Loop Trail	21054.04	202	P	0.002	0.4	150	0.65	8.0	0.0	26	0	0.10	26
7	Petersburg Lake and Trail	21054.05	1,030	SPM	0.010	10.3	150	0.65	8.0	18.0	2,175	1,200	0.10	975
7	Petersburg Lake & Mt. Trail Head	21054.07	78	R	0.830	65.1	150	0.65	10.0	0.0	5,286	0	0.10	5,286

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
7	Lower Petersburg Lake Trail	21054.12	867	SPM	0.016	13.9	150	0.80	10.0	0.0	1,388	0	0.10	1,388
7	Salt Chuck	21054.13	1,553	SPM	0.008	12.4	150	0.65	8.0	24.0	3,230	2,100	0.10	1,130
7	Petersburg Mt. Trail (lower)	21054.15	342	SPM	0.016	5.5	150	0.65	10.0	0.0	444	0	0.10	444
7	Petersburg Mt. Trail (upper)	21054.16	89	P	0.016	1.4	150	0.65	10.0	0.0	115	0	0.10	115
7	Portage Mt. Loop Trail	21207.00	261	SPNM	0.008	2.1	150	0.65	8.0	0.0	136	0	0.10	136
7	Petersburg Mt. Trail (bottom section)	21240.00	44	R	0.830	36.5	150	0.65	10.0	0.0	2,967	0	0.10	2,967
<b>Totals</b>			<b>4,786</b>											<b>12,634</b>
8	Fivemile Creek and lower trail	21053.00	116	SPM	0.016	1.9	150	0.65	8.0	16.0	362	0	0.10	362
8	Colp Lake and upper trail	21053.01	609	P	0.008	4.9	150	0.65	8.0	0.0	317	0	0.10	317
8	Portage Bay (head)	21054.02	1016	RM	0.083	84.4	150	0.65	8.0	0.0	5,483	600	0.10	4,883
8	Portage Mt. Loop Trail	21054.14	56	RM	0.083	4.7	150	0.65	8.0	0.0	304	0	0.10	304
8	Dry Cove	21055.00	720	SPM	0.008	5.8	150	0.65	8.0	0.0	375	0	0.25	375

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
8	Todahl Anchorage	21077.00	78	RM	0.083	6.5	150	0.65	8.0	0.0	421	0	0.10	421
8	Twelvemile Creek	21080.00	206	SPM	0.008	1.6	150	0.65	8.0	0.0	107	0	0.10	107
8	West Point Cabin	21147.00	430	SPM	0.025	10.8	150	0.65	8.0	16.0	2,099	1,800	0.25	299
8	Portage Bay LTF	21148.00	60	RM	0.083	5.0	150	0.65	8.0	0.0	325	0	0.25	325
8	Sukoi Islands	21198.00	205	SPM	0.083	17.0	150	0.65	8.0	0.0	1,106	0	0.10	1,106
8	Portage Bay Road System	21199.00	2,914	RM	0.083	40.0	150	0.65	8.0	0.0	2,600	0	0.10	2,600
8	Portage Mt. Loop Trail	21200.00	53	RM	0.083	4.4	150	0.65	8.0	0.0	284	0	0.10	284
8	Portage Mt. Loop Trail	21200.01	96	RM	0.083	8.0	150	0.65	8.0	0.0	518	0	0.10	518
8	Portage Mt. Loop Trail	21200.02	173	SPNM	0.008	1.4	150	0.65	8.0	0.0	90	0	0.10	90
8	Portage Mt. Loop Trail	21200.03	41	RM	0.083	3.4	150	0.65	8.0	0.0	221	0	0.10	221
8	Stop Island	21242.00	18	SPM	0.008	0.1	150	0.65	8.0	0.0	9	0	0.25	9
<b>Totals</b>			<b>6,791</b>											<b>12,220</b>
9	Bohemia Lake	21050.01	649	SPNM	0.008	5.2	150	0.65	10.0	0.0	422	0	0.10	422

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
9	Towers Lake	21051.00	845	SPNM	0.008	6.8	150	0.65	8.0	0.0	440	0	0.25	440
9	Big John Bay upland trail	21062.06	30	RM	0.083	2.5	150	0.80	8.0	0.0	199	0	0.10	199
9	Seal Point	21063.00	182	RM	0.083	15.1	180	0.65	12.0	0.0	1,771	0	0.10	1,771
9	Point Macarney	21069.00	27	RM	0.083	2.3	180	0.80	10.0	0.0	270	0	0.10	270
9	Hamilton Trail	21135.00	64	RM	0.083	5.3	180	0.80	12.0	0.0	768	0	0.10	768
9	Cathedral Falls Trail	21136.00	62	RM	0.083	5.2	180	0.80	12.0	0.0	744	0	0.10	744
9	Irish Lakes	21155.01	750	SPNM	0.008	6.0	180	0.80	10.0	0.0	720	0	0.10	720
9	Kake Road System	21204.00	5,039	RM	0.083	100.0	180	0.80	12.0	0.0	14,400	0	0.10	14,400
9	Kake Road System	21204.01	585	RN	0.083	48.6	180	0.80	12.0	0.0	6,997	0	0.10	6,997
9	Kake Road System	21204.02	346	RM	0.083	28.7	180	0.80	12.0	0.0	4,131	0	0.10	4,131
9	Lakes 4 mi. north of Irish Lakes	21205.00	341	SPNM	0.008	2.7	150	0.80	12.0	0.0	328	0	0.10	328
9	Lakes 4 mi. north of Irish Lakes	21205.01	156	RM	0.083	13.0	150	0.80	12.0	0.0	1,556	0	0.10	1,556
9	Irish Lakes	21206.00	141	RM	0.083	11.7	150	0.80	12.0	0.0	1,401	0	0.10	1,401
9	Goose Lake	21253.00	143	SPNM	0.008	1.1	150	0.80	12.0	0.0	137	0	0.10	137

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
9	Goose Lake trailhead	21254.00	34	RM	0.083	2.8	150	0.80	12.0	0.0	339	0	0.10	339
<b>Totals</b>			<b>9,395</b>											<b>34,621</b>
10	Totem Bay	21037.00	796	SPM	0.008	6.4	150	0.65	8.0	16.0	1,242	0	0.10	1,242
10	Little Totem Bay	21037.01	947	RM	0.083	12.0	150	0.65	8.0	0.0	780	0	0.10	780
10	Totem Creek	21037.02	295	P	0.002	0.6	150	0.80	8.0	0.0	47	0	0.10	47
10	Totem Creek	21037.03	157	SPNM	0.008	1.3	150	0.80	8.0	0.0	100	0	0.10	100
10	Kushneahin Creek	21038.00	134	RM	0.083	11.2	150	0.80	8.0	16.0	2,679	0	0.10	2,679
10	Kushneahin Creek	21038.01	237	SPNM	0.008	1.9	150	0.80	8.0	0.0	152	0	0.10	152
10	Douglas Bay	21065.00	1,843	RM	0.083	20.0	150	0.80	8.0	0.0	1,600	0	0.25	1,600
10	Moss Island Anchorage	21066.00	165	RM	0.083	13.7	150	0.80	8.0	0.0	1,099	0	0.10	1,099
10	Agate Beach	21146.00	519	RM	0.083	43.0	150	1.00	8.0	0.0	4,304	0	0.10	4,304
10	Rocky Pass (south)	21195.00	373	SPM	0.008	3.0	150	1.00	8.0	0.0	299	0	0.10	299
<b>Totals</b>			<b>5,467</b>											<b>12,302</b>

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
11	Bay of Pillars Shelter	21074.00	97	SPM	0.016	1.6	150	1.00	8.0	16.0	466	0	0.25	466
11	Kutlaku	21074.09	90	SPM	0.083	7.4	150	1.00	8.0	0.0	745	0	0.10	745
11	Kutlaku Lake	21074.10	138	P	0.002	0.3	150	1.00	8.0	0.0	28	0	0.10	28
11	Rowan Bay, south side anchorage	21075.00	264	RM	0.083	21.9	150	1.00	8.0	0.0	2,192	0	0.25	2,192
11	Rowan Bay (head)	21076.00	704	SPM	0.016	11.3	150	1.00	8.0	0.0	1,127	0	0.10	1,127
11	Bay of Pillars Outside	21144.00	187	SPM	0.008	1.5	150	1.00	0.0	18.0	337	0	0.25	337
11	Bay of Pillars Anchorage	21145.00	128	SPM	0.008	1.0	150	1.00	8.0	0.0	102	0	0.25	102
<b>Totals</b>			<b>1,608</b>											<b>4,996</b>
12A	Halleck Harbor (south)	21090.00	258	RM	0.083	21.4	150	0.80	8.0	0.0	1,716	0	0.10	1,716
12A	Halleck Harbor (north)	21090.01	170	SPM	0.008	1.4	150	0.80	8.0	0.0	109	0	0.10	109
12A	Halleck Harbor, cove SE	21090.02	51	SPM	0.008	0.4	150	0.80	8.0	0.0	33	0	0.10	33



Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
12A	Saginaw Bay (head)	21092.00	885	RM	0.083	73.4	150	0.80	10.0	0.0	7,344	0	0.10	7,344
12A	Security Bay (head)	21094.00	523	SPM	0.008	4.2	150	0.80	8.0	0.0	335	0	0.10	335
12A	Washington Bay	21095.00	645	SPM	0.008	5.2	150	1.00	8.0	0.0	516	0	0.25	516
12A	Washington Bay, 1 mile south	21187.00	28	SPM	0.008	0.2	150	1.00	0.0	16.0	45	0	0.25	45
12A	Washington Bay, 4 miles north	21188.00	38	SPM	0.008	0.3	150	1.00	0.0	16.0	61	0	0.25	61
12A	Security Bay (east side)	21189.01	52	SPM	0.008	0.4	150	0.80	8.0	0.0	33	0	0.10	33
12A	Security Bay (east side)	21189.02	253	RM	0.083	21.0	150	0.80	8.0	0.0	1,678	0	0.10	1,678
12A	Security Bay (west side)	21190.00	73	SPM	0.008	0.6	150	0.80	8.0	0.0	47	0	0.10	47
12A	Security Bay (outside)	21191.00	103	SPM	0.008	0.8	150	0.80	8.0	0.0	66	0	0.10	66
<b>Totals</b>			<b>3,079</b>											<b>11,982</b>
12B	Bay of Pillars Portage	21074.03	113	RN	0.083	9.4	150	1.00	8.0	0.0	937	0	0.10	937

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
12B	Threemile Arm (head)	21074.06	350	RM	0.083	29.0	150	1.00	8.0	0.0	2,902	0	0.10	2,902
12B	Port Camden (head west)	21074.08	85	RM	0.083	7.1	150	1.00	8.0	12.0	1,767	0	0.10	1,767
12B	Kadake Creek	21081.02	925	RM	0.030	27.8	150	0.65	8.0	0.0	1,804	0	0.10	1,804
12B	Ledge Lake	21093.01	107	SPM	0.008	0.9	150	0.65	8.0	0.0	56	0	0.10	56
12B	Cool Lake/Ledge Lake	21093.02	371	RM	0.083	30.8	150	0.65	8.0	0.0	1,999	0	0.10	1,999
12B	Hillar	21121.00	645	RM	0.083	53.5	150	1.00	8.0	0.0	5,355	0	0.10	5,355
12B	Port Camden (south)	21137.00	172	RM	0.083	14.3	150	1.00	8.0	0.0	1,428	0	0.10	1,428
12B	Kuiu Island Road System	21192.00	5,622	RM/RN	0.083	50.0	150	1.00	8.0	0.0	5,000	0	0.10	5,000
<b>Totals</b>			<b>8,390</b>											<b>21,247</b>
13	Piledriver Cove	21072.00	194	P	0.002	6.0	150	1.00	8.0	16.0	1,800	0	0.25	1,800
13	Alecks Creek and Lake	21073.01	793	P	0.002	1.6	150	1.00	8.0	0.0	159	0	0.25	159
13	Explorer Basin	21100.00	415	P	0.002	6.0	150	1.00	8.0	16.0	1,800	0	0.25	1,800

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13	Gedney Harbor	21101.00	355	P	0.002	0.7	150	1.00	8.0	0.0	71	0	0.25	71
13	Port Malmesbury (north shore)	21102.00	362	P	0.002	0.7	150	1.00	8.0	0.0	72	0	0.25	72
13	Bear Harbor	21106.00	1,609	P	0.002	3.2	150	1.00	8.0	16.0	965	0	0.25	965
13	Port Beaulerc (west side)	21109.00	526	P	0.002	1.1	150	1.00	8.0	0.0	105	0	0.25	105
13	Petrof/Affleck portage trail	21117.00	446	P	0.002	0.9	150	1.00	8.0	16.0	267	0	0.25	267
13	Head of Port Beaulerc	21119.00	532	P	0.002	1.1	150	1.00	8.0	0.0	106	0	0.25	106
13	Shelter Cove	21142.00	87	P	0.002	0.2	150	1.00	8.0	0.0	17	0	0.25	17
13	Lisa Point	21160.00	35	P	0.002	0.1	150	1.00	8.0	16.0	21	0	0.25	21
13	Orel Anchorage	21161.00	112	P	0.002	0.2	150	1.00	8.0	16.0	67	0	0.25	67
13	Port Beaulerc (east side)	21180.00	60	P	0.002	6.0	150	1.00	0.0	24.0	1,800	0	0.25	1,800
13	Edwards Island	21181.00	185	P	0.002	0.4	150	1.00	8.0	0.0	37	0	0.25	37
13	Port Beaulerc (south)	21182.00	260	P	0.002	0.5	150	1.00	8.0	0.0	52	0	0.25	52
13	Windfall Islands	21183.00	21	P	0.002	6.0	150	1.00	0.0	16.0	1,200	0	0.25	1,200
13	Long Island	21184.00	19	P	0.002	6.0	150	1.00	0.0	16.0	1,200	0	0.25	1,200

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Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
13	Happy Cove	21185.00	221	P	0.002	6.0	150	1.00	8.0	16.0	1,800	0	0.25	1,800
13	Troller Islands	21186.00	160	P	0.002	0.3	150	1.00	8.0	0.0	32	0	0.25	32
<b>Totals</b>			<b>6,393</b>											<b>11,573</b>
14	Devil's Elbow	21036.00	856	SPM	0.008	6.8	150	0.80	8.0	16.0	1,644	900	0.10	744
14	Horseshoe Island	21060.00	669	SPM	0.008	5.3	150	0.80	8.0	0.0	428	0	0.10	428
14	Entrance Island	21061.00	51	SPM	0.008	0.4	150	0.80	8.0	0.0	32	0	0.10	32
14	Hamilton Bay	21062.02	786	SPM	0.008	6.3	150	0.65	8.0	0.0	409	0	0.10	409
14	Big John Bay	21062.05	1,783	SPM	0.008	14.3	150	0.80	8.0	16.0	3,423	600	0.10	2,823
14	Dakaneek Bay	21071.00	541	SPM	0.008	4.3	150	0.80	8.0	0.0	346	0	0.10	346
14	Port Camden Anchorage	21074.07	210	SPM	0.008	1.7	150	1.00	8.0	0.0	168	0	0.10	168
14	Kadake Bay	21081.01	243	SPM	0.008	6.0	150	0.80	8.0	16.0	1,440	900	0.10	540
14	Beach N. of Slippy Creek	21082.00	485	SPM	0.008	3.9	150	1.00	8.0	0.0	388	0	0.10	388
14	Anchorage S. of Slippy Cr.	21082.01	560	SPM	0.008	4.5	150	1.00	8.0	0.0	448	0	0.10	448

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14	Slippery Creek	21086.00	106	SPM	0.008	0.8	150	1.00	8.0	0.0	85	0	0.10	85
14	Slippery Lake	21086.01	894	P	0.008	7.2	150	1.00	8.0	0.0	715	0	0.10	715
14	Gil Harbor	21088.00	691	RM	0.083	57.4	150	0.65	8.0	0.0	3,730	0	0.10	3,730
14	Cornwallis Peninsula	21091.00	247	SPM	0.008	2.0	150	0.80	8.0	16.0	474	0	0.10	474
14	Crane Creek	21120.00	85	SPM	0.008	0.7	150	1.00	8.0	0.0	68	0	0.10	68
14	North Rocky Pass	21122.00	216	SPM	0.008	1.7	150	0.80	8.0	0.0	139	0	0.10	139
14	Hamilton Trail	21135.01	300	SPM	0.083	24.9	180	0.80	8.0	0.0	2,389	0	0.10	2,389
14	Point Camden	21193.00	18	SPM	0.008	0.1	150	1.00	0.0	16.0	30	0	0.10	30
14	Point Hamilton	21194.00	89	SPM	0.008	0.7	150	0.80	0.0	16.0	114	0	0.10	114
14	Tunehean Creek	21251.00	555	SPM	0.008	4.4	150	0.80	8.0	0.0	355	0	0.10	355
14	Irish Creek	21252.00	624	SPM	0.008	5.0	150	0.80	8.0	16.0	1,198	0	0.10	1,198
<b>Totals</b>			<b>10,009</b>											<b>15,621</b>
15	Kell Bay (Central)	21097.00	462	P	0.008	3.7	150	1.00	8.0	16.0	1,109	0	0.25	1,109
15	Kell Bay (South Shore)	21098.00	767	P	0.008	6.1	150	1.00	8.0	0.0	614	0	0.25	614

# Appendix A - Part I

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
15	Port McArthur/Howard Cove	21099.00	963	P	0.008	7.7	150	1.00	8.0	16.0	2,312	0	0.25	2,312
15	Crowley Bight	21139.00	82	P	0.008	0.7	150	1.00	8.0	16.0	196	0	0.25	196
15	Kell Bay (North Arm)	21140.00	537	P	0.008	4.3	150	1.00	8.0	0.0	430	0	0.25	430
15	Pt. St. Albans	21153.00	27	P	0.008	0.2	150	1.00	0.0	24.0	66	0	0.25	66
15	3 miles north of Table Bay	21171.00	50	P	0.008	0.4	150	1.00	0.0	16.0	80	0	0.25	80
15	4 miles NE of Pt. St. Albans	21172.00	26	P	0.008	0.2	150	1.00	0.0	16.0	42	0	0.25	42
15	5 miles NE of Pt. St. Albans	21173.00	7	P	0.008	0.1	150	1.00	0.0	16.0	10	0	0.25	10
15	5.5 miles NE of Pt. St. Albans	21174.00	46	P	0.008	0.4	150	1.00	0.0	16.0	74	0	0.25	74
15	1 mile NW of Pt. Amelius	21175.00	13	P	0.008	0.1	150	1.00	0.0	16.0	21	0	0.10	21
15	1.5 miles NE of Pt. Amelius	21176.00	30	P	0.008	0.2	150	1.00	0.0	16.0	48	0	0.10	48
15	Table Bay	21177.00	39	P	0.008	0.3	150	1.00	0.0	16.0	63	0	0.25	63
<b>Totals</b>			<b>3,050</b>											<b>5,064</b>

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
16	No Name Bay (head)	21073.00	260	RM	0.030	7.8	150	1.00	8.0	0.0	780	0	0.10	780
16	Seclusion Harbor	21084.00	636	SPM	0.008	5.1	150	1.00	8.0	16.0	1,527	0	0.10	1,527
16	Reid Bay (southeast)	21111.00	161	P	0.008	1.3	150	1.00	0.0	16.0	257	0	0.10	257
16	Alvin Bay	21112.00	690	RM	0.083	20.0	150	1.00	0.0	12.0	3,000	0	0.10	3,000
16	No Name Bay (south)	21113.00	285	RM	0.053	15.1	150	1.00	8.0	16.0	4,536	0	0.10	4,536
16	No Name Bay	21113.01	201	SPM	0.008	1.6	150	1.00	8.0	0.0	161	0	0.10	161
16	Reid Bay	21115.00	476	P	0.008	3.8	150	1.00	8.0	0.0	381	0	0.10	381
16	Reid Bay (south)	21152.00	75	P	0.008	0.6	150	1.00	0.0	16.0	120	0	0.10	120
16	Sumner Island	21158.00	102	SPM	0.016	1.6	150	1.00	8.0	0.0	163	0	0.10	163
16	Strait Island	21159.00	55	SPM	0.016	0.9	150	1.00	8.0	16.0	265	0	0.10	265
<b>Totals</b>			<b>2,942</b>											<b>11,190</b>
21	Wood Point	21017.00	156	SPM	0.008	1.2	150	0.80	8.0	16.0	300	0	0.10	300
21	Brown Cove and Icy Cove	21018.00	524	SPM	0.016	8.4	150	0.80	8.0	16.0	2,010	0	0.10	2,010
21	Thomas Bay Roads	21243.00	379	RM	0.083	15.0	180	0.80	8.0	0.0	1,440	0	0.10	1,440
21	Muddy River Road	21244.00	265	RM	0.083	20.0	180	0.80	8.0	16.0	5,760	0	0.10	5,760

# Appendix A - Part I

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
21	Muddy River	21245.00	1,025	RM	0.016	16.4	150	0.80	8.0	0.0	1,312	0	0.10	1,312
21	Patterson River Road, south	21246.00	90	RM	0.016	1.4	180	0.80	8.0	0.0	139	0	0.10	139
21	Patterson Lake	21247.00	348	SPNM	0.008	2.8	150	1.00	8.0	16.0	835	0	0.10	835
21	Patterson River Road, north	21248.00	163	RM	0.016	2.6	150	0.80	8.0	0.0	208	0	0.10	208
21	Point Agassiz Road	21249.00	55	RM	0.083	4.5	180	0.80	8.0	0.0	435	0	0.10	435
21	Patterson River	21250.00	395	RM	0.016	6.3	150	0.80	8.0	0.0	505	0	0.10	505
<b>Totals</b>			<b>3,398</b>											<b>12,944</b>
22	Cascade Creek Cabin and Trail	21019.00	276	RM	0.083	22.9	150	0.80	8.0	20.0	6,405	792	0.10	5,613
22	Upper Cascade Trail and Falls Lk	21019.01	255	SPNM	0.008	2.0	150	0.80	8.0	0.0	163	0	0.10	163
22	Swan Lake	21019.02	715	P	0.008	5.7	150	1.00	4.0	24.0	2,002	1,500	0.10	502
22	Scenery Cove	21021.00	143	SPM	0.016	2.3	150	0.80	8.0	16.0	551	0	0.10	551
22	Scenery Creek	21021.01	198	SPNM	0.008	1.6	150	0.80	8.0	0.0	127	0	0.10	127



Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
22	Scenery Creek	21021.02	335	P	0.008	2.7	150	0.80	8.0	0.0	215	0	0.10	215
22	Spurt Lake	21021.03	510	SPNM	0.008	4.1	150	0.80	8.0	0.0	327	0	0.10	327
22	DeBoer Lake	21023.00	442	P	0.008	6.0	150	0.80	0.0	24.0	1,440	900	0.10	540
22	Baird Glacier (terminus)	21132.00	941	SPM	0.016	15.1	150	0.80	8.0	16.0	3,614	0	0.10	3,614
22	Spurt Cove Cabin	21133.00	311	SPM	0.016	5.0	150	0.80	0.0	16.0	795	600	0.10	195
22	Dry Bay	21156.00	158	SPM	0.008	1.3	150	0.80	8.0	16.0	303	0	0.25	303
<b>Totals</b>			<b>4,284</b>											<b>12,149</b>
23	Farragut Bay, North Arm	21029.00	333	SPM	0.008	2.7	150	0.80	8.0	0.0	213	0	0.25	213
23	Farragut River	21030.00	756	SPM	0.016	12.1	150	0.80	8.0	0.0	968	0	0.25	968
23	Francis Anchorage	21034.00	456	SPM	0.016	7.3	150	0.80	8.0	0.0	584	0	0.25	584
23	Cat Creek	21124.00	375	SPM	0.008	3.0	150	1.00	8.0	14.0	825	0	0.25	825
23	Farragut Bay (east flats)	21130.00	204	SPM	0.016	3.3	150	0.80	8.0	0.0	261	0	0.25	261
23	Farragut Bay (north flats)	21131.00	239	SPM	0.016	3.8	150	0.80	8.0	0.0	306	0	0.25	306
23	Cape Fanshaw	21151.00	327	SPM	0.016	5.230211	150	1.00	8.0	16.0	1,569	0	0.25	1,569

# Appendix A - Part I

Study Area	Recreation Place Name	Rec Place Number	Rec Place Acres	ROS Class	ROS Coeff	Persons At One Time	Managed Season of Use	Pattern of Use	Length of Stay (day)	Length of Stay (over-night)	Gross Visitor Days (RVDs)	Cabin Capacity (RVDs)	Within Home Range?	Net Rec Visitor Days (RVDs)
23	Tangent Peak (shore)	21154.00	63	SPM	0.008	0.501578	150	1.00	0.0	12.0	75	0	0.25	75
<b>Totals</b>			<b>2,753</b>											<b>4,802</b>
24	Farragut/ Glory Lakes	21026.00	2,688	P	0.002	5.375445	150	1.00	0.0	24.0	1,613	0	0.25	1,613
24	Patterson Glacier (Temsco site 1)	21208.00	11	P	0.002	0.022244	150	1.00	8.0	0.0	2	0	0.25	2
24	Patterson Glacier (Temsco site 2)	21255.00	11	P	0.002	0.022244	150	1.00	8.0	0.0	2	0	0.25	2
24	Devils Thumb	21256.00	11	P	0.002	0.022229	150	1.00	0.0	24.0	7	0	0.25	7
24	Baird Glacier	21257.00	11	P	0.002	0.022229	150	1.00	0.0	24.0	7	0	0.25	7
<b>Totals</b>			<b>2,732</b>											<b>1,630</b>
		<b>District Totals</b>	<b>104,697</b>								<b>370,329</b>	<b>20,258</b>		<b>350,071</b>

Table C. Notes.

Study Area	Rec Place Name	Rec. Place Number	Notes
1	December Cove	21003.00	Petersburg home range
1	Blind Slough	21004.00	Petersburg home range, overnight use from campground, PAOT lowered to reflect actual capacities of developed recreation sites.
1	South Blind Slough	21004.02	Petersburg home range
1	Snake Ridge	21006.01	Petersburg home range
1	Crystal Mt.	21006.02	Petersburg home range
1	3 Lakes Trail Head	21007.01	Petersburg home range
1	3 Lakes Recreation Area	21007.08	Petersburg home range. ROS coeff. raised to reflect "high" use of trails and at lakes.
1	Ideal Cove (northwest)	21007.09	Petersburg home range
1	Twin Creek Recreation Area	21012.00	Petersburg home range, PAOT lowered to reflect user's expectation of a less crowded experience.
1	Ravens Roost Cabin	21012.01	Petersburg home range; PAOT reflects capacity of Ravens Roost Cabin.
1	Pt. Alexander (1 mile east)	21209.00	Petersburg home range
1	Road 6246	21210.00	Petersburg home range
1	Road 6280	21211.00	Petersburg home range
1	Road 6281	21212.00	Petersburg home range
1	Road 6282	21213.00	Petersburg home range
1	Roads 6245, 6286	21215.00	Petersburg home range
1	Road 6233	21218.00	Petersburg home range
1	Road 6224	21219.00	Petersburg home range
1	Road 6222	21220.00	Petersburg home range

Study Area	Rec Place Name	Rec. Place Number	Notes
1	Road 6221	21221.00	Petersburg home range
1	Road 6220	21222.00	Petersburg home range
1	Roads (several)	21224.00	Petersburg home range, PAOT not revised (large amount of local use, roads are easily accessible from Petersburg, reflects expectation of seeing other users).
1	Road 6235	21225.00	Petersburg home range
1	Road 6205	21235.00	Petersburg home range
1	Road 6206	21236.00	Petersburg home range
1	Road 6207	21237.00	Petersburg home range
1	Blind Slough L TF	21238.00	Petersburg home range
1	Road 6204	21239.00	Petersburg home range
2	Towers Arm	21039.00	PAOT reflects capacity of Towers Arm cabin
2	Castle River (upper)	21042.00	Petersburg home range
2	Castle River (mouth)	21042.01	Petersburg home range
2	Castle Islands (north)	21043.00	Petersburg home range. ROS coeff. raised to reflect "high" use at Castle Islands.
2	Castle Islands (south)	21043.01	Petersburg home range
2	Kah Sheets Bay	21045.00	Petersburg home range. ROS coeff. lowered to reflect the fact that there are no roads that are actually open in this area.
2	Kah Sheets Trail	21045.01	Petersburg home range
2	Kah Sheets Lake	21045.02	Petersburg home range. ROS coeff. raised to reflect the cabin use in this area.
2	Kah Sheets Bay (northeast)	21046.00	Petersburg home range. ROS coeff. raised to reflect high amount of boat traffic in this area.
2	Level Island	21067.00	Petersburg home range
2	Breiland Slough	21196.00	Petersburg home range. ROS coeff. raised to reflect cabin use and high boat traffic in this area.

Study Area	Rec Place Name	Rec. Place Number	Notes
2	Indian Point	21197.00	ROS coeff. raised to reflect large amount of boat traffic in this area.
4	Mitchell Slough	21047.00	Petersburg home range. ROS coeff. raised to reflect boat traffic and fishing use in this area.
4	Ohmer Slough	21054.01	Petersburg home range. ROS coeff. for RM lowered to reflect the fact that most of the use at Ohmer Slough is not associated with the road system.
4	Tonka Road System	21201.00	Petersburg home range, PAOT lowered to reflect the expectation of hunters and fishers to see few other users on this remote road system.
4	Ohmer Slough (north)	21202.00	Petersburg home range. ROS coeff. raised to reflect nearby special use permit cabins.
5	Alexander Cove	21002.00	Petersburg home range
5	Green Rocks	21049.00	Petersburg home range
5	Green Rocks Lake and Trail	21049.01	Petersburg home range. ROS coeff. raised to reflect relative easy accessibility from Petersburg and nearby private land owners.
5	Green Rocks Lake Trail	21049.02	Petersburg home range. ROS coeff. raised to reflect relative easy accessibility from Petersburg and nearby private landowners.
5	Beecher Pass	21126.00	Petersburg home range, PAOT lowered to reflect a more realistic level of use.
5	Whiskey Pass	21127.00	Petersburg home range
5	Harvey Lake Trail Head	21128.00	Petersburg home range
5	Harvey Lake	21128.01	Petersburg home range. ROS coeff. raised to reflect use at Harvey Lake cabin.
6	Big Creek (upland)	21056.00	Kake home range. ROS coeff. raised to reflect the relatively high amount of use at this location.
6	Big Creek (shoreline)	21056.01	Kake home range. ROS coeff. raised to reflect the relatively high amount of use at this location.
6	Schooner Island Anchorage	21064.00	Kake home range
6	Turnabout Island	21070.00	Kake home range

Study Area	Rec Place Name	Rec. Place Number	Notes
6	Tongass Camp (shore)	21157.00	Kake home range. ROS coeff. raised to reflect the high amount of use at this location for an outfitter/guide base camp.
6	Tongass Camp (upland)	21157.01	Kake home range
7	Portage Mt. Loop Trail	21054.00	Petersburg home range
7	Portage Mt. Loop Trail	21054.04	Petersburg home range
7	Petersburg Lake and Trail	21054.05	Petersburg home range. ROS coeff. raised to reflect the relatively high amount of use expected due to the cabin at Petersburg Lake and from the Petersburg Lake Trail.
7	Petersburg Lake & Mt. Trail Head	21054.07	Petersburg home range
7	Lower Petersburg Lake Trail	21054.12	Petersburg home range. ROS coeff. raised due to the high use of the Petersburg Lake Trail and high volume of boat traffic.
7	Salt Chuck	21054.13	Petersburg home range
7	Petersburg Mt. Trail (lower)	21054.15	Petersburg home range. ROS coeff. raised to reflect the relative high amount of use on the trail, which is very close to Petersburg and the City of Kupreanof.
7	Petersburg Mt. Trail (upper)	21054.16	Petersburg home range. ROS coeff. raised to reflect the relative high amount of use on the trail, which is very close to Petersburg and the City of Kupreanof.
7	Portage Mt. Loop Trail	21207.00	Petersburg home range
7	Petersburg Mt. Trail (bottom section)	21240.00	Petersburg home range
8	Fivemile Creek and lower trail	21053.00	Petersburg home range. ROS coeff. raised due to the use of the Colp Lake Trail, which is close to Petersburg.
8	Colp Lake and upper trail	21053.01	Petersburg home range. ROS coeff. raised due to the use of the Colp Lake Trail, which is close to Petersburg.
8	Portage Bay (head)	21054.02	Petersburg home range
8	Portage Mt. Loop Trail	21054.14	Petersburg home range

Study Area	Rec Place Name	Rec. Place Number	Notes
8	Dry Cove	21055.00	
8	Todahl Anchorage	21077.00	Petersburg home range
8	Twelvemile Creek	21080.00	Petersburg home range
8	West Point Cabin	21147.00	ROS coeff. raised to reflect relative high use at the West Point cabin.
8	Portage Bay LTF	21148.00	
8	Sukoi Islands	21198.00	Petersburg home range. ROS coeff. raised to reflect the high volume of boat traffic in the area and the close proximity to Petersburg.
8	Portage Bay Road System	21199.00	Petersburg home range, PAOT lowered to reflect the expectation of hunters to see few other users on this remote road system.
8	Portage Mt. Loop Trail	21200.00	Petersburg home range
8	Portage Mt. Loop Trail	21200.01	Petersburg home range
8	Portage Mt. Loop Trail	21200.02	Petersburg home range
8	Portage Mt. Loop Trail	21200.03	Petersburg home range
8	Stop Island	21242.00	
9	Bohemia Lake	21050.01	Kake home range
9	Towers Lake	21051.00	
9	Big John Bay upland trail	21062.06	Kake home range
9	Seal Point	21063.00	Kake home range
9	Point Macartney	21069.00	Kake home range
9	Hamilton Trail	21135.00	Kake home range
9	Cathedral Falls Trail	21136.00	Kake home range

Study Area	Rec Place Name	Rec. Place Number	Notes
9	Irish Lakes	21155.01	Kake home range
9	Kake Road System	21204.00	Kake home range, PAOT lowered to reflect the expectation of subsistence users to see few other users on a road system accessible from a small community.
9	Kake Road System	21204.01	Kake home range
9	Kake Road System	21204.02	Kake home range
9	Lakes 4 mi. north of Irish Lakes	21205.00	Kake home range
9	Lakes 4 mi. north of Irish Lakes	21205.01	Kake home range
9	Irish Lakes	21206.00	Kake home range
9	Goose Lake	21253.00	Kake home range
9	Goose Lake trailhead	21254.00	Kake home range
10	Totem Bay	21037.00	Point Baker, Port Protection home range
10	Little Totem Bay	21037.01	Point Baker and Port Protection home range, PAOT lowered to reflect a more realistic level of use for an area mostly used as an anchorage.
10	Totem Creek	21037.02	Point Baker, Port Protection home range
10	Totem Creek	21037.03	Point Baker, Port Protection home range
10	Kushneahin Creek	21038.00	Point Baker, Port Protection home range
10	Kushneahin Creek	21038.01	Point Baker, Port Protection home range
10	Douglas Bay	21065.00	PAOT lowered to reflect a more realistic level of use from camping, bear hunting, and use as an anchorage.
10	Moss Island Anchorage	21066.00	Point Baker, Port Protection home range
10	Agate Beach	21146.00	Point Baker, Port Protection home range
10	Rocky Pass (south)	21195.00	Point Baker, Port Protection home range



Study Area	Rec Place Name	Rec. Place Number	Notes
11	Bay of Pillars Shelter	21074.00	ROS coeff. raised due to use of the Bay of Pillars Forest Service shelter.
11	Kutiaku	21074.09	Kake home range. ROS raised to reflect visitor anticipation of a less primitive experience when using this area.
11	Kutiaku Lake	21074.10	Kake home range
11	Rowan Bay, south side anchorage	21075.00	
11	Rowan Bay (head)	21076.00	Kake home range. ROS coeff. raised to reflect visitor anticipation of a less primitive experience when using this area due to relatively high use in this bay.
11	Bay of Pillars Outside	21144.00	
11	Bay of Pillars Anchorage	21145.00	
12A	Halleck Harbor (south)	21090.00	Kake home range
12A	Halleck Harbor (north)	21090.01	Kake home range
12A	Halleck Harbor, cove SE	21090.02	Kake home range
12A	Saginaw Bay (head)	21092.00	Kake home range
12A	Security Bay (head)	21094.00	Kake home range
12A	Washington Bay	21095.00	
12A	Washington Bay, 1 mile south	21187.00	
12A	Washington Bay, 4 miles north	21188.00	
12A	Security Bay (east side)	21189.01	Kake home range
12A	Security Bay (east side)	21189.02	Kake home range
12A	Security Bay (west side)	21190.00	Kake home range

Study Area	Rec Place Name	Rec. Place Number	Notes
12A	Security Bay (outside)	21191.00	Kake home range
12B	Bay of Pillars Portage	21074.03	Kake home range
12B	Threemile Arm (head)	21074.06	Kake home range
12B	Port Camden (head west)	21074.08	Kake home range
12B	Kadake Creek	21081.02	Kake home range. ROS coeff. lowered to reflect expectations of users to see few other users in this relatively large and remote area.
12B	Ledge Lake	21093.01	Kake home range
12B	Cool Lake/Ledge Lake	21093.02	Kake home range
12B	Hillar	21121.00	Kake home range
12B	Port Camden (south)	21137.00	Kake home range
12B	Kuiu Island Road System	21192.00	Kake home range, PAOT lowered to reflect the expectation of hunters and fishers to see few other users on this remote road system.
13	Piledriver Cove	21072.00	PAOT modified to reflect actual use of a campsite in this recreation place by outfitters/guides.
13	Alecks Creek and Lake	21073.01	
13	Explorer Basin	21100.00	PAOT modified to reflect actual use of a campsite in this recreation place by outfitters/guides.
13	Gedney Harbor	21101.00	
13	Port Malmesbury (north shore)	21102.00	
13	Bear Harbor	21106.00	
13	Port Beauclerc (west side)	21109.00	

Study Area	Rec Place Name	Rec. Place Number	Notes
13	Petrof/Affleck portage trail	21117.00	
13	Head of Port Beaulerc	21119.00	
13	Shelter Cove	21142.00	
13	Lisa Point	21160.00	
13	Orel Anchorage	21161.00	
13	Port Beaulerc (east side)	21180.00	PAOT modified to reflect actual use of a campsite in this recreation place by outfitters/guides.
13	Edwards Island	21181.00	
13	Port Beaulerc (south)	21182.00	
13	Windfall Islands	21183.00	PAOT modified to reflect actual use of a campsite in this recreation place by outfitters/guides.
13	Long Island	21184.00	PAOT modified to reflect actual use of a campsite in this recreation place by outfitters/guides.
13	Happy Cove	21185.00	PAOT modified to reflect actual use of a campsite in this recreation place by outfitters/guides.
13	Troller Islands	21186.00	
14	Devil's Elbow	21036.00	Kake home range
14	Horseshoe Island	21060.00	Kake home range
14	Entrance Island	21061.00	Kake home range
14	Hamilton Bay	21062.02	Kake home range
14	Big John Bay	21062.05	Kake home range
14	Dakaneek Bay	21071.00	Kake home range
14	Port Camden Anchorage	21074.07	Kake home range

Study Area	Rec Place Name	Rec. Place Number	Notes
14	Kadake Bay	21081.01	Kake home range; PAOT reflects capacity of Kadake Bay Cabin.
14	Beach N. of Slippery Creek	21082.00	Kake home range
14	Anchorage S. of Slippery Cr.	21082.01	Kake home range
14	Slippery Creek	21086.00	Kake home range
14	Slippery Lake	21086.01	Kake home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
14	Gil Harbor	21088.00	Kake home range
14	Cornwallis Peninsula	21091.00	Kake home range
14	Crane Creek	21120.00	Kake home range
14	North Rocky Pass	21122.00	Kake home range
14	Hamilton Trail	21135.01	Kake home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area due to close proximity to the Kake road system.
14	Point Camden	21193.00	Kake home range
14	Point Hamilton	21194.00	Kake home range
14	Tunehean Creek	21251.00	Kake home range
14	Irish Creek	21252.00	Kake home range
15	Kell Bay (Central)	21097.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	Kell Bay (South Shore)	21098.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	Port McArthur/Howard Cove	21099.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.

Study Area	Rec Place Name	Rec. Place Number	Notes
15	Crowley Bight	21139.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	Kell Bay (North Arm)	21140.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	Pt. St. Albans	21153.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	3 miles north of Table Bay	21171.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	4 miles NE of Pt. St. Albans	21172.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	5 miles NE of Pt. St. Albans	21173.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	5.5 miles NE of Pt. St. Albans	21174.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	1 mile NW of Pt. Amelius	21175.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	1.5 miles NE of Pt. Amelius	21176.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
15	Table Bay	21177.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
16	No Name Bay (head)	21073.00	Kake home range. ROS coeff. lowered to reflect visitor expectation of a more primitive experience when using this area (no open roads in the area).
16	Seclusion Harbor	21084.00	Point Baker, Port Protection home range
16	Reid Bay (southeast)	21111.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
16	Alvin Bay	21112.00	Point Baker and Port Protection home range. PAOT lowered to reflect a more realistic level of use for an area used mostly for camping and as an anchorage.
16	No Name Bay (south)	21113.00	Kake home range. ROS coeff. lowered to reflect visitor expectation of a more primitive experience when using this area (no open roads in the area).

Study Area	Rec Place Name	Rec. Place Number	Notes
16	No Name Bay	21113.01	Kake home range
16	Reid Bay	21115.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
16	Reid Bay (south)	21152.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
16	Sumner Island	21158.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
16	Strait Island	21159.00	Point Baker, Port Protection home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
21	Wood Point	21017.00	Petersburg home range
21	Brown Cove and Icy Cove	21018.00	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
21	Thomas Bay Roads	21243.00	Petersburg home range, PAOT lowered to reflect the expectation of users to see few others on this remote road system.
21	Muddy River Road	21244.00	Petersburg home range, PAOT lowered to reflect the expectation of users to see few others on this remote road system.
21	Muddy River	21245.00	Petersburg home range. ROS coeff. lowered to reflect visitor expectation of a more primitive experience when using this area than in a typical Roaded Modified area.
21	Patterson River Road, south	21246.00	Petersburg home range. ROS coeff. lowered to reflect visitor expectation of a more primitive experience when using this area than in a typical Roaded Modified area.
21	Patterson Lake	21247.00	Petersburg home range
21	Patterson River Road, north	21248.00	Petersburg home range. ROS coeff. lowered to reflect visitor expectation of a more primitive experience when using this area than in a typical Roaded Modified area.
21	Point Agassiz Road	21249.00	Petersburg home range
21	Patterson River	21250.00	Petersburg home range. ROS coeff. lowered to reflect visitor expectation of a more primitive experience when using this area than in a typical Roaded Modified area.

Study Area	Rec Place Name	Rec. Place Number	Notes
22	Cascade Creek Cabin and Trail	21019.00	Petersburg home range
22	Upper Cascade Trail and Falls Lk	21019.01	Petersburg home range
22	Swan Lake	21019.02	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness, and with access from the Swan Lake cabin.
22	Scenery Cove	21021.00	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
22	Scenery Creek	21021.01	Petersburg home range
22	Scenery Creek	21021.02	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness.
22	Spurt Lake	21021.03	Petersburg home range
22	DeBoer Lake	21023.00	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, located outside of Wilderness. PAOT reflects capacity of DeBoer Lake Cabin.
22	Baird Glacier (terminus)	21132.00	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
22	Spurt Cove Cabin	21133.00	Petersburg home range. ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, which includes the Spurt Cove cabin.
22	Dry Bay	21156.00	
23	Farragut Bay, North Arm	21029.00	
23	Farragut River	21030.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, which is adjacent to private land, with the land owners living nearby.
23	Francis Anchorage	21034.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, which is adjacent to private land, with the land owners living nearby.
23	Cat Creek	21124.00	
23	Farragut Bay (east flats)	21130.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, which is adjacent to private land, with the land owners living nearby.

Study Area	Rec Place Name	Rec. Place Number	Notes
23	Farragut Bay (north flats)	21131.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area, which is adjacent to private land, with the land owners living nearby.
23	Cape Fanshaw	21151.00	ROS coeff. raised to reflect visitor expectation of a less primitive experience when using this area.
23	Tangent Peak (shore)	21154.00	
24	Farragut/Glory Lakes	21026.00	
24	Patterson Glacier (Temsko site 1)	21208.00	
24	Patterson Glacier (Temsko site 2)	21255.00	
24	Devils Thumb	21256.00	
24	Baird Glacier	21257.00	



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- USDA Forest Service. 1986. 1986 ROS Book, unpublished report, Juneau.
- USDA Forest Service. 1997. *Stikine Area Outfitter and Guide Environmental Assessment*. USDA Forest Service, Tongass National Forest, Management Bulletin R10-MB-346, Stikine Area, AK.
- USDA Forest Service. 2006. *Authorized cabins and levels of use for commercial recreation service providers*. Letter from Petersburg District Deputy Ranger to Recreation Service Providers. December 20, 2006.
- USDA Forest Service. 2008. *Land and Resource Management Plan*. Tongass National Forest. R10-MB-603b. USDA Forest Service, Alaska Region, Juneau.



Fly fisherman and bear on Kuiu Island, Tongass National Forest, Petersburg Ranger District. Photograph by Emil Tucker

## **Part II**

### Existing Condition Narratives and Study Area Maps



View from Indian Point Camp, Tongass National Forest, Alaska. Photograph by Marina Whitacre.

**Existing Conditions**  
**Study Area 1**  
**Mitkof Island**

<b><u>Description</u></b>	
The Mitkof Island study area includes Mitkof Island. Frederick Sound is to the north and east, the Wrangell Narrows is to the west, and Sumner Strait is to the south. The 28 recreation places are the main features of this study area.	
<b>Communities</b>	The community of Petersburg is within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are many parcels of City of Petersburg, State of Alaska, and privately owned lands within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21003.00 December Cove</b>	46 acres. Includes a small cove ½ mile south of December Point and a special use permit cabin. ROS – Roaded Natural. Petersburg Home Range.
<b>21004.00 Blind Slough</b>	3,660 acres. Includes north and south Blind Slough, Blind River Rapids Trail, Trumpeter Swan Observatory, Blind Slough Picnic Area, Man-Made Hole Picnic Area, Ohmer Creek Interpretive Trail, Ohmer Creek Campground, and two special use permit cabins. An artificially maintained king salmon run occurs at Blind Slough. ROS – Roaded Natural. Petersburg Home Range.
<b>21004.02 South Blind Slough</b>	209 acres. Includes the southwest portion of south Blind Slough. ROS – Roaded Modified. Petersburg Home Range.
<b>21006.01 Snake Ridge</b>	136 acres. Includes the undeveloped access route to the Crystal Mountain alpine ridge. ROS – Roaded Modified. Petersburg Home Range.
<b>21006.02 Crystal Mt.</b>	1,346 acres. Includes Crystal Mountain and the undeveloped access route to this peak. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21007.01 3 Lakes Trail Head</b>	238 acres. Includes the trailheads to Sand, Hill, and Crane Lakes. ROS – Roaded Natural. Petersburg Home Range.
<b>21007.08 3 Lakes Recreation Area</b>	1,381 acres. Includes Sand, Hill, and Crane Lakes; and the Three Lakes Trail. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21007.09 Ideal Cove (northwest)</b>	403 acres. Includes a portion of beach along Frederick Sound and the Ideal Cove Trailhead. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21012.00 Twin Creek Recreation Area</b>	2,899 acres. Includes Roads 6209, 6210, and 6212. The Twin Creek Ski Area/Trails and the Twin Creek Shelter are in this recreation place. ROS – Roaded Modified. Petersburg Home Range.
<b>21012.01 Ravens Roost Cabin</b>	139 acres. Includes the Raven's Roost recreation cabin and a portion of the Raven Trail. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.

**Existing Conditions**  
**Study Area 1**  
**Mitkof Island**

<b>Recreation Places</b> <i>(continued)</i>	
<b>21209.00 Pt. Alexander (1 mile east)</b>	21 acres. Includes a small cove with gravel beach. ROS – Roaded Natural. Petersburg Home Range.
<b>21210.00 Road 6246</b>	270 acres. Includes the Snake Ridge Road. ROS – Roaded Modified. Petersburg Home Range.
<b>21211.00 Road 6280</b>	101 acres. Includes a spur road off of the Woodpecker Cove Road. ROS – Roaded Modified. Petersburg Home Range.
<b>21212.00 Road 6281</b>	244 acres. Includes a spur road off of the Woodpecker Cove Road. ROS – Roaded Modified. Petersburg Home Range.
<b>21213.00 Road 6282</b>	334 acres. Includes a spur road off of the Woodpecker Cove Road. ROS – Roaded Modified. Petersburg Home Range.
<b>21215.00 Roads 6245, 6286</b>	692 acres. Includes a portion of the Woodpecker Cove Road, a spur road, beach and an undeveloped campsite. ROS – Roaded Modified and Roaded Natural. Petersburg Home Range.
<b>21218.00 Road 6233</b>	9 acres. Includes a spur road north of the Mitkof Highway near Blind Slough. ROS – Roaded Modified. Petersburg Home Range.
<b>21219.00 Road 6224</b>	27 acres. Includes a spur road off of Mitkof Highway near south Blind Slough. ROS – Roaded Modified. Petersburg Home Range.
<b>21220.00 Road 6222</b>	57 acres. Includes a spur road off of south Mitkof Highway. ROS – Roaded Modified. Petersburg Home Range.
<b>21221.00 Road 6221</b>	135 acres. Includes a spur road off of south Mitkof Highway. ROS – Roaded Modified. Petersburg Home Range.
<b>21222.00 Road 6220</b>	57 acres. Includes a spur road off of south Mitkof Highway. ROS – Roaded Modified. Petersburg Home Range.
<b>21224.00 Roads (several)</b>	3,223 acres. Includes most of the Three Lakes Loop Road, Dry Straits Road, Froot Loop Road, a portion of the Frederick Road, and several additional spur roads. ROS – Roaded Modified and Roaded Natural. Petersburg Home Range.
<b>21225.00 Road 6235</b>	56 acres. Includes a portion of the Three Lakes Loop Road near Falls Creek. ROS – Roaded Modified. Petersburg Home Range.
<b>21235.00 Road 6205</b>	80 acres. Includes a spur road off of the Frederick Road. ROS – Roaded Modified. Petersburg Home Range.
<b>21236.00 Road 6206</b>	80 acres. Includes a spur road off of the Frederick Road near Cabin Creek. ROS – Roaded Modified. Petersburg Home Range.

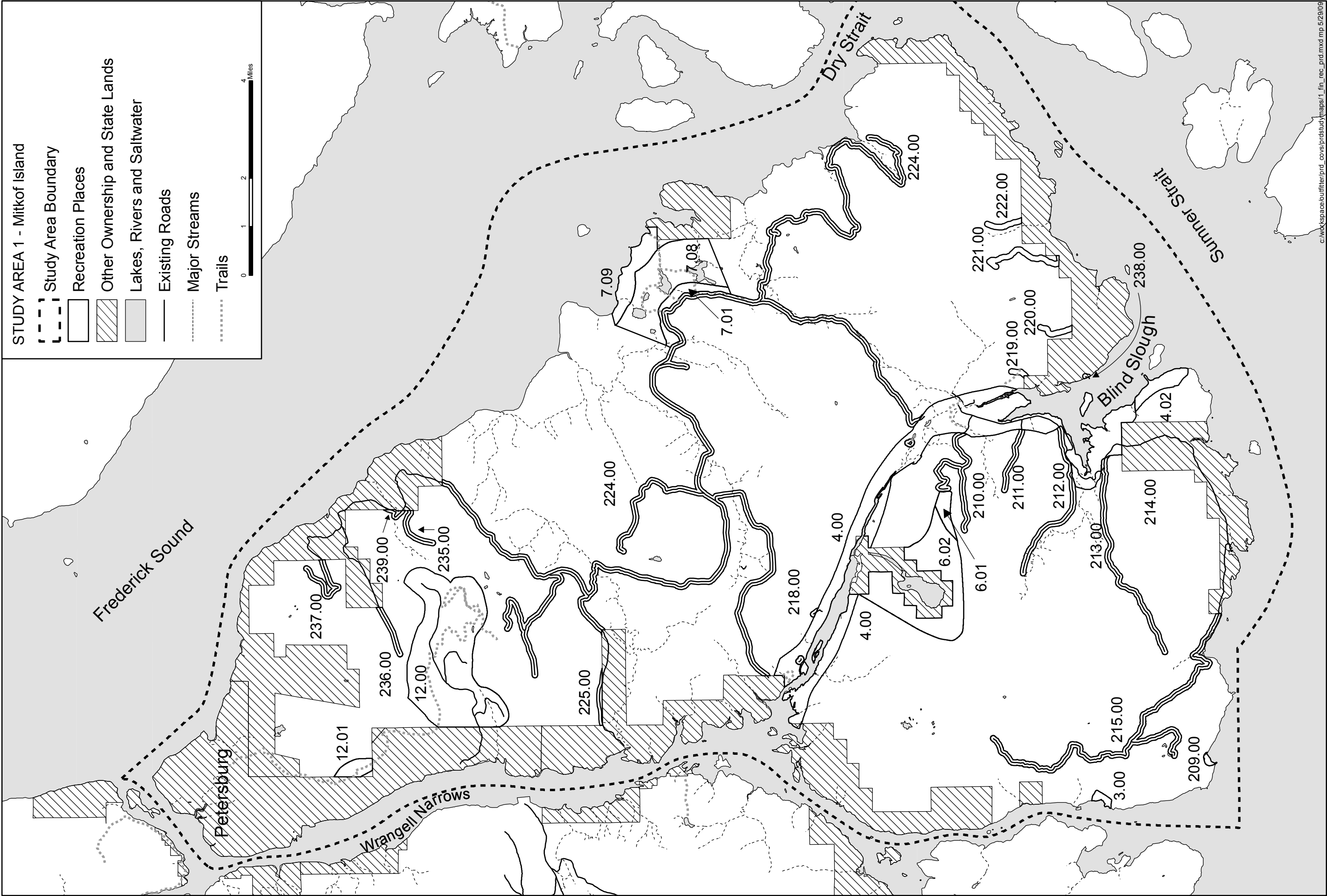
Existing Conditions  
Study Area 1  
Mitkof Island

Recreation Places (continued)				
21237.00 Road 6207	132 acres. Includes a spur road off of the Frederick Road. ROS – Roaded Modified. Petersburg Home Range.			
21238.00 Blind Slough LTF	7 acres. Includes the Blind Slough Log Transfer Facility and undeveloped boat ramp. ROS – Roaded Natural. Petersburg Home Range.			
21239.00 Road 6204	28 acres. Includes a small portion of the Frederick Road. ROS – Roaded Natural. Petersburg Home Range.			
Commercial Use	Sightseeing, hiking, swimming, picnicking, fishing, camping, black bear hunting.			
Non-commercial Use	Driving, sightseeing, firewood cutting, hunting (deer, moose, black bear, waterfowl, grouse), fishing, skiing, snowmobiling, hiking, swimming, picnicking, camping.			
Use Patterns	This study area receives use from Petersburg residents, and non-residents with transportation. All recreation places are within Petersburg’s Home Range.			
Concerns	Potential for crowding at Blind River Rapids during summer season due to high levels of use by local, non-resident, and guided users.			
Management/Resource Considerations				
Subsistence				
Wildlife				
Fisheries	Blind River Rapids (king salmon) and Big Creek (steelhead) are the second and forth most highly used systems by guided sport fishers on the district. Blind River Rapids averages 18 RVDs/year by outfitters and guides and Big Creek averages 8.38 RVDs/year.			
Botany/Invasive Plants				
Cultural	29 historic sites are documented within the study area.			
Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use				
2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
378	610	487	334	336
Refer to the following USGS maps for reference: Petersburg B3, C2, C3, D3.				



Kayaker near Troller Islands in Tebenkof Bay Wilderness. Photograph by Carin Christensen.





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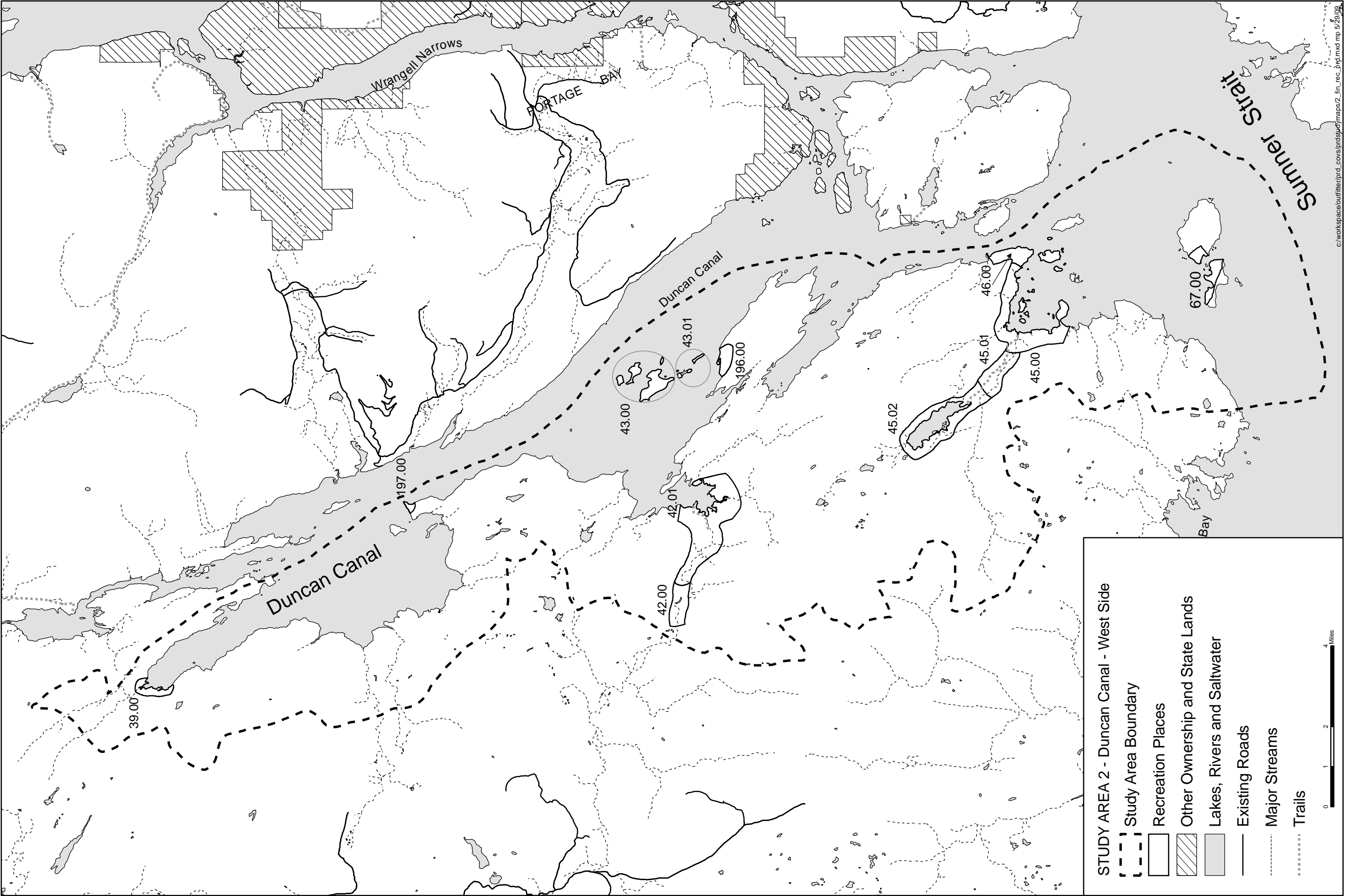
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**Existing Conditions**  
**Study Area 2**  
**Duncan Canal – West Side**

<b>Description</b>	
The Duncan Canal –West Side study area includes the western side of Duncan Canal, Kah Sheets Bay, and Level Island. Sumner Strait is to the southeast. The 12 recreation places are the main features of this study area.	
<b>Communities</b>	No communities are located within this study area.
<b>Non-National Forest System Lands</b>	
Two small parcels of privately owned land are located on the Castle Islands.	
<b>Recreation Use</b>	
<b>Recreation Places</b>	
<b>21039.00 Towers Arm</b>	136 acres. Includes the head of Towers Arm and the Forest Service recreation cabin. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21042.00 Castle River (upper)</b>	265 acres. Includes the upper reaches of Castle River. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21042.01 Castle River (mouth)</b>	1,248 acres. Includes the lower portion of Castle River, and the Castle Flats and Castle River Forest Service recreation cabins. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21043.00 Castle Islands (north)</b>	252 acres. Includes High Castle Island, Coverleaf Island, and Big Castle Island. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21043.01 Castle Islands (south)</b>	24 acres. Includes several small islands south of Big Castle Island. A portion of the islands are privately owned. ROS – Roaded Modified. Petersburg Home Range.
<b>21045.00 Kah Sheets Bay</b>	955 acres. Includes Kah Sheets Bay and Kah Sheets Bay Forest Service recreation cabin. ROS – Roaded Modified. Petersburg Home Range.
<b>21045.01 Kah Sheets Trail</b>	350 acres. Includes the middle portion of the Kah Sheets Lake Trail and Kah Sheets Creek. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21045.02 Kah Sheets Lake</b>	694 acres. Includes the upper portion of Kah Sheets Creek, the area around Kah Sheets Lake, and the Kah Sheets Lake Forest Service recreation cabin. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21046.00 Kah Sheets Bay (northeast)</b>	211 acres. Includes the northeast portion of Kah Sheets Bay. ROS – Semi-Primitive Motorized. Petersburg Home Range.

**Existing Conditions**  
**Study Area 2**  
**Duncan Canal – West Side**

<b>Recreation Places</b> <i>(continued)</i>				
<b>21067.00 Level Island</b>	205 acres. Includes a portion of Big and Little Level Islands. ROS – Roaded Modified. Petersburg Home Range.			
<b>21196.00 Breiland Slough</b>	132 acres. Includes the Breiland Slough Forest Service recreation cabin and the adjacent area. ROS – Semi-Primitive Motorized. Petersburg Home Range.			
<b>21197.00 Indian Point</b>	26 acres. Includes Indian Point in Duncan Canal. ROS – Semi-Primitive Motorized. Not within a Home Range.			
<b>Commercial Use</b>	Sightseeing, hiking, fishing, camping, black bear hunting.			
<b>Non-commercial Use</b>	Sightseeing, hunting (deer, moose, black bear, waterfowl), fishing, camping.			
<b>Use Patterns</b>	This study area receives use from Petersburg residents, and non-residents with transportation. Most of the recreation places are within Petersburg’s Home Range.			
<b>Concerns</b>	Potential for crowding at lower Kah Sheets Creek due to high levels of use by local, non-resident (boats provided by lodges), and guided users.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>	Kah Sheets Creek (sockeye salmon) is the most highly used system by guided sport fishers on the district (average of 21.47 RVDs/year). It is also the fourth most highly used creek for subsistence and personal use harvest of sockeye on the district (5 RVDs/year).			
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	2 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
79	118	73	43	20
Refer to the following USGS maps for reference: Petersburg B4, C4, D4, D5.				



Backside of map.

**Existing Conditions**  
**Study Area 4**  
**Duncan Canal – East Side**

<b><u>Description</u></b>	
The Duncan Canal –East Side study area includes the east side of Duncan Canal, a portion of south Lindenberg Peninsula, and the Tonka road system. The 4 recreation places are the main features of this study area.	
<b>Communities</b>	No communities are located in this study area.
<b><u>Non-National Forest System Lands</u></b>	
None	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21047.00 Mitchell Slough</b>	212 acres. Includes the south side of Mitchell Slough. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21054.01 Ohmer Slough</b>	497 acres. Includes Ohmer Slough and three special use permit cabins. ROS – Roaded Modified. Petersburg Home Range.
<b>21201.00 Tonka Road System</b>	3,536 acres. Includes the mainline and spur roads of the Tonka road system. ROS – Roaded Modified. Petersburg Home Range.
<b>21202.00 Ohmer Slough (north)</b>	142 acres. Includes the mouth of Duncan Creek. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>Commercial Use</b>	None
<b>Non-commercial Use</b>	Driving, ATV use, sightseeing, hunting (deer, moose, black bear, waterfowl), fishing, camping, trapping.
<b>Use Patterns</b>	This study area receives use primarily from Petersburg residents. All recreation places are within Petersburg's home range.
<b>Concerns</b>	None known.
<b><u>Management/Resource Considerations</u></b>	
<b>Subsistence</b>	
<b>Wildlife</b>	
<b>Fisheries</b>	
<b>Botany/Invasive Plants</b>	
<b>Cultural</b>	7 historic sites are documented within the study area.

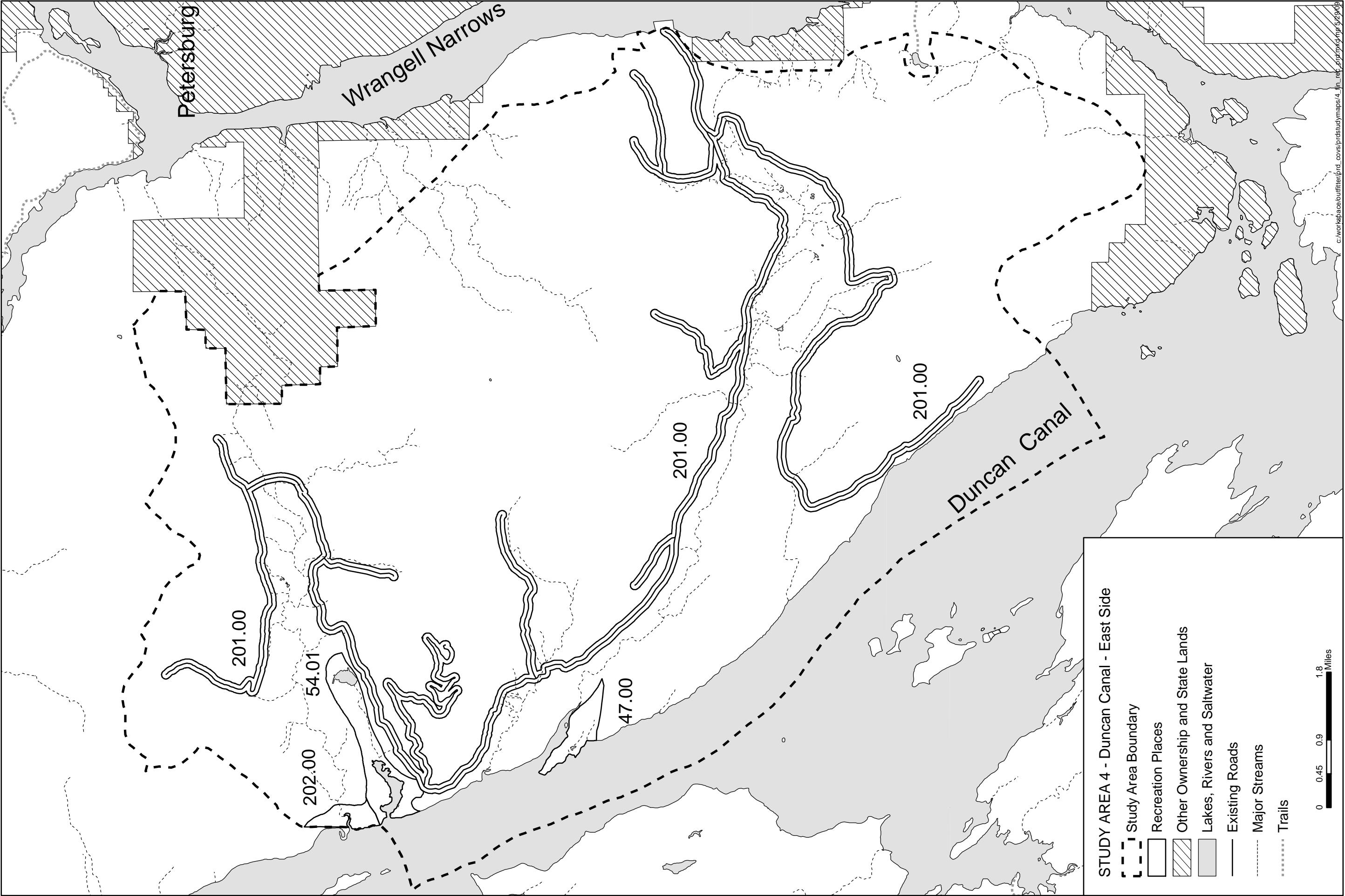
Existing Conditions  
Study Area 4  
Duncan Canal – East Side

<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual use</b>
0	0	0	0	0
Refer to the following USGS maps for reference: Petersburg C3, C4, D4.				



Deer-cabbage (*Fauria crista-galli*) in muskeg, Tongass National Forest. Photograph by Ashley Atkinson.





## Appendix A - Part II

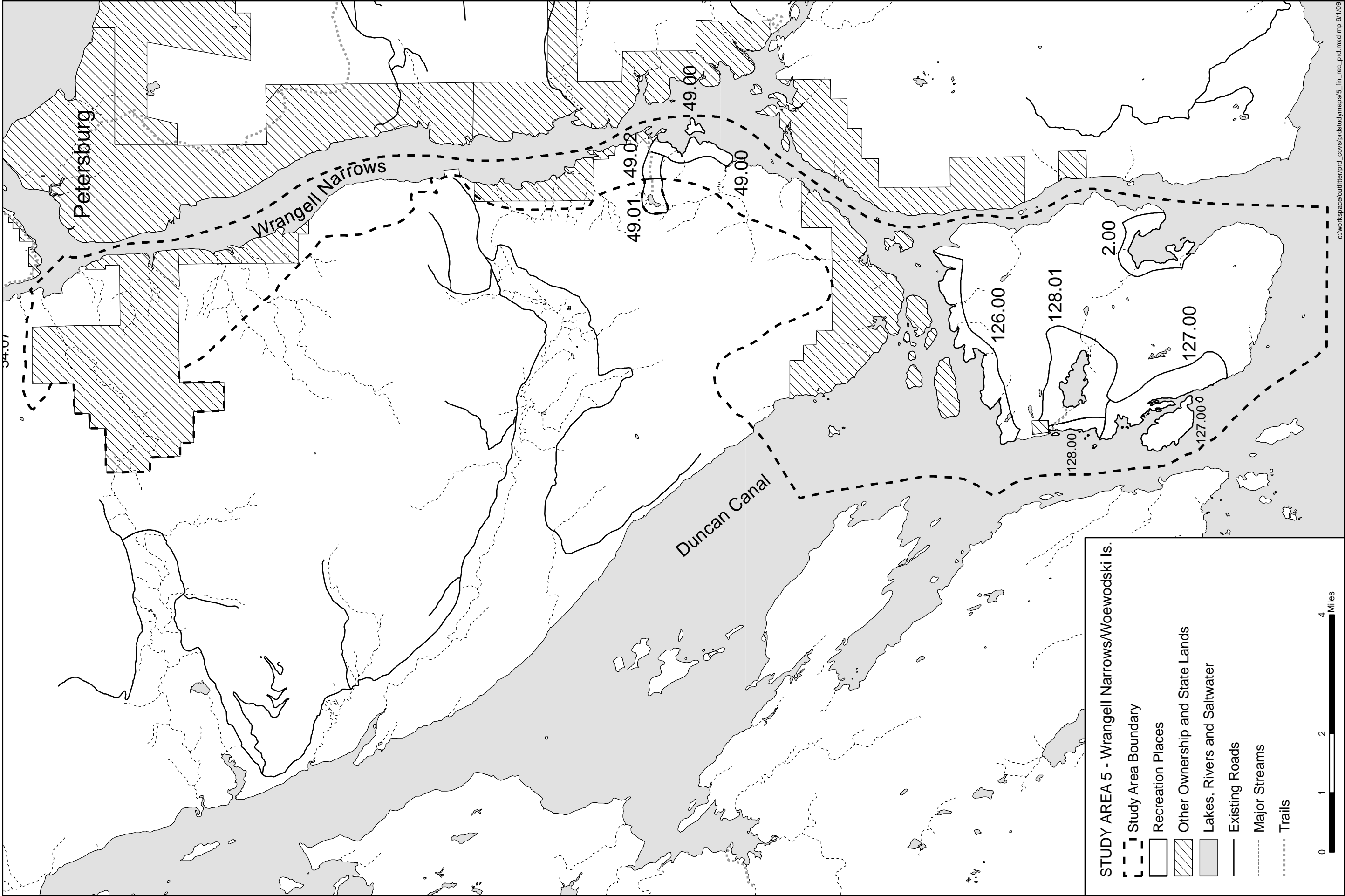
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**Existing Conditions**  
**Study Area 5**  
**Wrangell Narrows/Woewodski Island**

<b><u>Description</u></b>	
The Wrangell Narrows/Woewodski Island study area includes the west side of the Wrangell Narrows, Woewodski Island, and Butterworth Island. The 8 recreation places are the main features of this study area.	
<b>Communities</b>	The southern portion of the City of Kupreanof is located within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are several State and private parcels of land within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21002.00 Alexander Cove</b>	326 acres. Includes Alexander Cove on the east side of Woewodski Island. ROS – Roaded Natural. Petersburg Home Range.
<b>21049.00 Green Rocks</b>	240 acres. Includes the Wrangell Narrows shoreline south of the Green Rocks Lake trailhead. ROS – Roaded Natural. Petersburg Home Range.
<b>21049.01 Green Rocks Lake and Trail</b>	130 acres. Includes the western portion of the Green Rocks Lake Trail and Green Rocks Lake. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21049.02 Green Rocks Lake Trail</b>	80 acres. Includes the middle portion of the Green Rocks Lake Trail. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21126.00 Beecher Pass</b>	626 acres. Includes the north shore of Woewodski Island and a special use permit cabin. ROS – Roaded Natural. Petersburg Home Range.
<b>21127.00 Whiskey Pass</b>	909 acres. Includes Butterworth Island and the Whiskey Pass area on Woewodski Island. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21128.00 Harvey Lake Trail Head</b>	109 acres. Includes the western shore of Woewodski Island adjacent to the Harvey Lake trailhead. ROS – Roaded Natural. Petersburg Home Range.
<b>21128.01 Harvey Lake</b>	830 acres. Includes the area around Harvey Lake and the Harvey Lake Forest Service recreation cabin. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>Commercial Use</b>	Hiking, sightseeing, camping.
<b>Non-commercial Use</b>	Hiking, sightseeing, camping, deer hunting, fishing.
<b>Use Patterns</b>	This study area receives use from Petersburg residents, and non-residents with transportation. All recreation places are within Petersburg's Home Range.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 5  
Wrangell Narrows/Woewodski Island

<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b> 15 historic sites are documented within the study area.				
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
58	42	7	50	0
Refer to the following USGS maps for reference: Petersburg C3, C4, D3, D4.				



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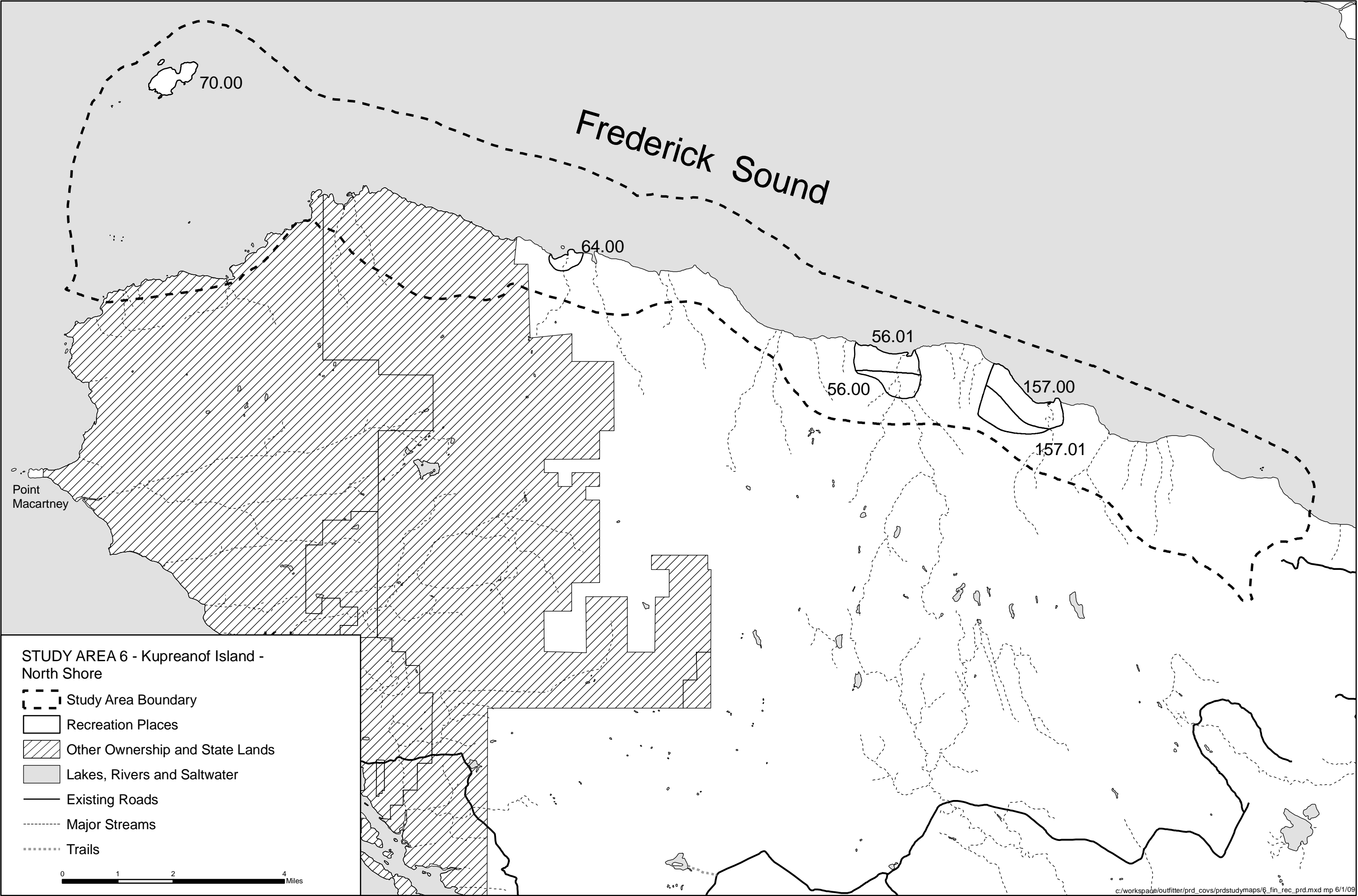
**Existing Conditions**  
**Study Area 6**  
**Kupreanof Island – North Shore**

<b><u>Description</u></b>	
The Kupreanof Island – North Shore study area includes the northwest shore of Kupreanof Island. The 6 recreation places are the main features of this study area.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
A large portion of the west side of this study area is owned by Sealaska Corporation and Kake Tribal Corporation.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21056.00 Big Creek (upland)</b>	209 acres. Includes the uplands adjacent to Big Creek. ROS – Semi-Primitive Non-Motorized. Kake Home Range.
<b>21056.01 Big Creek (shoreline)</b>	288 acres. Includes the shoreline adjacent to Big Creek. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21064.00 Schooner Island Anchorage</b>	90 acres. Includes the area just south of Schooner Island. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21070.00 Turnabout Island</b>	177 acres. Includes Turnabout Island in Frederick Sound. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21157.00 Tongass Camp (shore)</b>	433 acres. Includes Tongass Kayak Adventures' outfitter/guide base camp and the shoreline area adjacent to the camp. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21157.01 Tongass Camp (upland)</b>	281 acres. Includes the uplands adjacent to Tongass Kayak Adventures' outfitter/guide base camp. ROS – Semi-Primitive Non-Motorized. Kake Home Range.
<b>Commercial Use</b>	Hiking, sightseeing, camping, black bear hunting.
<b>Non-commercial Use</b>	Hiking, sightseeing, camping, black bear hunting, fishing.
<b>Use Patterns</b>	This study area receives use from Kake and Petersburg residents, and non-residents with transportation. All recreation places are within Kake's Home Range.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 6  
Kupreanof Island – North Shore

<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b> 1 historic site is documented within the study area.				
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
397	379	467	344	229
Refer to the following USGS maps for reference: Sumdum A5, A6; Sitka A1.				





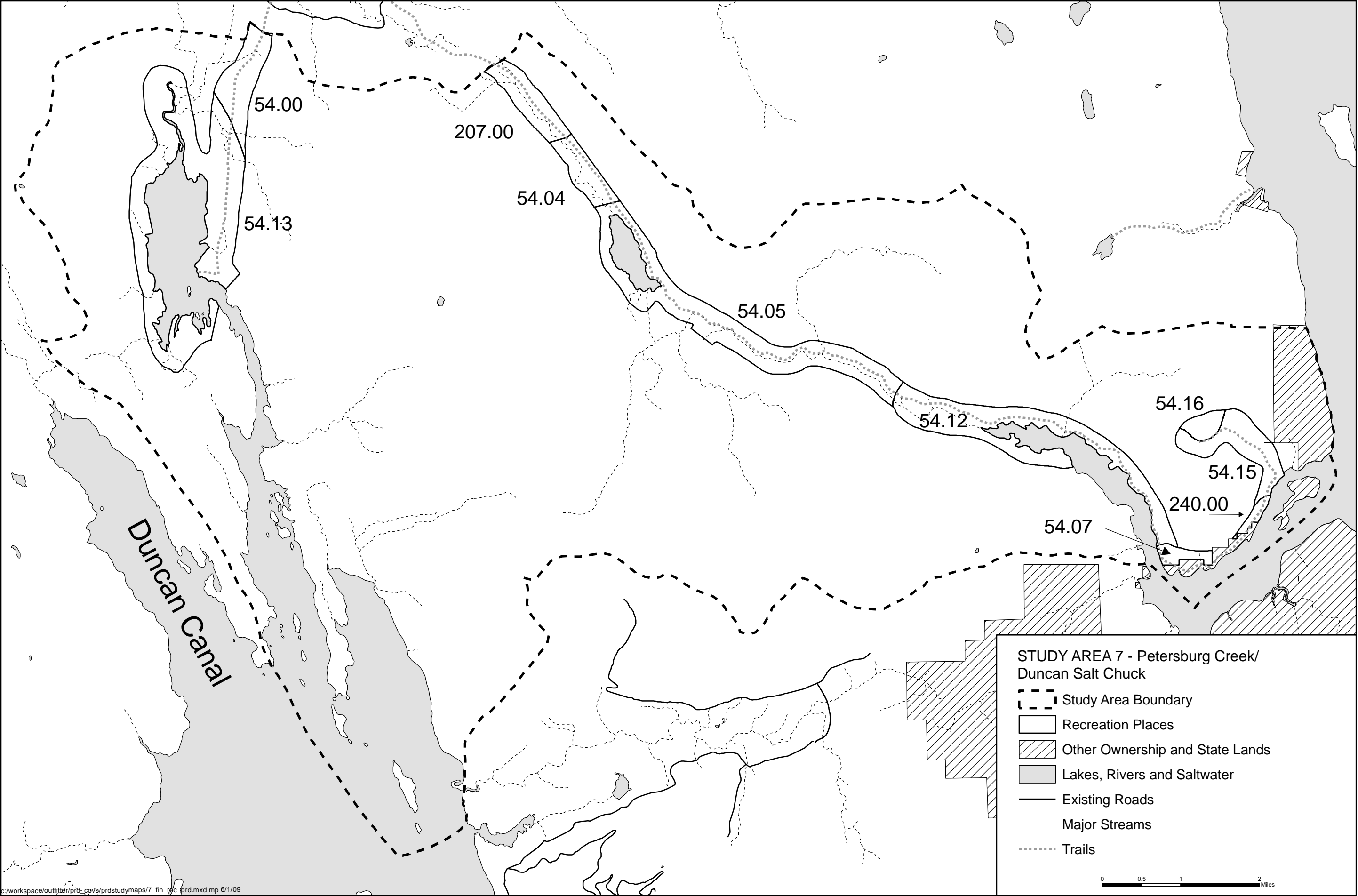
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**Existing Conditions**  
**Study Area 7**  
**Petersburg Creek/Duncan Salt Chuck**

<b><u>Description</u></b>	
The Petersburg Creek/Duncan Salt Chuck study area includes the Petersburg Creek/Duncan Salt Chuck Wilderness. The 10 recreation places are the main features of this study area.	
<b>Communities</b>	The City of Kupreanof is within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are State and privately owned parcels of land within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21054.00 Portage Mt. Loop Trail</b>	320 acres. Includes a portion of the Portage Mt. Loop Trail between Portage Bay and Salt Chuck. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21054.04 Portage Mt. Loop Trail</b>	202 acres. Includes a portion of the Portage Mt. Loop Trail between Petersburg Lake and Portage Bay. ROS – Primitive. Petersburg Home Range.
<b>21054.05 Petersburg Lake and Trail</b>	1,030 acres. Includes the area adjacent to Petersburg Lake, the Petersburg Lake Forest Service recreation cabin, and a portion of the Petersburg Lake Trail. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21054.07 Petersburg Lake &amp; Mt. Trail Head</b>	78 acres. Includes the trailheads for the Petersburg Lake Trail and the Petersburg Mt. Trail. ROS – Rural. Petersburg Home Range.
<b>21054.12 Lower Petersburg Lake Trail</b>	867 acres. Includes the lower portion of the Petersburg Lake Trail, the lower portion of Petersburg Creek, and four special use permit cabins. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21054.13 Salt Chuck</b>	1,553 acres. Includes Salt Chuck, a portion of the Portage Mt. Loop Trail, and the Salt Chuck East Forest Service recreation cabin. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21054.15 Petersburg Mt. Trail (lower)</b>	342 acres. Includes a portion of the Petersburg Mt. Trail. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21054.16 Petersburg Mt. Trail (upper)</b>	89 acres. Includes the upper portion of the Petersburg Mt. Trail. ROS – Primitive. Petersburg Home Range.
<b>21207.00 Portage Mt. Loop Trail</b>	261 acres. Includes a portion of the Portage Mt. Loop Trail between Petersburg Lake and Portage Bay. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21240.00 Petersburg Mt. Trail (bottom section)</b>	44 acres. Includes bottom section of Petersburg Mountain Trail. ROS – Rural. Petersburg Home Range.

Existing Conditions  
Study Area 7  
Petersburg Creek/Duncan Salt Chuck

<b><u>Recreation Use</u></b> <i>(continued)</i>				
<b>Commercial Use</b>	Fishing, hiking, sightseeing, black bear hunting.			
<b>Non-commercial Use</b>	Hiking, sightseeing, camping, hunting, (black bear, deer, waterfowl), fishing.			
<b>Use Patterns</b>	This study area receives use from Petersburg residents, and non-residents with transportation. All recreation places are within Petersburg’s Home Range.			
<b>Concerns</b>	Large amount of fishing use at Petersburg Creek in the spring by local and guided users. Use of the Forest Service trails by large numbers of guided users adjacent to private property within the City of Kupreanof.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>	Petersburg Creek (trout/char, steelhead and sockeye) is the third most highly used system by guided sport fishers on the district (average of 9.56 RVDs/year).			
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	5 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
309	339	179	150	164
Refer to the following USGS maps for reference: Petersburg D3, D4, D5.				



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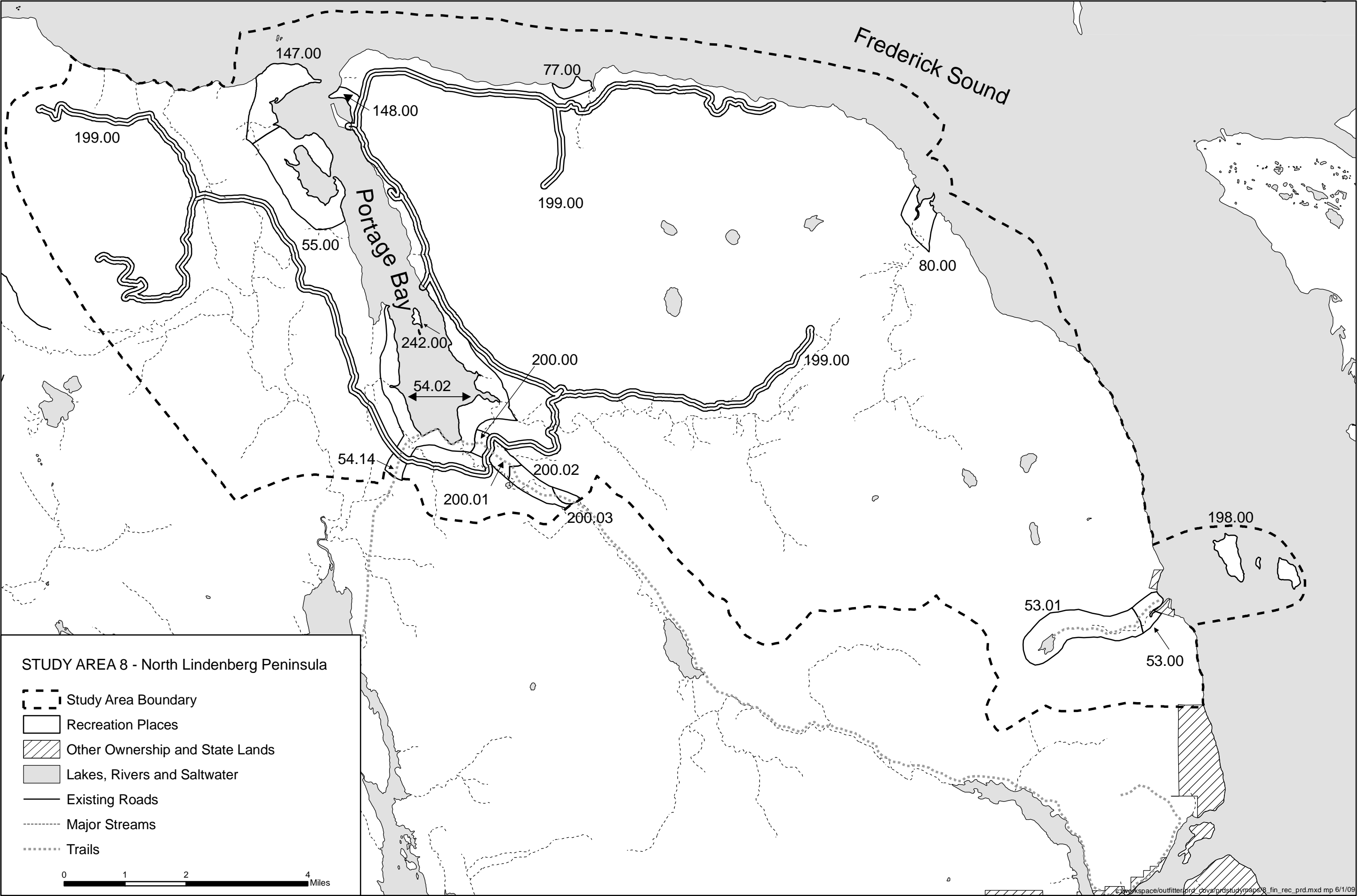
**Existing Conditions**  
**Study Area 8**  
**North Lindenberg Peninsula**

<b><u>Description</u></b>	
The North Lindenberg Peninsula study area is to the south and west of Frederick Sound and includes Portage Bay. The Petersburg Creek/Duncan Salt Chuck Wilderness is to the south of this study area. The 16 recreation places are the main features of this study area.	
<b>Communities</b>	There are no communities in this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are two private parcels of land near the mouth of Fivemile Creek within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21053.00 Five mile Creek and lower trail</b>	116 acres. Includes the mouth of Fivemile Creek and the lower portion of the Colp Lake Trail. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21053.01 Colp Lake and upper trail</b>	609 acres. Includes Colp Lake and the upper portion of the Colp Lake Trail. ROS – Primitive. Petersburg Home Range.
<b>21054.02 Portage Bay (head)</b>	1,016 acres. Includes the shoreline at the head of Portage Bay and the Portage Bay Forest Service recreation cabin. ROS – Roaded Modified. Petersburg Home Range.
<b>21054.14 Portage Mt. Loop Trail</b>	56 acres. Includes a small portion of the Portage Mt. Loop Trail between Portage Bay and Salt Chuck. ROS – Roaded Modified. Petersburg Home Range.
<b>21055.00 Dry Cove</b>	720 acres. Includes the area around Dry Cove on the northwest side of Portage Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21077.00 Todahl Anchorage</b>	78 acres. Includes the shoreline near the mouth of Todahl Creek on north Kupreanof Island. ROS – Roaded Modified. Petersburg Home Range.
<b>21080.00 Twelvemile Creek</b>	206 acres. Includes the area adjacent to the mouth of Twelvemile Creek. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21147.00 West Point Cabin</b>	430 acres. Includes the West Point Forest Service recreation cabin and the area on the northwest shore of Portage Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21148.00 Portage Bay LTF</b>	60 acres. Includes the shoreline north of the Portage Bay Log Transfer Facility. ROS – Roaded Modified. Not within a Home Range.
<b>21198.00 Sukoi Islands</b>	205 acres. Includes the three Sukoi Islands. ROS - Semi-Primitive Motorized. Petersburg Home Range.

**Existing Conditions**  
**Study Area 8**  
**North Lindenberg Peninsula**

Recreation Places (continued)				
21199.00 Portage Bay Road System	2,914 acres. Includes the road system accessible from the Portage Bay Log Transfer Facility. ROS – Roaded Modified. Petersburg Home Range.			
21200.00 Portage Mt. Loop Trail	53 acres. Includes a small portion of the Portage Mt. Loop Trail near the head of Portage Bay. ROS – Roaded Modified. Petersburg Home Range.			
21200.01 Portage Mt. Loop Trail	96 acres. Includes a small portion of the Portage Mt. Loop Trail between Petersburg Lake and Portage Bay. ROS – Roaded Modified. Petersburg Home Range.			
21200.02 Portage Mt. Loop Trail	173 acres. Includes a small portion of the Portage Mt. Loop Trail between Petersburg Lake and Portage Bay. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.			
21200.03 Portage Mt. Loop Trail	41 acres. Includes a small portion of the Portage Mt. Loop Trail between Petersburg Lake and Portage Bay. ROS – Roaded Modified. Petersburg Home Range.			
21242.00 Stop Island	18 acres. Includes Stop Island in Portage Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.			
Commercial Use	Fishing, camping, hiking, sightseeing, black bear and deer hunting.			
Non-commercial Use	Hiking, sightseeing, camping, hunting (black bear, deer, water fowl), fishing.			
Use Patterns	This study area receives use from Petersburg residents, and non-residents with transportation. Most of the recreation places are within Petersburg’s Home Range.			
Concerns	Black bear hunting guides have expressed concerns with “crowding” during hunting season.			
Management/Resource Considerations				
Subsistence				
Wildlife				
Fisheries	Twelvemile Creek is frequented by guided sport fishers (3.61 RVDs/year).			
Botany/Invasive Plants				
Cultural	31 historic sites are documented within the study area.			
Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use				
2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
167	178	355	167	170
Refer to the following USGS maps for reference: Petersburg D3, D4, Sumdum A4, A5.				





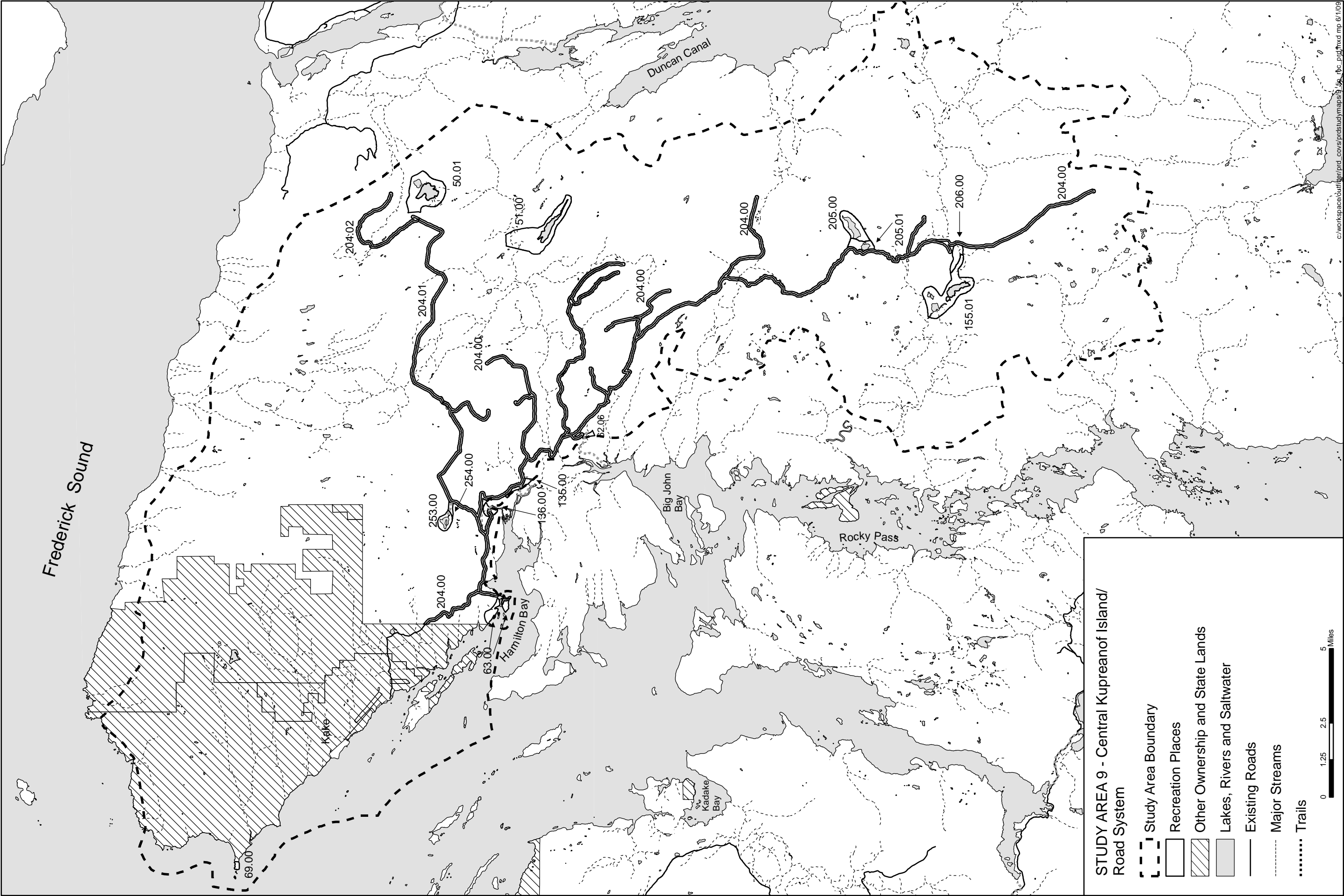
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**Existing Conditions**  
**Study Area 9**  
**Central Kupreanof Island/Road System**

<b><u>Description</u></b>	
This study area includes the interior portion of Kupreanof Island and the National Forest road system accessible from Kake. It does not include Lindenberg Peninsula. The 16 recreation places are the main features of this study area.	
<b>Communities</b>	The community of Kake is located within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are extensive portions of northwest Kupreanof Island within this study area that are owned by Sealaska Corporation and Kake Tribal Corporation. There are also many parcels of private land within this study area in the community of Kake.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21050.01 Bohemia Lake</b>	649 acres. Includes the area adjacent to Bohemia Lake. ROS – Semi-Primitive Non-Motorized. Kake Home Range.
<b>21051.00 Towers Lake</b>	845 acres. Includes the area adjacent to, and north of, Towers Lake. ROS – Semi-Primitive Non-Motorized. Not within a Home Range.
<b>21062.06 Big John Bay upland trail</b>	30 acres. Includes a portion of the Big John Bay Trail between the Kake road system and Big John Bay. ROS – Roaded Modified. Kake Home Range.
<b>21063.00 Seal Point</b>	182 acres. Includes Seal Point and the Little Hamilton Log Transfer Facility on the north side of Hamilton Bay. ROS – Roaded Modified. Kake Home Range.
<b>21069.00 Point Macartney</b>	27 acres. Includes Point Macartney. ROS – Roaded Modified. Kake Home Range.
<b>21135.00 Hamilton Trail</b>	64 acres. Includes a portion of the Hamilton Creek Trail. ROS – Roaded Modified. Kake Home Range.
<b>21136.00 Cathedral Falls Trail</b>	62 acres. Includes a portion of the Cathedral Falls Trail. ROS – Roaded Modified. Kake Home Range.
<b>21155.01 Irish Lakes</b>	750 acres. Includes the area around Irish Lakes. ROS – Semi-Primitive Non-Motorized. Kake Home Range.
<b>21204.00 Kake Road System</b>	5,039 acres. Includes a large portion of the Kake road system. ROS – Roaded Modified. Kake Home Range.
<b>21204.01 Kake Road System</b>	585 acres. Includes a portion of the Kake road system. ROS – Roaded Natural. Kake Home Range.

**Existing Conditions**  
**Study Area 9**  
**Central Kupreanof Island/Road System**

<b>21204.02 Kake Road System</b>	346 acres. Includes a portion of the Kake road system. ROS – Roaded Modified. Kake Home Range.			
<b>21205.00 Lakes 4 mi. north of Irish Lakes</b>	341 acres. Includes a lake 4 miles north of Irish Lakes near the Kake road system. ROS – Semi-Primitive Non-Motorized. Kake Home Range.			
<b>21205.01 Lakes 4 mi. north of Irish Lakes</b>	156 acres. Includes a lake 4 miles north of Irish Lakes near the Kake road system. ROS – Roaded Modified. Kake Home Range.			
<b>21206.00 Irish Lakes</b>	141 acres. Includes a portion of the area between the Kake road system and Irish Lakes. ROS – Roaded Modified. Kake Home Range.			
<b>21253.00 Goose Lake</b>	143 acres. Includes Goose Lake and a portion of the Goose Lake Trail. ROS – Semi-Primitive Non-Motorized. Kake Home Range.			
<b>21254.00 Goose Lake trailhead</b>	34 acres. Includes a portion of the Goose Lake Trail. ROS – Roaded Modified. Kake Home Range.			
<b>Commercial Use</b>	Camping.			
<b>Non-commercial Use</b>	Hiking, sightseeing, camping, hunting (black bear, deer, water fowl, moose), fishing, berry picking, firewood cutting.			
<b>Use Patterns</b>	This study area receives use primarily from Kake residents, with some use by non-residents with transportation. All but one recreation place are within Kake’s Home Range.			
<b>Concerns</b>	In the past Kake residents have expressed concerns that outfitter/guide fishing and hunting could negatively affect their subsistence use in the area.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	50 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
0	0	42	0	0
Refer to the following USGS maps for reference: Petersburg C4, C5, C6, D5, D6, Sumdum A5, A6, Sitka A1				



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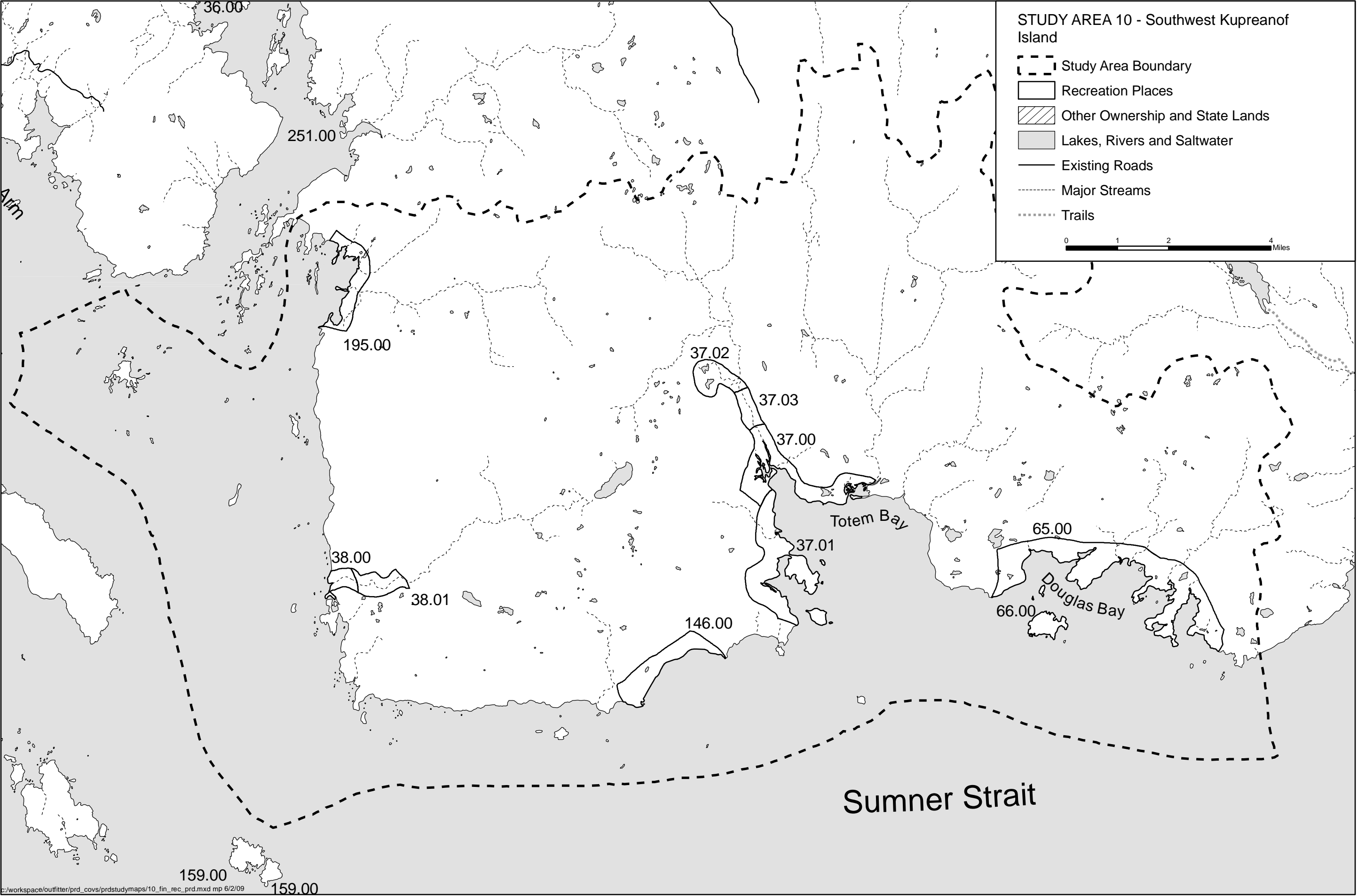
**Existing Conditions**  
**Study Area 10**  
**Southwest Kupreanof Island**

<b>Description</b>	
This study area includes the southwest portion of Kupreanof Island. Sumner Strait is the southern boundary of this study area. The 10 recreation places are the main features of this study area.	
<b>Communities</b>	There are no communities within this study area.
<b>Non-National Forest System Lands</b>	
There are no known non-National Forest lands within this study area.	
<b>Recreation Use</b>	
<b>Recreation Places</b>	
<b>21037.00 Totem Bay</b>	796 acres. Includes a portion of the north side of Totem Bay and the mouth of two creeks known locally as Totem Creek and Zim Creek. ROS – Semi-Primitive Motorized. Point Baker and Port Protection Home Range.
<b>21037.01 Little Totem Bay</b>	947 acres. Includes Little Totem Bay and the west shore of Totem Bay. ROS - Roaded Modified. Point Baker and Port Protection Home Range.
<b>21037.02 Totem Creek</b>	295 acres. Includes the upper portion of a creek known locally as Totem Creek. ROS – Primitive. Point Baker and Port Protection Home Range.
<b>21037.03 Totem Creek</b>	157 acres. Includes a portion of a creek known locally as Totem Creek. ROS – Semi-Primitive Non-Motorized. Point Baker and Port Protection Home Range.
<b>21038.00 Kushneahin Creek</b>	134 acres. Includes the lower portion of Kushneahin Creek. ROS – Roaded Modified. Point Baker and Port Protection Home Range.
<b>21038.01 Kushneahin Creek</b>	237 acres. Includes the upper portion of Kushneahin Creek. ROS – Semi-Primitive Non-Motorized. Point Baker and Port Protection Home Range.
<b>21065.00 Douglas Bay</b>	1,843 acres. Includes the shoreline of Douglas Bay. ROS – Roaded Modified. Not within a Home Range.
<b>21066.00 Moss Island Anchorage</b>	165 acres. Includes Moss Island, located just south of Douglas Bay. ROS – Roaded Modified. Point Baker and Port Protection Home Range.
<b>21146.00 Agate Beach</b>	519 acres. Includes a portion of the shoreline west of Totem Bay, known locally as Agate Beach. ROS - Roaded Modified. Point Baker and Port Protection Home Range.
<b>21195.00 Rocky Pass (south)</b>	373 acres. Includes the shoreline along Keku Strait at the mouth of Lovelace Creek. ROS – Semi-Primitive Motorized. Point Baker and Port Protection Home Range.
<b>Commercial Use</b>	Camping, black bear hunting, sightseeing.
<b>Non-commercial Use</b>	Camping, black bear and deer hunting, sightseeing, fishing.
<b>Use Patterns</b>	This study area receives use from the residents of Point Baker, Port Protection, Petersburg, and non-residents with transportation. All but one recreation place is within the Home Range of Point Baker and Port Protection.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 10  
Southwest Kupreanof Island

<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b> 46 historic sites are documented within the study area.				
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
176	619	318	407	395
Refer to the following USGS maps for reference: Petersburg B4, B5, B6, C4, C5, C6.				





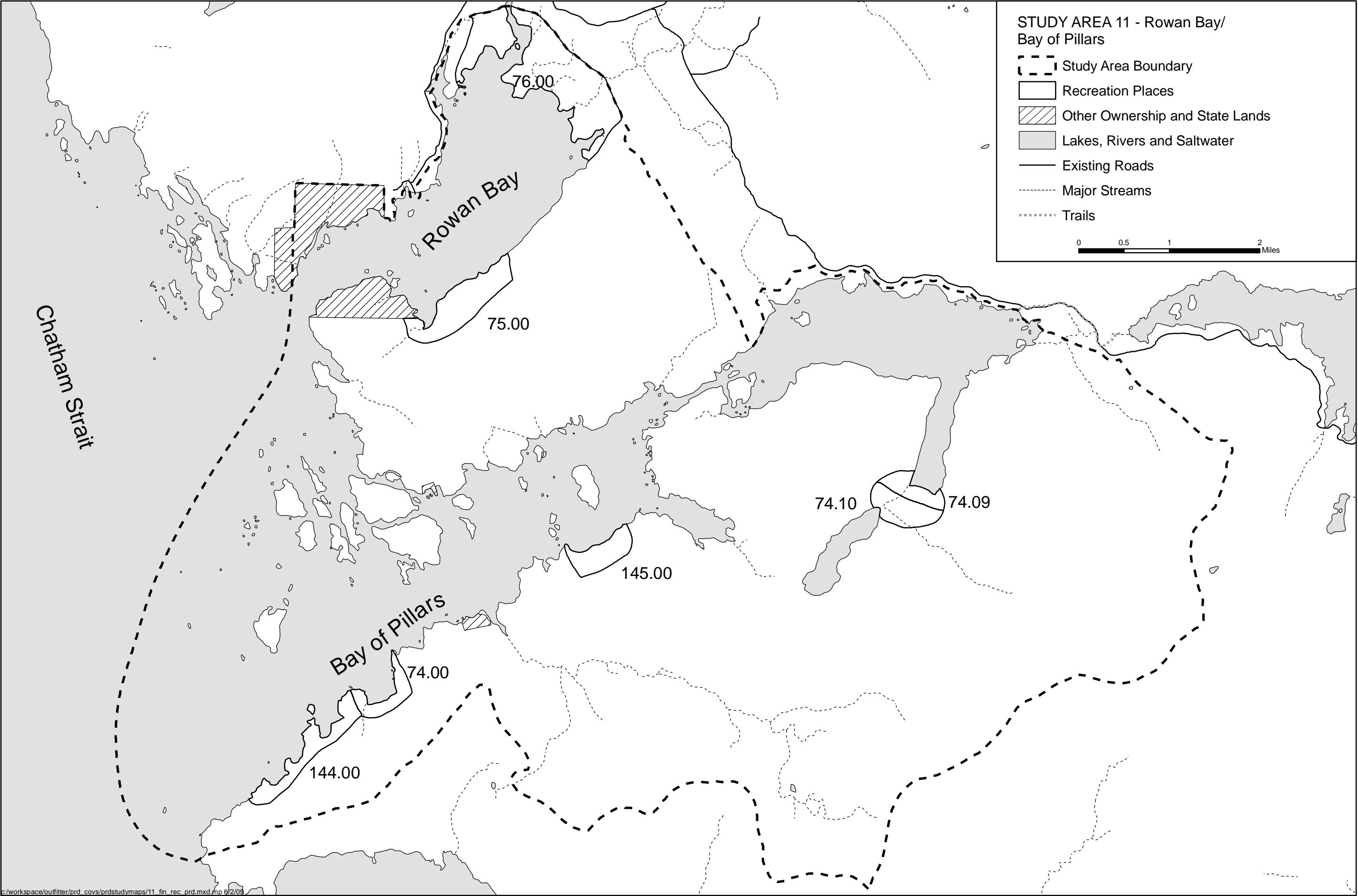
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**Existing Conditions**  
**Study Area 11**  
**Rowan Bay/Bay of Pillars**

<b>Description</b>	
This study area includes Rowan Bay and Bay of Pillars on the west side of Kuiu Island. Chatham Strait is the west boundary of the study area. The 7 recreation places are the main features of this study area.	
<b>Communities</b>	There are no communities within this study area.
<b>Non-National Forest System Lands</b>	
There is a large parcel of State land at Rowan Bay, a small parcel of private land on the south side of Bay of Pillars at an old abandoned cannery site, and a small parcel of Sealaska land on the north side of Bay of Pillars within this study area.	
<b>Recreation Use</b>	
<b>Recreation Places</b>	
<b>21074.00 Bay of Pillars Shelter</b>	97 acres. Includes the Forest Service recreation shelter at Bay of Pillars. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21074.09 Kutlaku</b>	90 acres. Includes the area around the mouth of Kutlaku Creek. ROS Semi-Primitive Motorized. Kake Home Range.
<b>21074.10 Kutlaku Lake</b>	138 acres. Includes the area around the outlet of Kutlaku Lake. ROS – Primitive. Kake Home Range.
<b>21075.00 Rowan Bay, south side anchorage</b>	264 acres. Includes a portion of the south shore of Rowan Bay. ROS – Roaded Modified. Not within a Home Range.
<b>21076.00 Rowan Bay (head)</b>	704 acres. Includes the head of Rowan Bay and the mouth of two creeks known locally as Brown’s Creek and Rowan Creek. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21144.00 Bay of Pillars Outside</b>	187 acres. Includes a portion of the southwest shore of Bay of Pillars. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21145.00 Bay of Pillars Anchorage</b>	128 acres. Includes a portion of the southeast shoreline of Bay of Pillars. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>Commercial Use</b>	Camping, hunting (black bear, deer, wolf), sightseeing, fishing.
<b>Non-commercial Use</b>	Camping, black bear and deer hunting, sightseeing, fishing.
<b>Use Patterns</b>	This study area receives use from residents of Kake, and non-residents with transportation. Three recreation places are within the Home Range of Kake.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 11  
Rowan Bay/Bay of Pillars

<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>	Kutlaku Creek has the highest reported harvest of subsistence and personal use sockeye on the district (198 RVDs/year). It is also used by outfitters and guides (2.9 RVDs/year).			
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	29 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
108	174	147	117	120
Refer to the following USGS map for reference: Port Alexander C1.				



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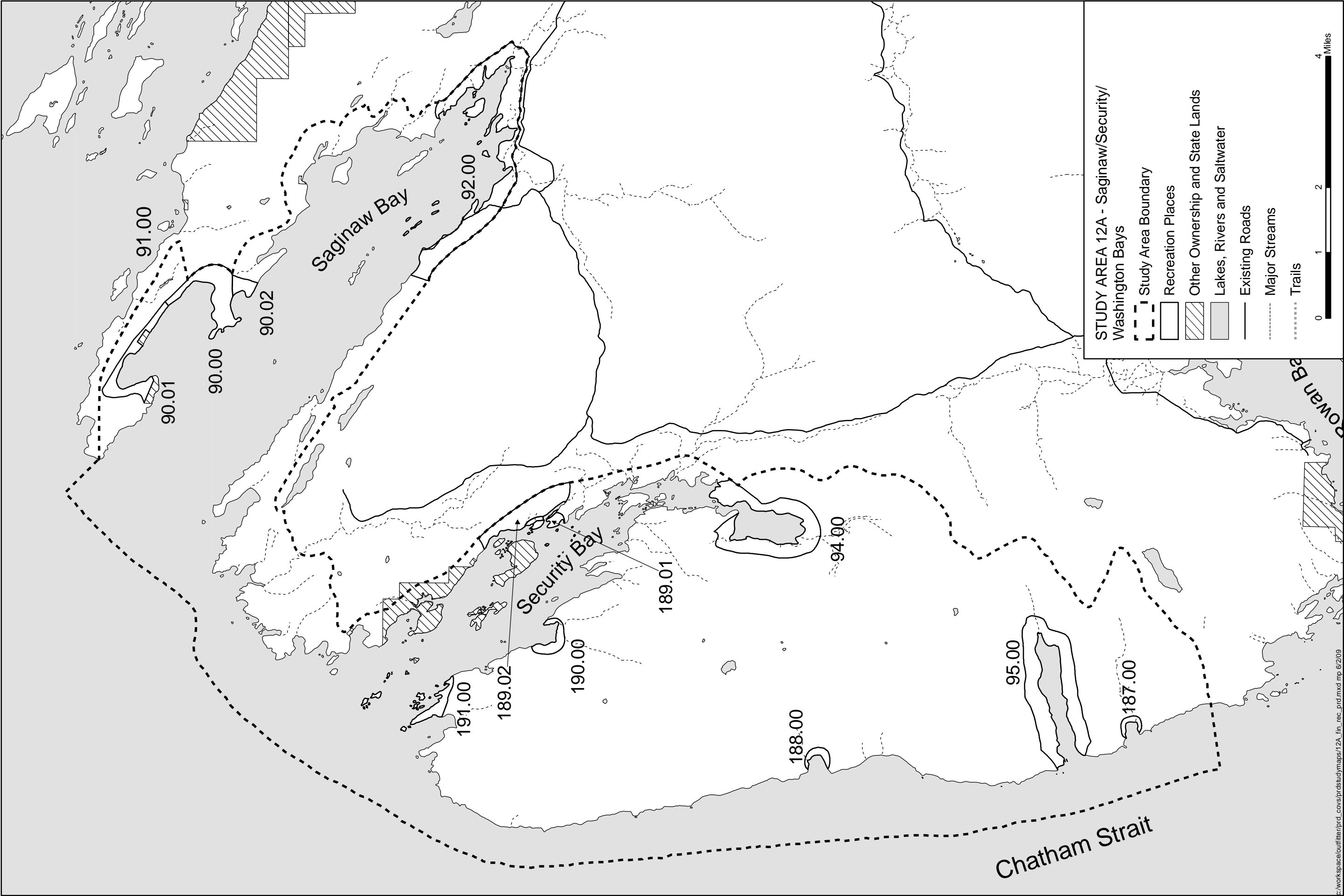
**Existing Conditions**  
**Study Area 12A**  
**Saginaw/Security/Washington Bays**

<b><u>Description</u></b>	
This study area is located on the northwest side of Kuiu Island. Chatham Strait is to the west and Frederick Sound is to the northwest. The main features of the study area are Saginaw, Security, and Washington Bays.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are large parcels of State of Alaska land, and some privately owned land at Security Bay. There are two small parcels of Sealaska land at Halleck Harbor in Saginaw Bay. There is a small parcel of land about ½ mile west of the old abandoned cannery site at Saginaw Bay that is administered by the Bureau of Land Management.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21090.00 Halleck Harbor (south)</b>	258 acres. Includes the southeast shore of Halleck Harbor. ROS – Roaded Modified. Kake Home Range.
<b>21090.01 Halleck Harbor (north)</b>	170 acres. Includes the north shore of Halleck Harbor. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21090.02 Halleck Harbor, Cove SE</b>	51 acres. Includes the east side of small cove just southeast of Halleck Harbor. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21092.00 Saginaw Bay (head)</b>	885 acres. Includes the shoreline at the head of Saginaw Bay. ROS – Roaded Modified. Kake Home Range.
<b>21094.00 Security Bay (head)</b>	523 acres. Includes the shoreline at the head of Security Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21095.00 Washington Bay</b>	645 acres. Includes the shoreline at Washington Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21187.00 Washington Bay, 1 mile south</b>	28 acres. Includes a small cove about one mile south of Washington Bay. Used as a campsite by guided kayakers. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21188.00 Washington Bay, 4 miles north</b>	38 acres. Includes a small cove about four miles north of Washington Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21189.01 Security Bay (east side)</b>	52 acres. Includes a portion of the shoreline on the east side of Security Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21189.02 Security Bay (east side)</b>	253 acres. Includes a portion of the shoreline on the east side of Security Bay. ROS – Roaded Modified. Kake Home Range.

**Existing Conditions**  
**Study Area 12A**  
**Saginaw/Security/Washington Bays**

Recreation Places (continued)				
21190.00 Security Bay (west side)	73 acres. Includes a portion of the shoreline on the west side of Security Bay. ROS - Semi-Primitive Motorized. Kake Home Range.			
21191.00 Security Bay (outside)	103 acres. Includes a portion of the shoreline near the entrance to Security Bay. ROS – Semi-Primitive Motorized. Kake Home Range.			
Commercial Use	Camping, hunting (black bear, deer, wolf), sightseeing, fishing.			
Non-commercial Use	Camping, hunting black bear and deer, sightseeing, fishing.			
Use Patterns	This study area receives use from the residents of Kake, and non-residents with transportation. Nine of the recreation places are within the Home Range of Kake.			
Concerns	Black bear hunting guides have expressed a concern with crowding during hunting season, primarily in Saginaw Bay.			
Management/Resource Considerations				
Subsistence				
Wildlife				
Fisheries	Security Creek receives subsistence and personal use harvest for coho (2.86 RVDs/year) and sockeye (2.86 RVDs/year) salmon.			
Botany/Invasive Plants				
Cultural	64 historic sites are documented within the study area.			
Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use				
2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
365	479	554	678	396
Refer to the following USGS maps for reference: Port Alexander C1, C2, D1, D2.				





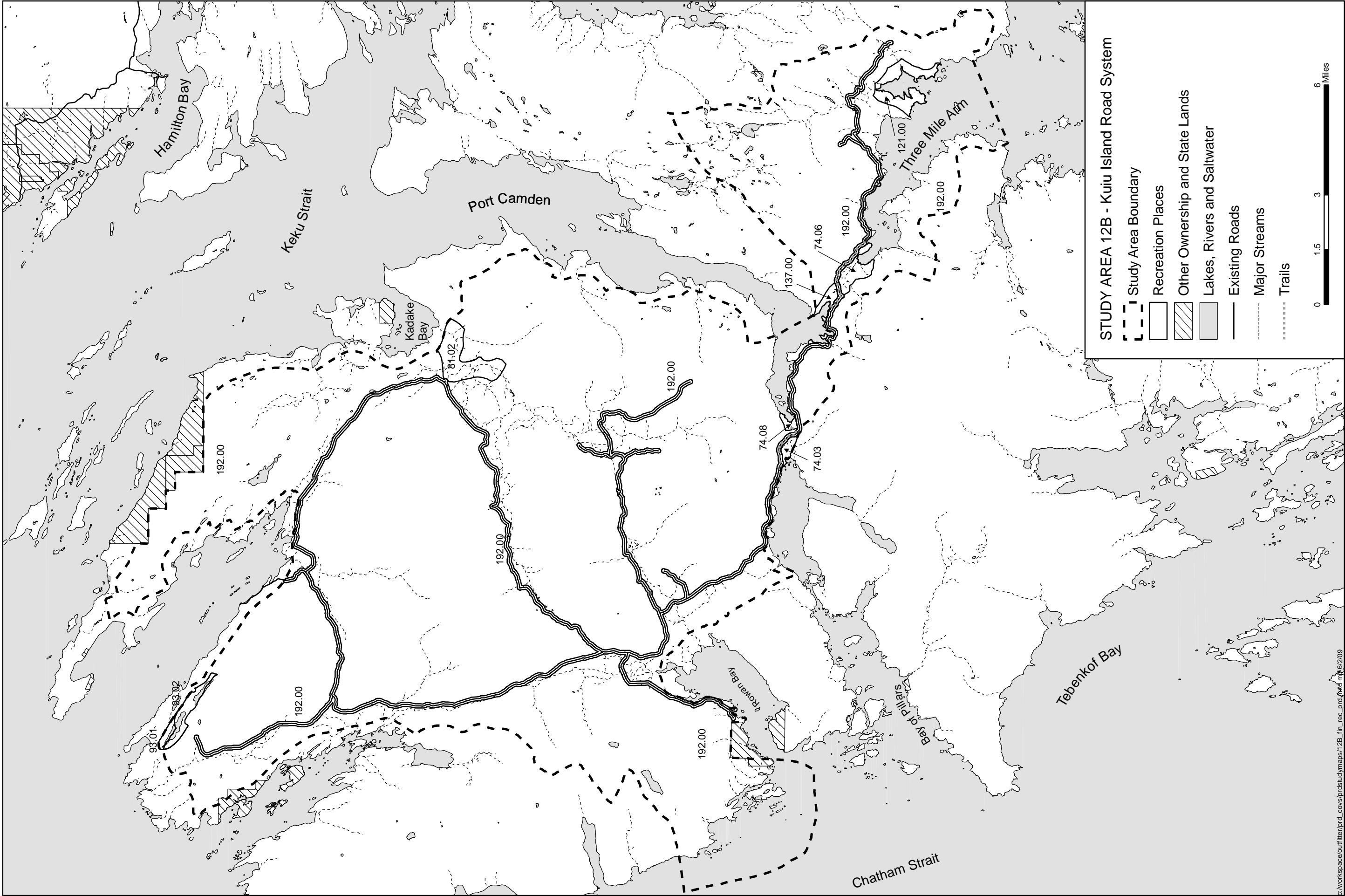
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**Existing Conditions**  
**Study Area 12B**  
**Kuiu Island Road System**

<b><u>Description</u></b>	
This study area is located on the north end of Kuiu Island. It includes the mainline and spur roads on Kuiu Island. The roads extend to Saginaw Bay, Security Bay, Rowan Bay, Bay of Pillars, Port Camden, and Three Mile Arm. The main features of the study area are the road system and eight other recreation places.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
A small portion of State-owned lands at Rowan Bay and Security Bay are within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21074.03 Bay of Pillars Portage</b>	113 acres. Includes the area adjacent to the head of the Bay of Pillars and a small portion of the kayak portage between Bay of Pillars and Port Camden. ROS – Roaded Natural. Kake Home Range.
<b>21074.06 Threemile Arm (head)</b>	350 acres. Includes the area at the head of Threemile Arm adjacent to Roads 6434 and 6478. ROS – Roaded Modified. Kake Home Range.
<b>21074.08 Port Camden (head west)</b>	85 acres. Includes the area at the head of Port Camden, and a small portion of the kayak portage between Port Camden and Bay of Pillars. ROS – Roaded Modified. Kake Home Range.
<b>21081.02 Kadake Creek</b>	925 acres. Includes the upper portion of Kadake Creek. ROS – Roaded Modified. Kake Home Range.
<b>21093.01 Ledge Lake</b>	107 acres. Includes a portion of Ledge Lake near Road 46251. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21093.02 Cool Lake/Ledge Lake</b>	371 acres. Includes Cool Lake and Ledge Lake near Road 46251. ROS – Roaded Modified. Kake Home Range.
<b>21121.00 Hillar</b>	645 acres. Includes the shoreline at the mouth of Hillar Creek at Threemile Arm. ROS – Roaded Modified. Kake Home Range.
<b>21137.00 Port Camden (south)</b>	172 acres. Includes a portion of the area at the south end of Port Camden. ROS – Roaded Modified. Kake Home Range.
<b>21192.00 Kuiu Island Road System</b>	5,622 acres. Includes the Kuiu Island road system, extending to Saginaw Bay, Security Bay, Rowan Bay, Bay of Pillars, Port Camden, and Three Mile Arm. ROS – Roaded Modified and Roaded Natural. Kake Home Range.
<b>Commercial Use</b>	Camping, hunting (black bear, wolf), sightseeing, fishing.
<b>Non-commercial Use</b>	Camping, hunting black bear, sightseeing, fishing.
<b>Use Patterns</b>	This study area receives use from the residents of Kake, and non-residents with transportation. All of the recreation places are within the Home Range of Kake.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 12B  
Kuiu Island Road System

<u>Management/Resource Considerations</u>				
Subsistence				
Wildlife				
Fisheries	Kadake Creek is popular for guided steelhead sport fishing (7.46RVDs/year). Saginaw Creek receives the third highest reported subsistence and personal use sockeye harvest on the district (11.86 RVDs/year).			
Botany/Invasive Plants				
Cultural	18 historic sites are documented within the study area.			
<u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u>				
2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
189	127	148	188	159
Refer to the following USGS maps for reference: Petersburg C6, D6, Port Alexander C1, C2, D1, D2.				



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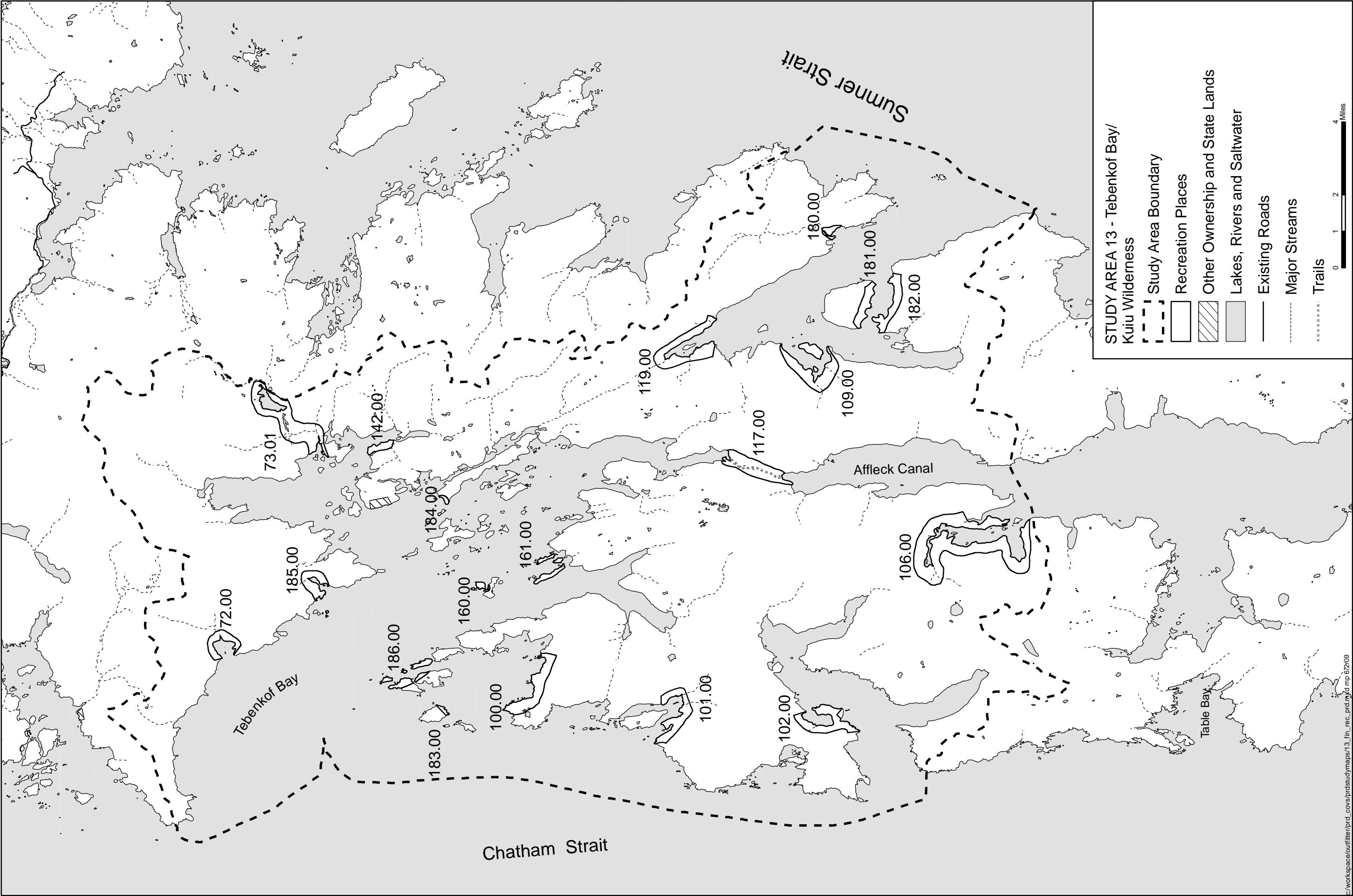
**Existing Conditions**  
**Study Area 13**  
**Tebenkof Bay/Kuiu Wilderness**

<b><u>Description</u></b>	
This study area is located on Kuiu Island and includes the Tebenkof Bay and Kuiu Wilderness Areas. The main features of the study area are Tebenkof Bay, Port Malmesbury, the northern portion of Affleck Canal, and Port Beauclerc. There are 19 recreation places within this study area.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
Sealaska Corporation owns one small parcel of land in Port Malmesbury, and five small parcels of land in Elena Bay.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21072.00 Piledriver Cove</b>	194 acres. Includes the shoreline around Piledriver Cove. Outfitter/guide kayak-touring campsite. Not within a Home Range.
<b>21073.01 Alecks Creek and Lake</b>	793 acres. Includes Alecks Creek and the area adjacent to Alecks Lake. ROS – Primitive. Not within a Home Range.
<b>21100.00 Explorer Basin</b>	415 acres. Includes a portion of the shoreline on the south end of Explorer Basin. An outfitter/guide kayak-touring campsite is within this recreation place. ROS – Primitive. Not within a Home Range.
<b>21101.00 Gedney Harbor</b>	355 acres. Includes the southern shoreline of Gedney Harbor. ROS – Primitive. Not within a Home Range.
<b>21102.00 Port Malmesbury (north shore)</b>	362 acres. Includes a portion of the shoreline on the north side of Port Malmesbury. ROS – Primitive. Not within a Home Range.
<b>21106.00 Bear Harbor</b>	1,609 acres. Includes Bear Harbor on the west side of Affleck Canal. ROS – Primitive. Not within a Home Range.
<b>21109.00 Port Beauclerc (west side)</b>	526 acres. Includes a portion of the shoreline on the west side of Port Beauclerc. ROS – Primitive. Not within a Home Range.
<b>21117.00 Petrof/Affleck portage</b>	446 acres. Includes the kayak portage trail between Petrof Bay and Affleck Canal. ROS – Primitive. Not within a Home Range.
<b>21119.00 Head of Port Beauclerc</b>	532 acres. Includes the shoreline at the north end of Port Beauclerc. ROS – Primitive. Not within a Home Range.
<b>21142.00 Shelter Cove</b>	87 acres. Includes a portion of the shoreline on the south end of Elena Bay. ROS – Primitive. Not within a Home Range.
<b>21160.00 Lisa Point</b>	35 acres. Includes a portion of three small islands at Lisa Point in Tebenkof Bay. ROS – Primitive. Not within a Home Range.

**Existing Conditions**  
**Study Area 13**  
**Tebenkof Bay/Kuiu Wilderness**

Recreation Places ( <i>continued</i> )				
<b>21161.00 Orel Anchorage</b>	112 acres. Includes three small islands at Orel Anchorage in Tebenkof Bay. ROS – Primitive. Not within a Home Range.			
<b>21180.00 Port Beauclerc (east side)</b>	60 acres. Includes the shoreline at an outfitter/guide kayak-touring campsite. ROS – Primitive. Not within a Home Range.			
<b>21181.00 Edwards Island</b>	185 acres. Includes the southern shoreline of Edwards Island in Port Beauclerc. ROS – Primitive. Not within a Home Range.			
<b>21182.00 Port Beauclerc (south)</b>	260 acres. Includes a portion of the shoreline on the south end of Port Beauclerc. ROS – Primitive. Not within a Home Range.			
<b>21183.00 Windfall Islands</b>	21 acres. Includes the south end of the largest Windfall Island. A kayak-touring campsite is located in this recreation place. ROS – Primitive. Not within a Home Range.			
<b>21184.00 Long Island</b>	19 acres. Includes an outfitter/guide campsite on the north end of an island in Tebenkof Bay know locally as Long Island. ROS – Primitive. Not within a Home Range.			
<b>21185.00 Happy Cove</b>	221 acres. Includes Happy Cove and small islands to the west. This recreation place is used as a campsite and is located on the north end of Tebenkof Bay. ROS – Primitive. Not within a Home Range.			
<b>21186.00 Troller Islands</b>	160 acres. Includes a portion of the Troller Islands in Tebenkof Bay. ROS – Primitive. Not within a Home Range.			
<b>Commercial Use</b>	Camping, hunting (black bear, wolf), sightseeing, fishing.			
<b>Non-commercial Use</b>	Camping, hunting black bear, sightseeing, fishing.			
<b>Use Patterns</b>	This study area receives use from outlying communities and non-residents with transportation. None of the recreation places are within a Home Range.			
<b>Concerns</b>	None known.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>	Alecks Creek is frequented by guided sport fishers (4.74 RVDs/year). It is also receives the second highest reported use for personal and subsistence harvest of sockeye (74.4 RVDs).			
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	168 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
545	456	668	274	186
Refer to the following USGS maps for reference: Petersburg A6, B6, C6, Port Alexander A1, B1, C1.				





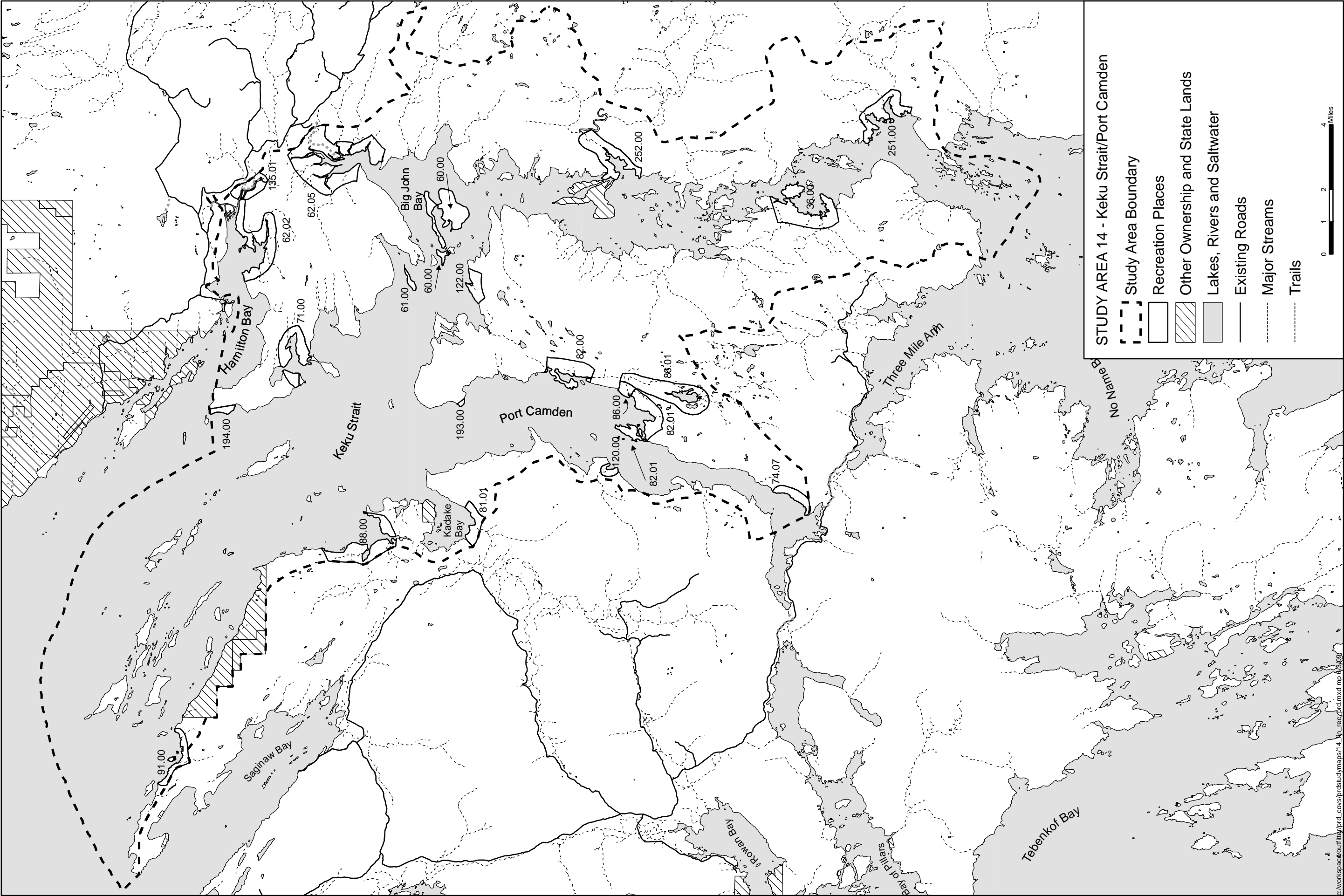
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**Existing Conditions**  
**Study Area 14**  
**Keku Strait/Port Camden**

<b><u>Description</u></b>	
This study area is located on northeast Kuiu Island and west Kupreanof Island. The main geographic features include Keku Strait, Port Camden, Hamilton Bay, Big John Bay, Rocky Pass, and Kadake Bay. There are 21 recreation places identified within this study area.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
The State owns High Island in Rocky Pass. A private individual owns a parcel of land on the north side of Kadake Bay. There are large parcels of land on north Kuiu Island owned by Sealaska Corporation and Kake Tribal Corporation. Sealaska Corporation owns several small parcels of land in the Keku Islands and Dakaneek Bay areas.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21036.00 Devil's Elbow</b>	856 acres. Includes the Devil's Elbow Forest Service recreation cabin and a portion of the shoreline on the west side of Rocky Pass on Kuiu Island. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21060.00 Horseshoe Island</b>	669 acres. Includes Horseshoe Island near Big John Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21061.00 Entrance Island</b>	51 acres. Includes Entrance Island near Big John Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21062.02 Hamilton Bay</b>	786 acres. Includes a portion of the southern shore of Hamilton Bay on Kupreanof Island. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21062.05 Big John Bay</b>	1,783 acres. Includes the head of Big John Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21071.00 Dakaneek Bay</b>	541 acres. Includes Dakaneek Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21074.07 Port Camden Anchorage</b>	210 acres. Includes a portion of the shoreline at the southeast end of Port Camden. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21081.01 Kadake Bay</b>	243 acres. Includes a portion of the shoreline on the south side of Kadake Bay and the Forest Service recreation cabin. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21082.00 Beach N. of Slippery Creek</b>	485 acres. Includes a portion of the shoreline on the east side of Port Camden. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21082.01 Anchorage S. of Slippery Cr.</b>	560 acres. Includes a portion of the shoreline south of Slippery Creek at Port Camden. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21086.00 Slippery Creek</b>	106 acres. Includes the mouth of Slippery Creek at Port Camden. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21086.01 Slippery Lake</b>	894 acres. Includes the upper portion of Slippery Creek and the area around Slippery Lake. ROS – Primitive. Kake Home Range.

**Existing Conditions**  
**Study Area 14**  
**Keku Strait/Port Camden**

Recreation Places ( <i>continued</i> )				
<b>21088.00 Gil Harbor</b>	691 acres. Includes the shoreline at Gil Harbor. ROS – Roaded Modified. Kake Home Range.			
<b>21091.00 Cornwallis Peninsula</b>	247 acres. Includes a portion of the shoreline southeast of Cornwallis Point on north Kuiu Island. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21120.00 Crane Creek</b>	85 acres. Includes the shoreline at the mouth of Crane Creek at Port Camden. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21122.00 North Rocky Pass</b>	216 acres. Includes a portion of the shoreline at the north end of Rocky Pass on Kuiu Island. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21135.01 Hamilton Trail</b>	300 acres. Includes the mouth of Hamilton Creek and a portion of the Hamilton Creek Trail. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21193.00 Point Camden</b>	18 acres. Includes a campsite used by outfitter/guide kayak tours, approximately one mile south of Point Camden. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21194.00 Point Hamilton</b>	89 acres. Includes a portion of the shoreline on the west side of Hamilton Bay. This recreation place includes a campsite used by outfitter/guide kayak tours. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21251.00 Tunehean Creek</b>	555 acres. Includes the shoreline at the mouth of Tunehean Creek. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>21252.00 Irish Creek</b>	624 acres. Includes the lower portion of Irish Creek and the shoreline at the mouth of the creek. ROS – Semi-Primitive Motorized. Kake Home Range.			
<b>Commercial Use</b>	Camping, hunting (black bear, deer), sightseeing, fishing.			
<b>Non-commercial Use</b>	Camping, hunting (black bear, deer, waterfowl), sightseeing, fishing.			
<b>Use Patterns</b>	This study area receives use from Kake residents and non-residents with transportation. All of the recreation places are within the Home Range of Kake.			
<b>Concerns</b>	In the past Kake residents have expressed a concern that outfitters/guides may interfere with residents’ recreation and subsistence activities.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	27 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
354	404	388	403	300
Refer to the following USGS maps for reference: Petersburg C5, C6, D5, D6, Port Alexander D1.				



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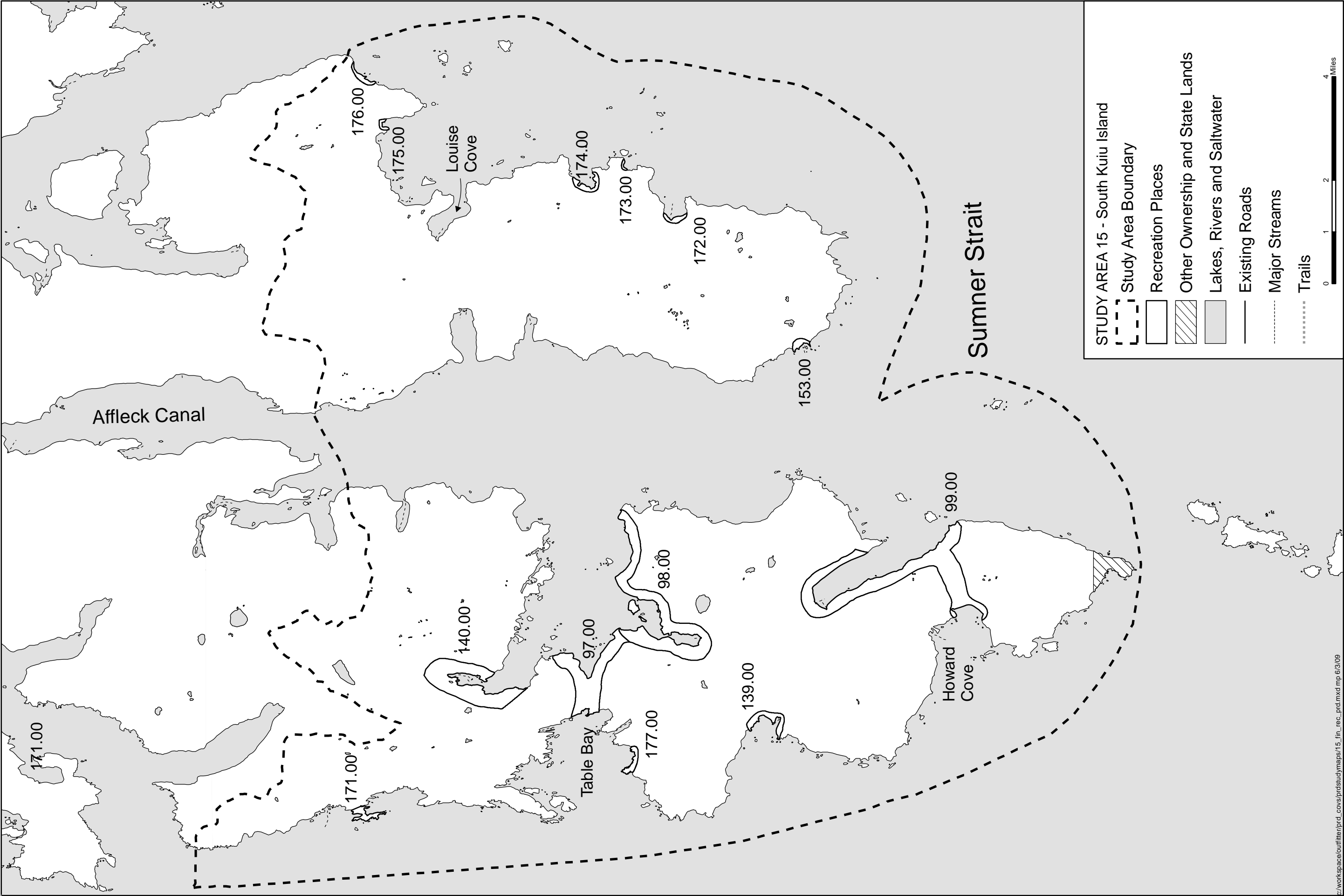
**Existing Conditions**  
**Study Area 15**  
**South Kuiu Island**

<b><u>Description</u></b>	
This study area is located on south end of Kuiu Island. Chatham Strait is to the west and Sumner Strait is to the east. There are 13 recreation places identified within this study area.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There is a 216 acre parcel of private land at the southern tip of Kuiu Island that includes the Cape Decision Lighthouse.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21097.00 Kell Bay (Central)</b>	462 acres. Includes a portion of the western shore of Kell Bay and extends to the shoreline at Table Bay. ROS – Primitive. Not within a Home Range.
<b>21098.00 Kell Bay (South Shore)</b>	767 acres. Includes the south shoreline of Kell Bay. ROS – Primitive. Not within a Home Range.
<b>21099.00 Port McArthur/Howard Cove</b>	963 acres. Includes the shoreline of Port McArthur and extends west to the shoreline of Howard Cove. ROS – Primitive. Not within a Home Range.
<b>21139.00 Crowley Bight</b>	82 acres. Includes the shoreline at Crowley Bight. ROS – Primitive. Not within a Home Range.
<b>21140.00 Kell Bay (North Arm)</b>	537 acres. Includes a portion of the shoreline of the north arm of Kell Bay. ROS – Primitive. Not within a Home Range.
<b>21153.00 Pt. St. Albans</b>	27 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Not within a Home Range.
<b>21171.00 3 miles north of Table Bay</b>	50 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Not within a Home Range.
<b>21172.00 4 miles NE of Pt. St. Albans</b>	26 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Not within a Home Range.
<b>21173.00 5 miles NE of Pt. St. Albans</b>	7 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Not within a Home Range.
<b>21174.00 5.5 miles NE of Pt. St. Albans</b>	46 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Not within a Home Range.
<b>21175.00 1 mile NW of Pt. Amelius</b>	13 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Point Baker/Port Protection Home Range.

Existing Conditions  
Study Area 15  
South Kuiu Island

<b>Recreation Places (<i>continued</i>)</b>				
<b>21176.00</b> <b>1.5 miles NE of Pt. Amelius</b>	30 acres. Includes an outfitter/guide campsite used by kayak tour groups. ROS – Primitive. Point Baker/Port Protection Home Range.			
<b>21177.00</b> <b>Table Bay</b>	39 acres. Includes an outfitter/guide campsite used by kayak tour groups on the south shoreline of Table Bay. ROS – Primitive. Not within a Home Range.			
<b>Commercial Use</b>	Camping, hunting (black bear, wolf), sightseeing.			
<b>Non-commercial Use</b>	Camping, hunting black bear, sightseeing.			
<b>Use Patterns</b>	This study area receives use from the residents of Point Baker and Port Protection and non-residents with transportation. Two of the recreation places are within the Home Range of Point Baker and Port Protection.			
<b>Concerns</b>	None known.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	4 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
178	396	162	208	416
Refer to the following USGS maps for reference: Petersburg A6, Port Alexander A1, B1.				





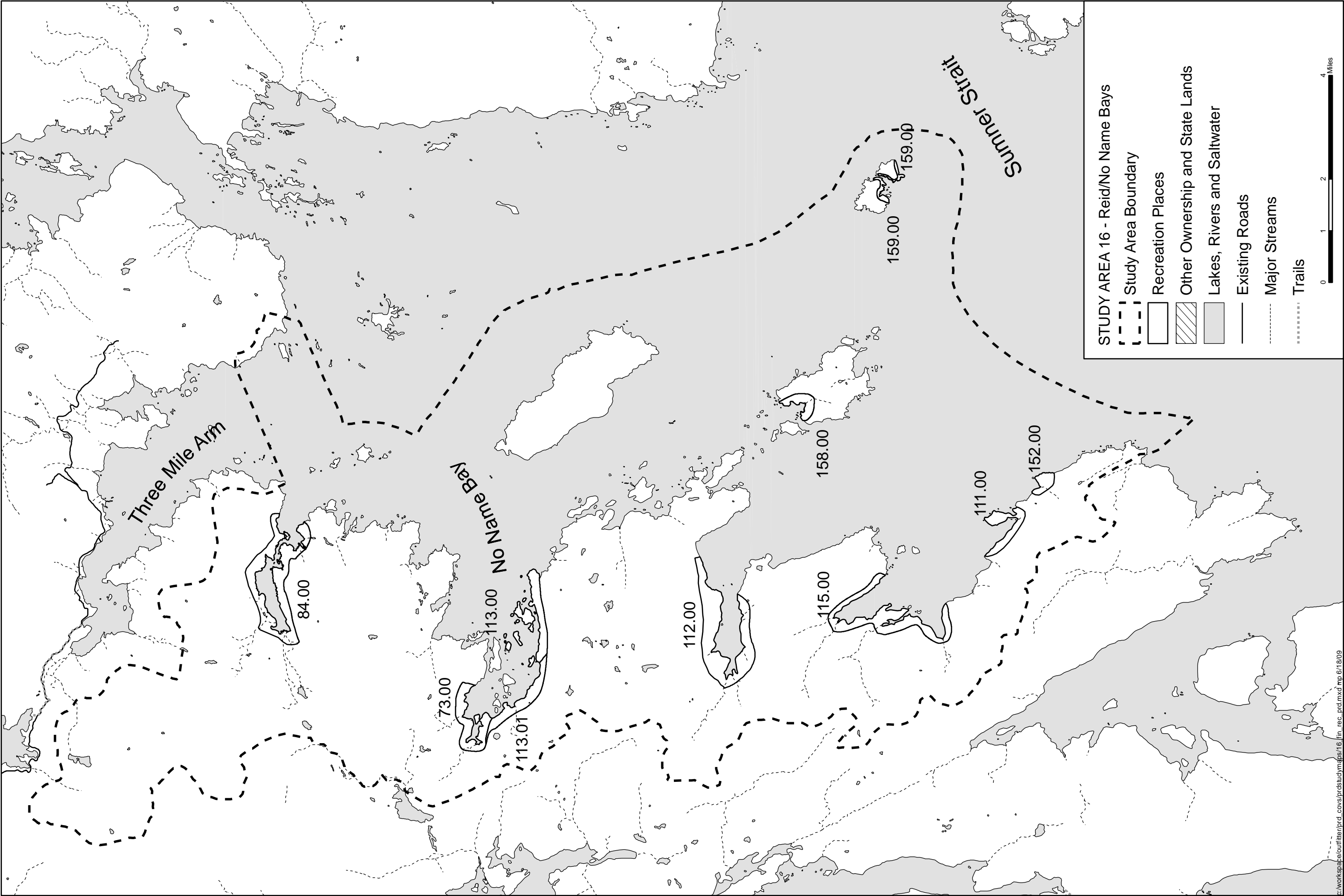
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**Existing Conditions**  
**Study Area 16**  
**Reid/No Name Bays**

<b><u>Description</u></b>	
This study area is located on the east side of Kuiu Island. Keku Strait is to the east and Sumner Strait is to the southeast. There are 10 recreation places identified within this study area.	
<b>Communities</b>	There are no communities within this study area.
<b><u>Non-National Forest System Lands</u></b>	
There is a 3 acre parcel of private land at Seclusion Harbor.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21073.00 No Name Bay (head)</b>	260 acres. Includes a portion of the northwest shore of No Name Bay. ROS – Roaded Modified. Kake Home Range.
<b>21084.00 Seclusion Harbor</b>	636 acres. Includes Seclusion Harbor and Salt Lagoon. ROS – Semi-Primitive Motorized. Point Baker and Port Protection Home Range.
<b>21111.00 Reid Bay (southeast)</b>	161 acres. Includes a portion of the shoreline on the south end of Reid Bay. ROS – Primitive. Point Baker and Port Protection Home Range.
<b>21112.00 Alvin Bay</b>	690 acres. Includes Alvin Bay. ROS – Roaded Modified. Point Baker and Port Protection Home Range.
<b>21113.00 No Name Bay (south)</b>	285 acres. Includes a portion of the shoreline on the south side of No Name Bay. ROS – Roaded Modified. Kake Home Range.
<b>21113.01 No Name Bay</b>	201 acres. Includes a portion of the shoreline on the southwest side of No Name Bay. ROS – Semi-Primitive Motorized. Kake Home Range.
<b>21115.00 Reid Bay</b>	476 acres. Includes the west shoreline of Reid Bay. ROS – Primitive. Point Baker and Port Protection Home Range.
<b>21152.00 Reid Bay (south)</b>	75 acres. Includes a portion of the shoreline south of Reid Bay. ROS – Primitive. Point Baker and Port Protection Home Range.
<b>21158.00 Sumner Island</b>	102 acres. Includes a portion of the north shore of Sumner Island. ROS – Semi-Primitive Motorized. Point Baker and Port Protection Home Range.
<b>21159.00 Strait Island</b>	55 acres. Includes a portion of the shoreline of Strait Island in Sumner Strait. ROS – Semi-Primitive Motorized. Point Baker and Port Protection Home Range.
<b>Commercial Use</b>	Camping, hunting black bear, sightseeing.
<b>Non-commercial Use</b>	Camping, hunting black bear, sightseeing.
<b>Use Patterns</b>	This study area receives use from the residents of Point Baker, Port Protection, Kake, and non-residents with transportation. All of the recreation places are within the Home Range of Point Baker/Port Protection, or Kake.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 16  
Reid/No Name Bays

<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b> 21 historic sites are documented within the study area.				
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
50	128	96	171	273
Refer to the following USGS maps for reference: Petersburg B6, C6, Port Alexander B1, C1.				



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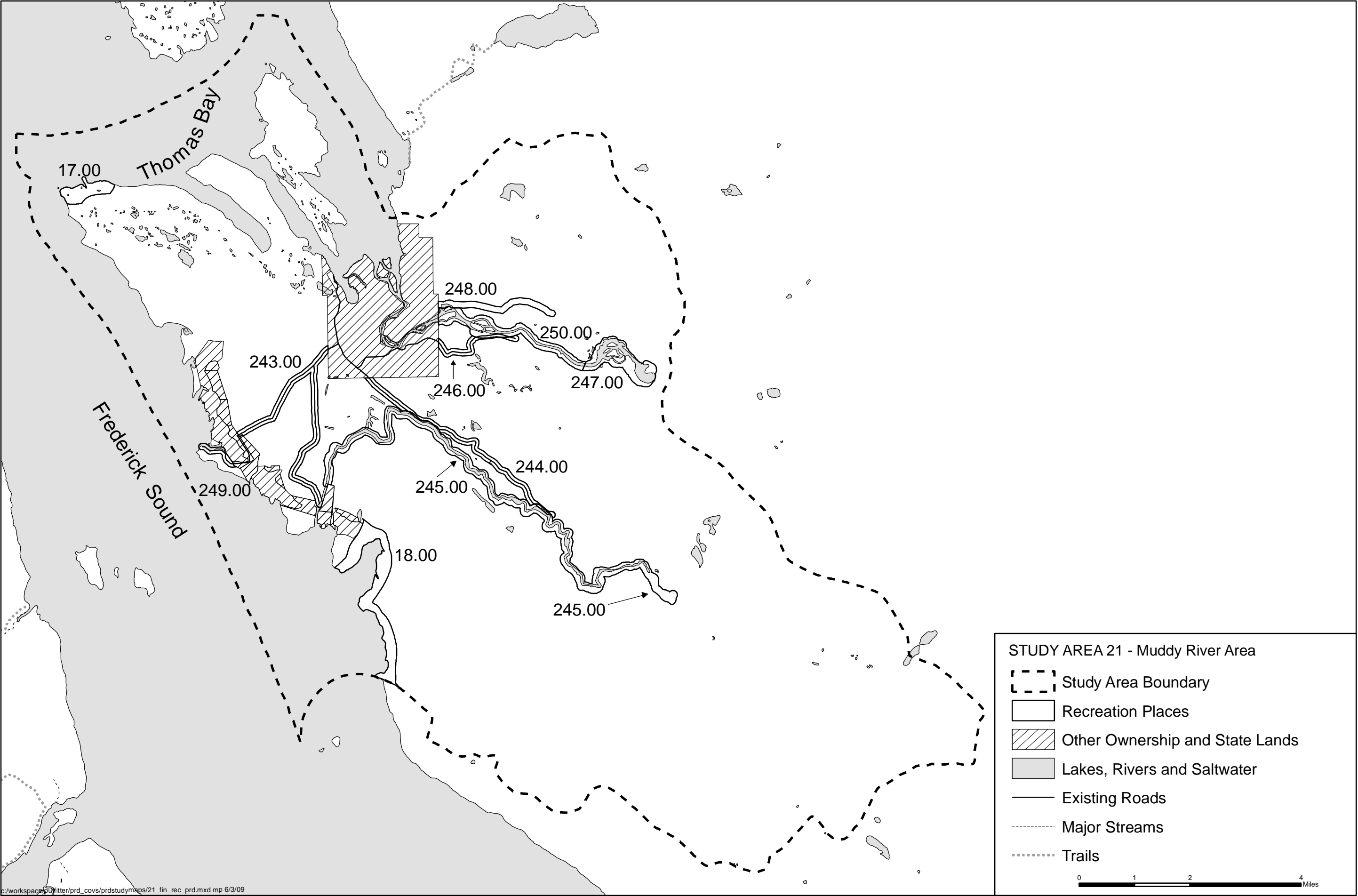
**Existing Conditions**  
**Study Area 21**  
**Muddy River Area**

<b><u>Description</u></b>	
This study area is located on the mainland east of Frederick Sound. It includes the Thomas Bay road system, Patterson River, Muddy River, Point Agassiz, and a portion of Thomas Bay. There are 10 recreation places identified within this study area.	
<b>Communities</b>	There are no communities in this study area. However, there are several families that live within, or have recreation cabins within, this study area.
<b><u>Non-National Forest System Lands</u></b>	
There is a large parcel of State land, and many parcels of private land, within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21017.00 Wood Point</b>	156 acres. Includes a portion of the shoreline at the northwest end of Point Agassiz Peninsula. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21018.00 Brown Cove and Icy Cove</b>	524 acres. Includes the shoreline from Brown Cove to Icy Cove. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21243.00 Thomas Bay Roads</b>	379 acres. Includes a portion of the Thomas Bay road system. ROS – Roaded Modified. Petersburg Home Range.
<b>21244.00 Muddy River Road</b>	265 acres. Includes the road near Muddy River. ROS – Roaded Modified. Petersburg Home Range.
<b>21245.00 Muddy River</b>	1,025 acres. Includes the Muddy River. ROS – Roaded Modified. Petersburg Home Range.
<b>21246.00 Patterson River Road, south</b>	90 acres. Includes the road on the south side of Patterson River. ROS – Roaded Modified. Petersburg Home Range.
<b>21247.00 Patterson Lake</b>	348 acres. Includes the lake at the head of Patterson River. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21248.00 Patterson River Road, north</b>	163 acres. Includes the road on the north side of Patterson River. ROS – Roaded Modified. Petersburg Home Range.
<b>21249.00 Point Agassiz Road</b>	55 acres. Includes the road at Point Agassiz. ROS – Roaded Modified. Petersburg Home Range.
<b>21250.00 Patterson River</b>	395 acres. Includes the Patterson River. ROS – Roaded Modified. Petersburg Home Range.

Existing Conditions  
Study Area 21  
Muddy River Area

<b><u>Recreation Use</u></b> <i>(continued)</i>				
<b>Commercial Use</b>	Camping, hunting (deer, mountain goat, wolf, black bear), guided trapping, outfitting kayaks, sightseeing.			
<b>Non-commercial Use</b>	Camping, hunting (moose, black bear, deer, mountain goat), sightseeing, fishing, firewood cutting, horseback riding, riding ATVs.			
<b>Use Patterns</b>	This study area receives use from the residents of Petersburg, and non-residents with transportation. All of the recreation places are within the Home Range of Petersburg.			
<b>Concerns</b>	None known.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	14 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
124	197	348	324	70
Refer to the following USGS maps for reference: Petersburg D2, D3, Sumdum A3.				





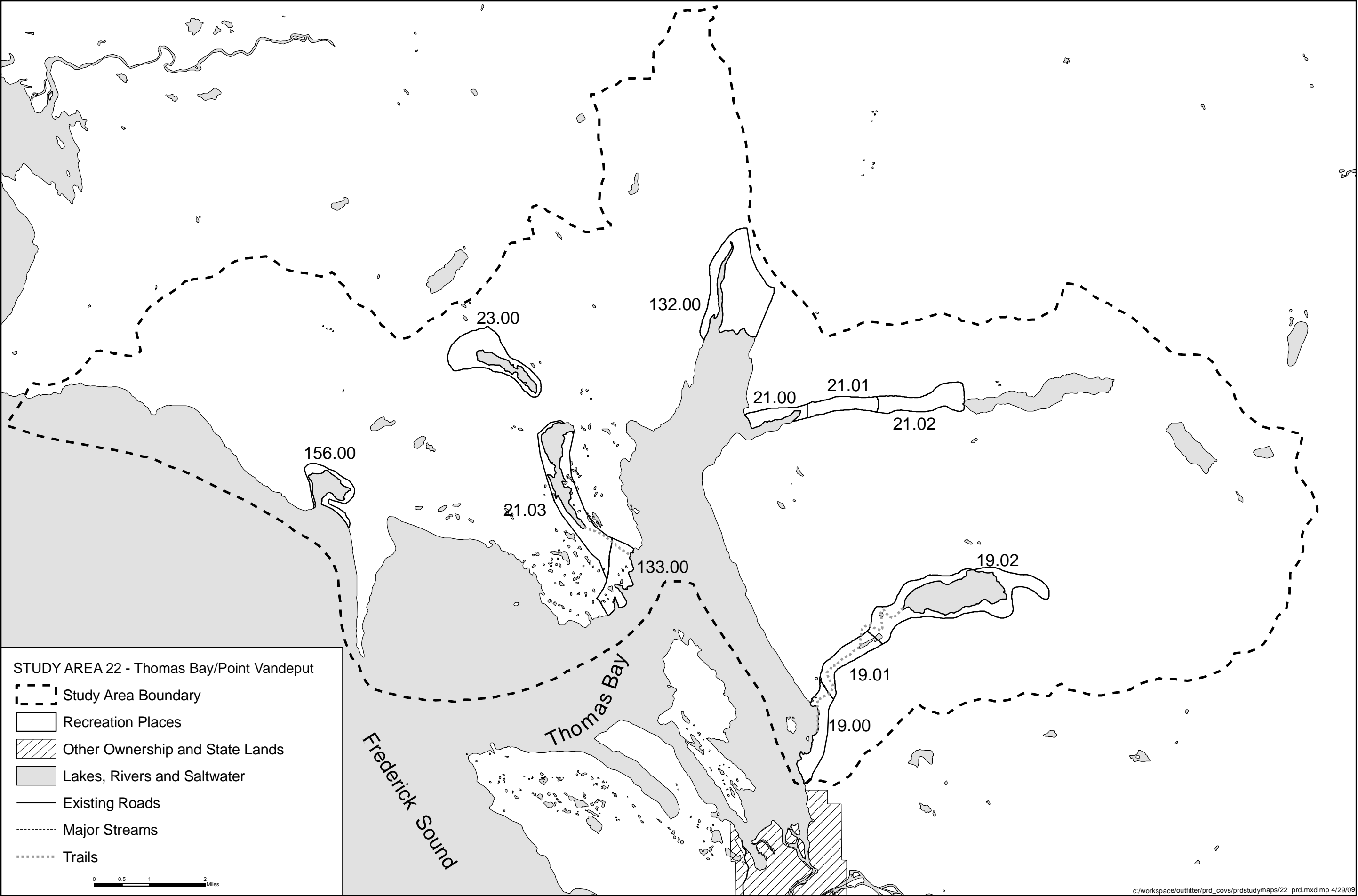
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**Existing Conditions**  
**Study Area 22**  
**Thomas Bay/Point Vandeput**

<b><u>Description</u></b>	
This study area is located on the mainland northeast of Frederick Sound. It includes the north and east part of Thomas Bay, and the area from Thomas Bay to just east of Farragut Bay. There are 11 recreation places identified within this study area.	
<b>Communities</b>	There are no communities in this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are no non-National Forest lands within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21019.00 Cascade Creek Cabin and Trail</b>	276 acres. Includes the Cascade Creek Forest Service recreation cabin and the trailhead of the Cascade Creek Trail. ROS – Roaded Modified. Petersburg Home Range.
<b>21019.01 Upper Cascade Trail and Falls Lk</b>	255 acres. Includes the middle portion of the Cascade Creek Trail and Falls Lake. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21019.02 Swan Lake</b>	715 acres. Includes the upper portion of the Cascade Creek Trail, and the area adjacent to Swan lake. ROS – Primitive. Petersburg Home Range.
<b>21021.00 Scenery Cove</b>	143 acres. Includes the area to the north of, and at the head of, Scenery Cove. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21021.01 Scenery Creek</b>	198 acres. Includes a portion of Scenery Creek between Scenery Cove and Scenery Lake. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21021.02 Scenery Creek</b>	335 acres. Includes a portion of Scenery Creek west of Scenery Lake. ROS – Primitive. Petersburg Home Range.
<b>21021.03 Spurt Lake</b>	510 acres. Includes the area adjacent to Spurt Lake. ROS – Semi-Primitive Non-Motorized. Petersburg Home Range.
<b>21023.00 DeBoer Lake</b>	442 acres. Includes the area adjacent to DeBoer Lake. ROS – Primitive. Petersburg Home Range.
<b>21132.00 Baird Glacier (terminus)</b>	941 acres. Includes the terminus of Baird Glacier. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21133.00 Spurt Cove Cabin</b>	311 acres. Includes the Spurt Cove Forest Service recreation cabin. ROS – Semi-Primitive Motorized. Petersburg Home Range.
<b>21156.00 Dry Bay</b>	158 acres. Includes the shoreline at Dry Bay, northwest of Point Vandeput. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>Commercial Use</b>	Camping, hunting (deer, mountain goat, wolf, black bear), guided trapping, outfitting kayaks, sightseeing, fishing.
<b>Non-commercial Use</b>	Camping, hunting (moose, black bear, deer, mountain goat), sightseeing, fishing, trapping.

Existing Conditions  
Study Area 22  
Thomas Bay/Point Vandeput

<b><u>Recreation Use</u></b> <i>(continued)</i>				
<b>Use Patterns</b>	This study area receives use from the residents of Petersburg, and non-residents with transportation. Ten of the recreation places are within the Home Range of Petersburg.			
<b>Concerns</b>	None known.			
<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b>	5 historic sites are documented within the study area.			
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
246	339	319	222	286
Refer to the following USGS maps for reference: Petersburg D3, Sumdum A2, A3, A4.				



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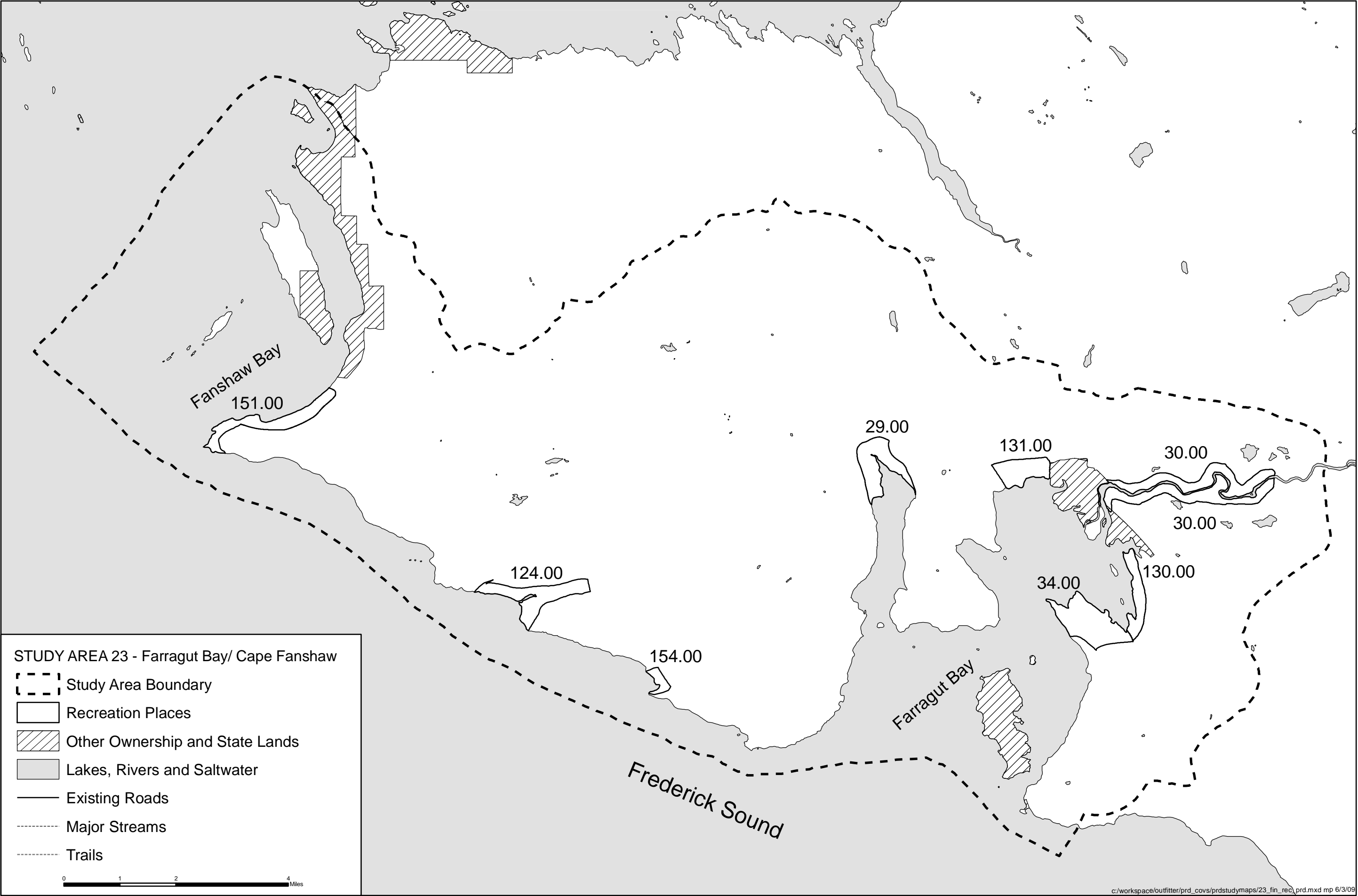
**Existing Conditions**  
**Study Area 23**  
**Farragut Bay/Cape Fanshaw**

<b><u>Description</u></b>	
This study area is located on the mainland north of Frederick Sound. It includes the area from Fanshaw Bay to Farragut Bay. There are 8 recreation places identified within this study area.	
<b>Communities</b>	There are no communities in this study area. However, there are a few people that live on private property at Farragut Bay.
<b><u>Non-National Forest System Lands</u></b>	
There are large areas of State land at Fanshaw Bay and Farragut Bay. There are also large parcels of private land at Farragut Bay.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21029.00 Farragut Bay, North Arm</b>	333 acres. Includes the head of the North Arm of Farragut Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21030.00 Farragut River</b>	756 acres. Includes the lower portion of the Farragut River. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21034.00 Francis Anchorage</b>	456 acres. Includes a portion of the east shore of the South Arm of Farragut Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21124.00 Cat Creek</b>	375 acres. Includes the area around Cat Creek. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21130.00 Farragut Bay (east flats)</b>	204 acres. Includes a portion of the east shoreline of the South Arm of Farragut Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21131.00 Farragut Bay (north flats)</b>	239 acres. Includes a portion of the north shore of the South Arm of Farragut Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21151.00 Cape Fanshaw</b>	327 acres. Includes Cape Fanshaw and a portion of the shoreline at Fanshaw Bay. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>21154.00 Tangent Peak (shore)</b>	63 acres. Includes a portion of the shoreline south of Tangent Peak. ROS – Semi-Primitive Motorized. Not within a Home Range.
<b>Commercial Use</b>	Camping, hunting (mountain goat, wolf, black bear), outfitting kayaks, sightseeing, fishing.
<b>Non-commercial Use</b>	Camping, hunting (moose, black bear, waterfowl), sightseeing, fishing.
<b>Use Patterns</b>	This Study Area receives use from the people who reside at or own property at Farragut Bay, from the residents of Petersburg, and from non-residents with transportation. None of the recreation places are within a Home Range.
<b>Concerns</b>	None known.

Existing Conditions  
Study Area 23  
Farragut Bay/Cape Fanshaw

<b><u>Management/Resource Considerations</u></b>				
<b>Subsistence</b>				
<b>Wildlife</b>				
<b>Fisheries</b>				
<b>Botany/Invasive Plants</b>				
<b>Cultural</b> 18 historic sites are documented within the study area.				
<b><u>Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use</u></b>				
<b>2004 Actual Use</b>	<b>2005 Actual Use</b>	<b>2006 Actual Use</b>	<b>2007 Actual Use</b>	<b>2008 Actual Use</b>
14	12	62	56	17
Refer to the following USGS maps for reference: Sumdum A4, A5, B4, B5.				





Backside of map.

**Existing Conditions**  
**Study Area 24**  
**Baird/Patterson Glaciers**

<b><u>Description</u></b>	
This study area is located on the mainland northeast of Frederick Sound. It includes the Baird and Patterson Glaciers. There are 5 recreation places identified within this study area.	
<b>Communities</b>	There are no communities in this study area.
<b><u>Non-National Forest System Lands</u></b>	
There are no non-National Forest lands within this study area.	
<b><u>Recreation Use</u></b>	
<b>Recreation Places</b>	
<b>21026.00 Farragut/Glory Lakes</b>	2,688 acres. Includes the area around Farragut Lake and Glory Lake. ROS – Primitive. Not within a Home Range.
<b>21208.00 Patterson Glacier (Temsco site 1)</b>	11 acres. Includes an outfitter/guide helicopter landing site on Patterson Glacier used by Temsco Helicopters, Inc. ROS – Primitive. Not within a Home Range.
<b>21255.00 Patterson Glacier (Temsco site 2)</b>	11 acres. Includes an outfitter/guide helicopter landing site on Patterson Glacier used by Temsco Helicopters, Inc. ROS – Primitive. Not within a Home Range.
<b>21256.00 Devils Thumb</b>	11 acres. Includes a campsite used by mountain climbers near Devils Thumb. ROS – Primitive. Not within a Home Range.
<b>21257.00 Baird Glacier</b>	11 acres. Includes a campsite used by hikers on Baird Glacier. ROS – Primitive. Not within a Home Range.
<b>Commercial Use</b>	Helicopter landing tours, mountain goat hunting.
<b>Non-commercial Use</b>	Mountain goat hunting, glacier hiking, mountain climbing, camping, sightseeing.
<b>Use Patterns</b>	This study area receives use from the residents of Petersburg, and from non-residents with transportation. None of the recreation places are within a Home Range.
<b>Concerns</b>	None known.
<b><u>Management/Resource Considerations</u></b>	
<b>Subsistence</b>	
<b>Wildlife</b>	
<b>Fisheries</b>	
<b>Botany/Invasive Plants</b>	
<b>Cultural</b>	No historic sites are documented within the study area.

Existing Conditions  
Study Area 24  
Baird/Patterson Glaciers

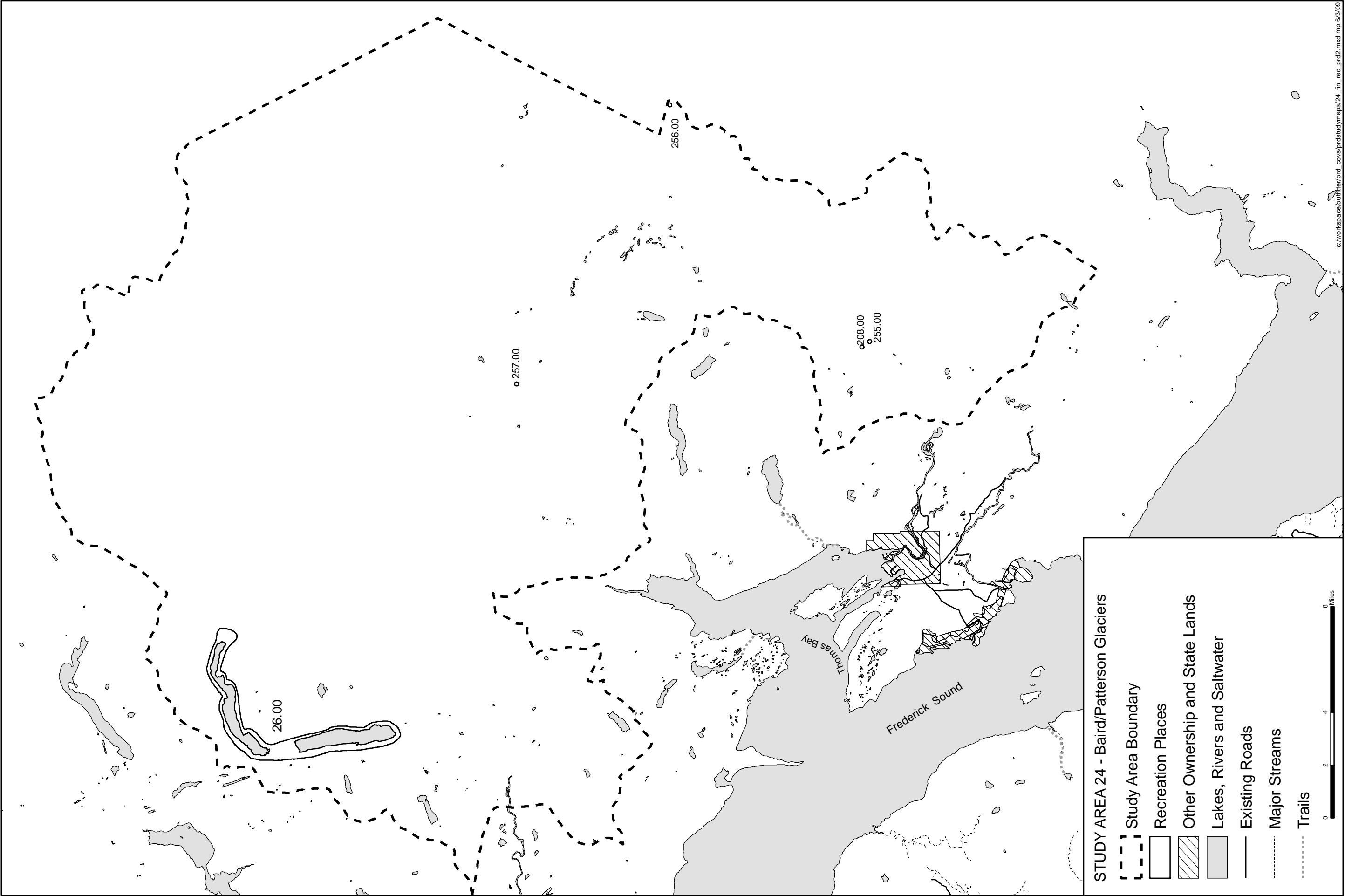
**Recreation Visitor Days (RVDs) Outfitter and Guide Actual Use**

2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
23	22	7	14	6

Refer to the following USGS maps for reference: Petersburg D2, D3, Sumdum A1, A2, A3, A4, B2, B3.



View from Happy Cove in Tebenkof Bay Wilderness, Tongass National Forest, Alaska. Photograph by Carin Christensen.



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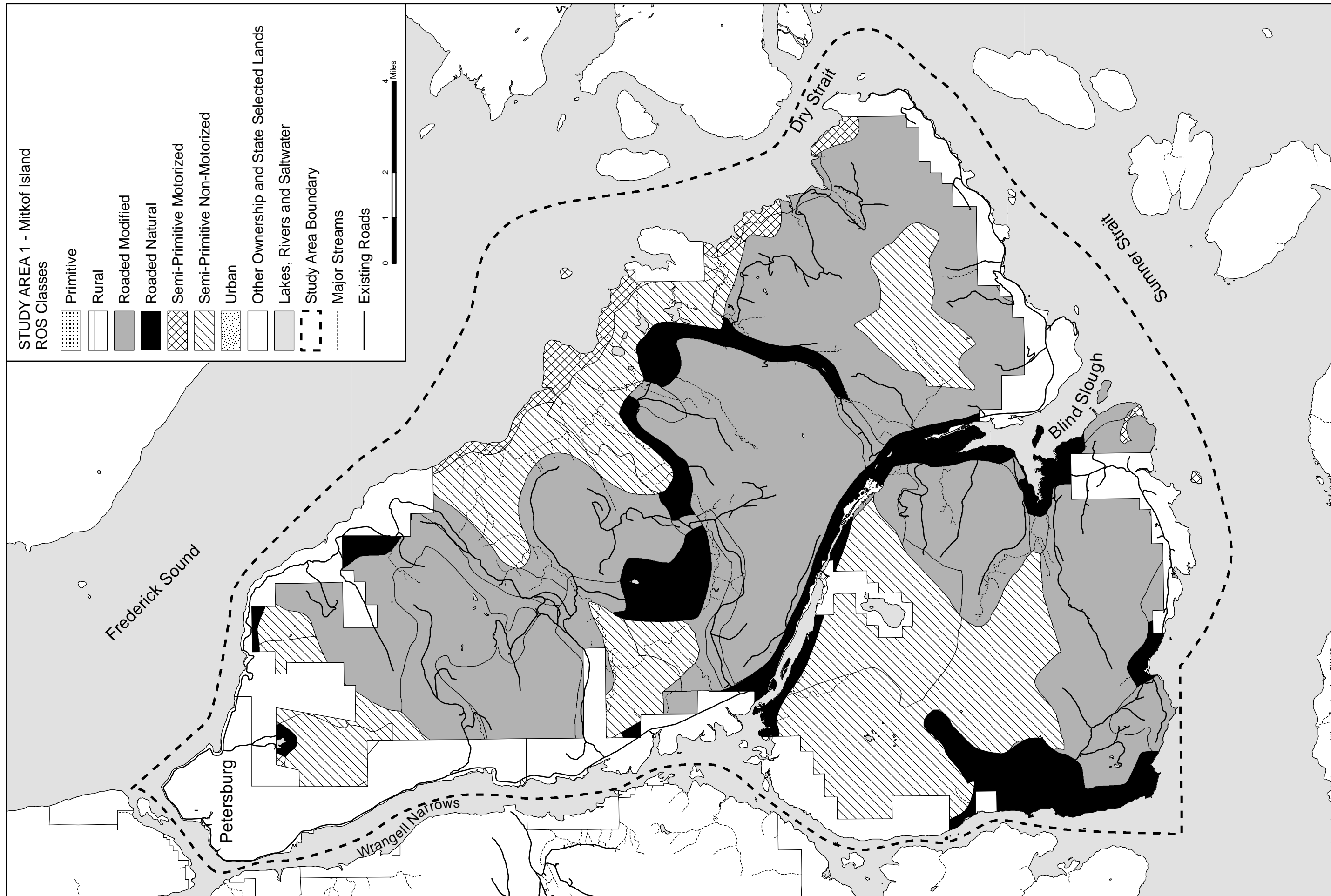
# **Part III**

## **ROS Class Study Area Maps**

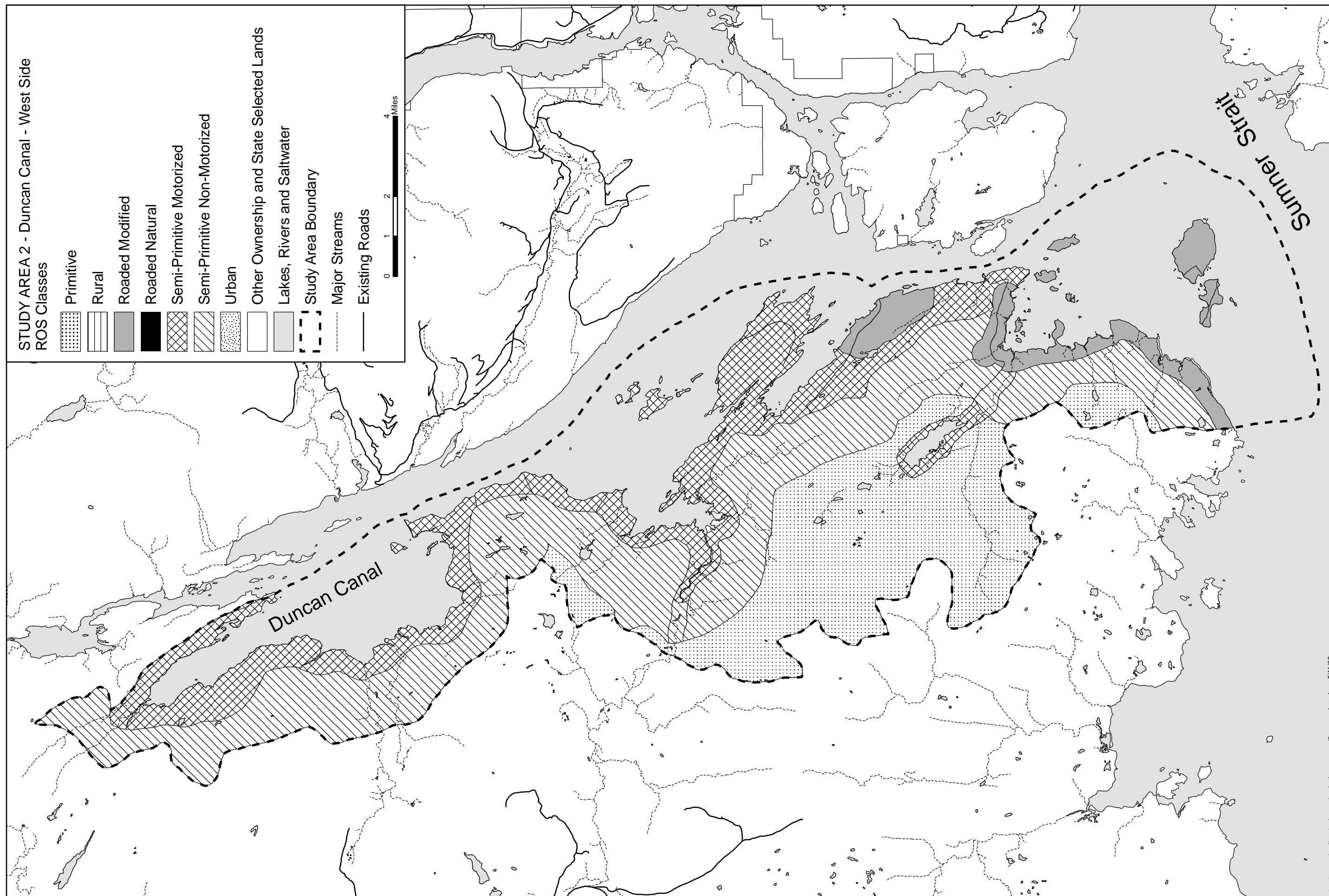


Beach debris and crab claw. Photograph by Sandy Frost.



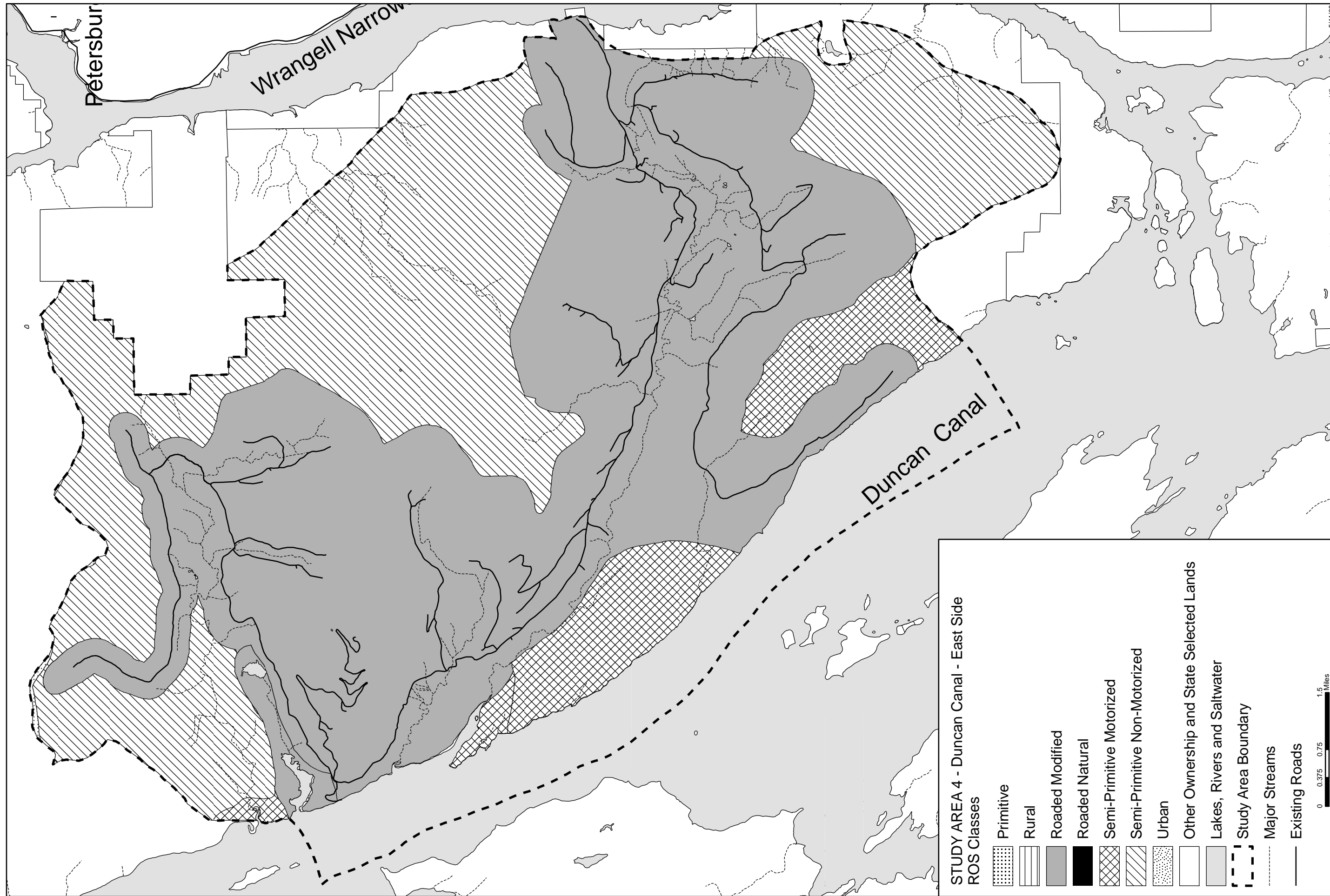




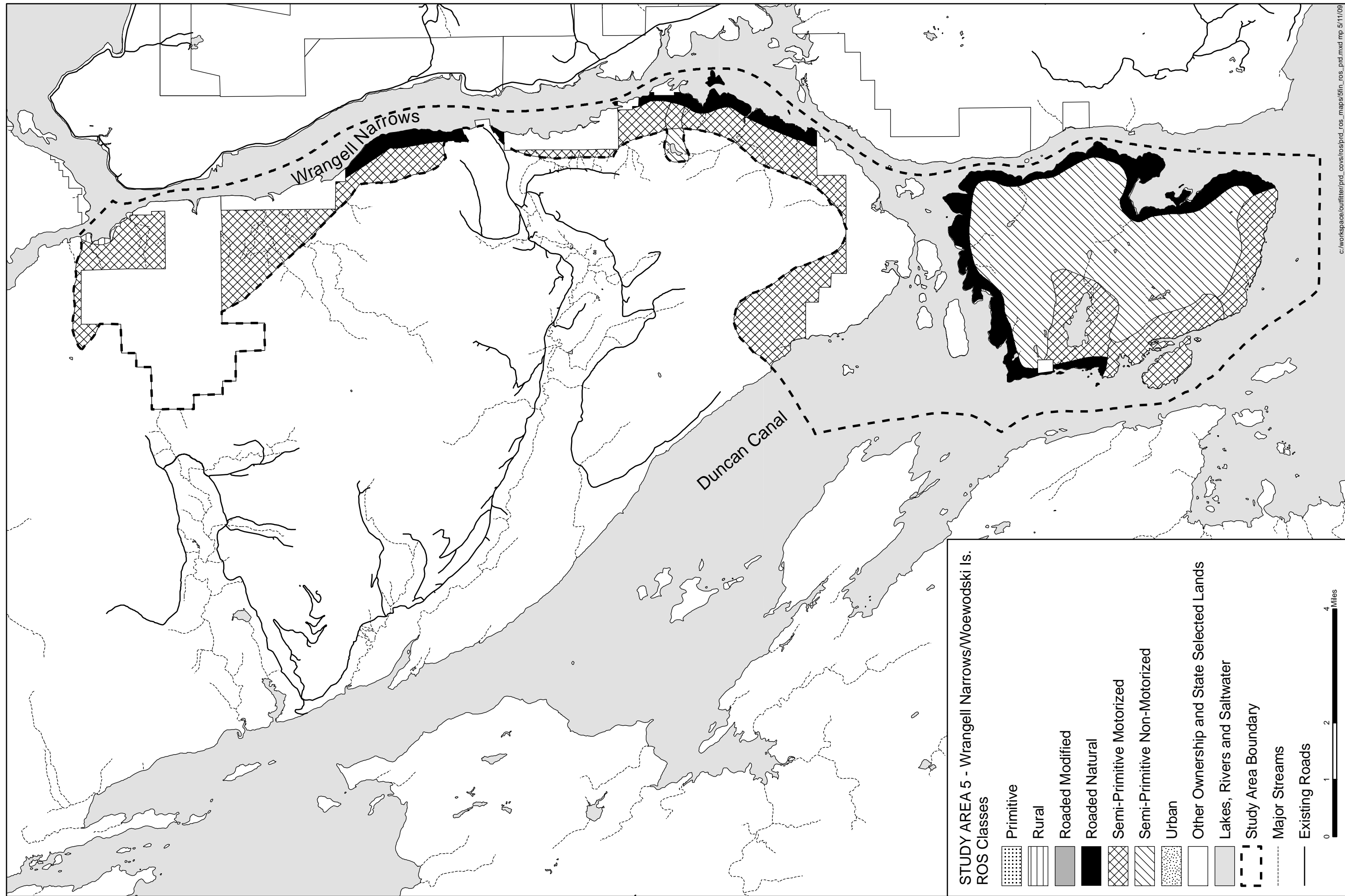


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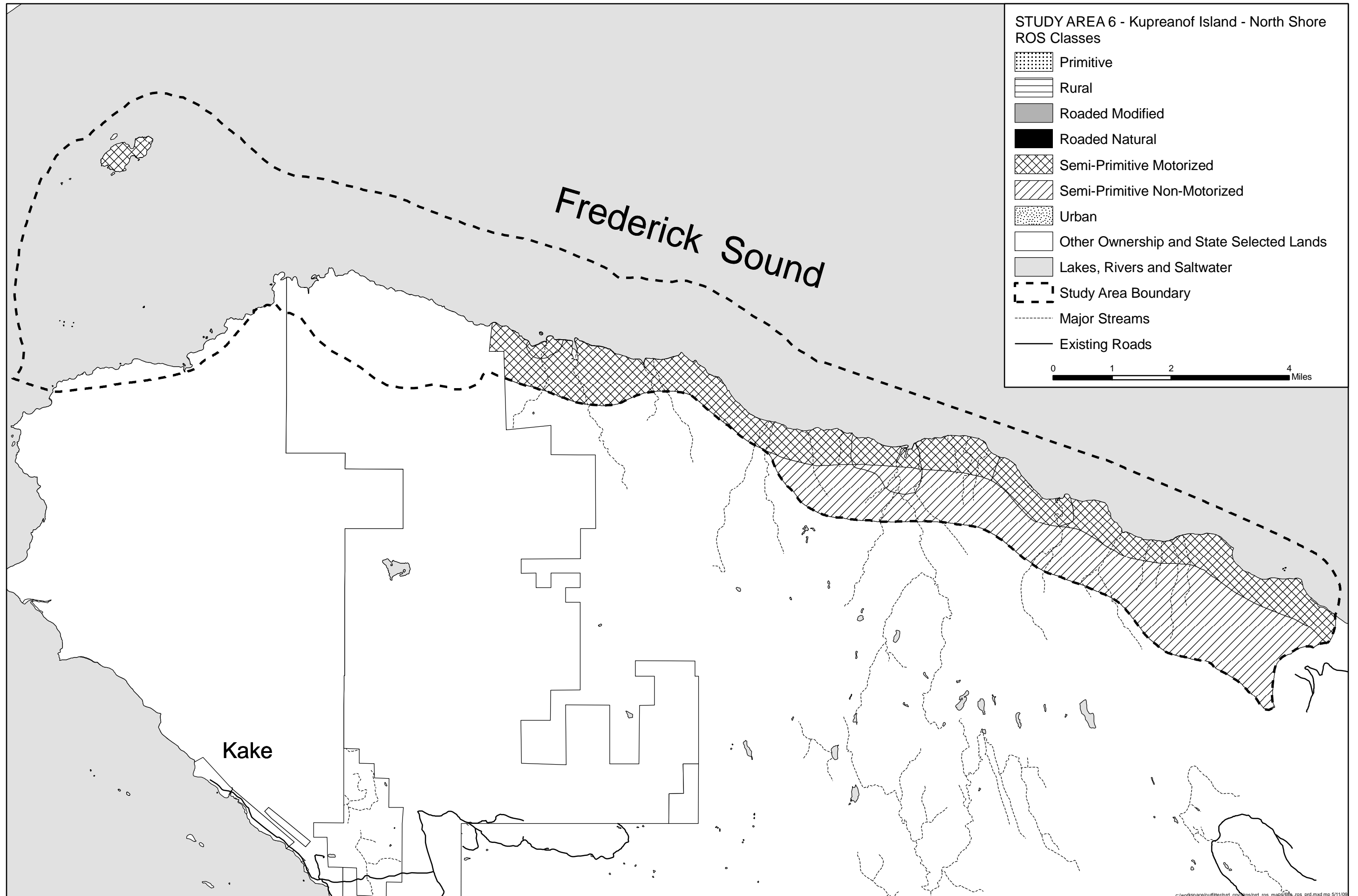




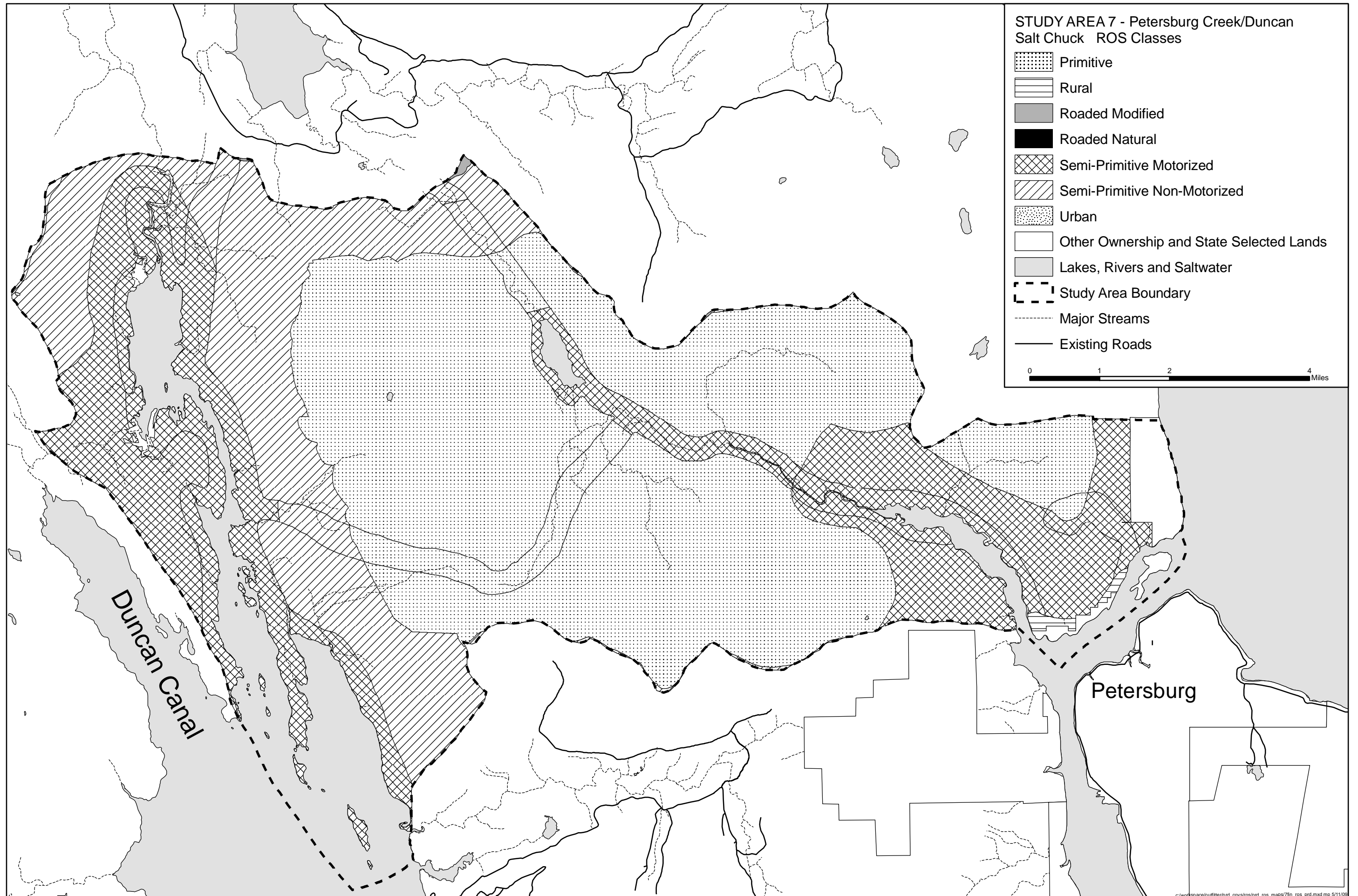




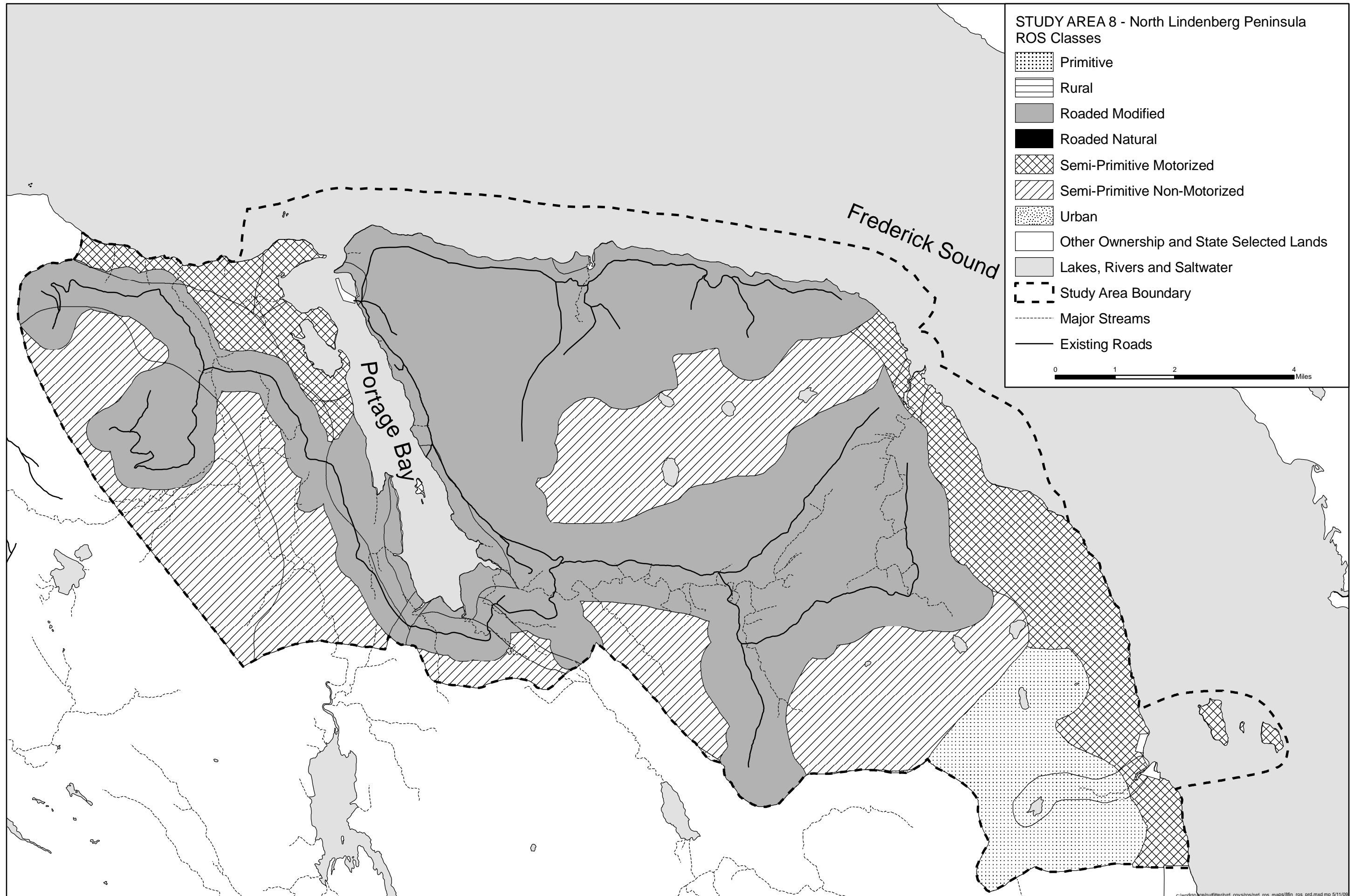




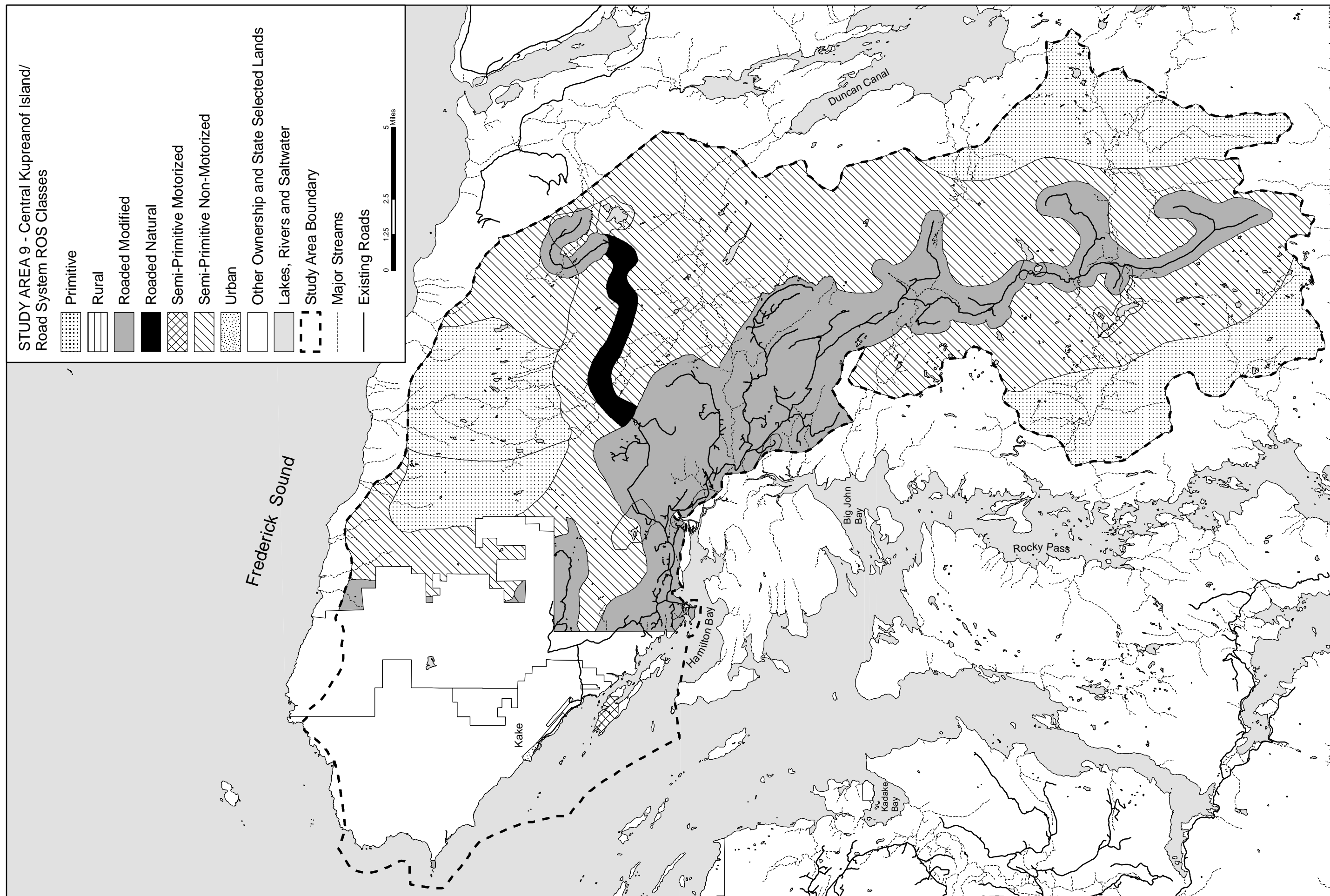






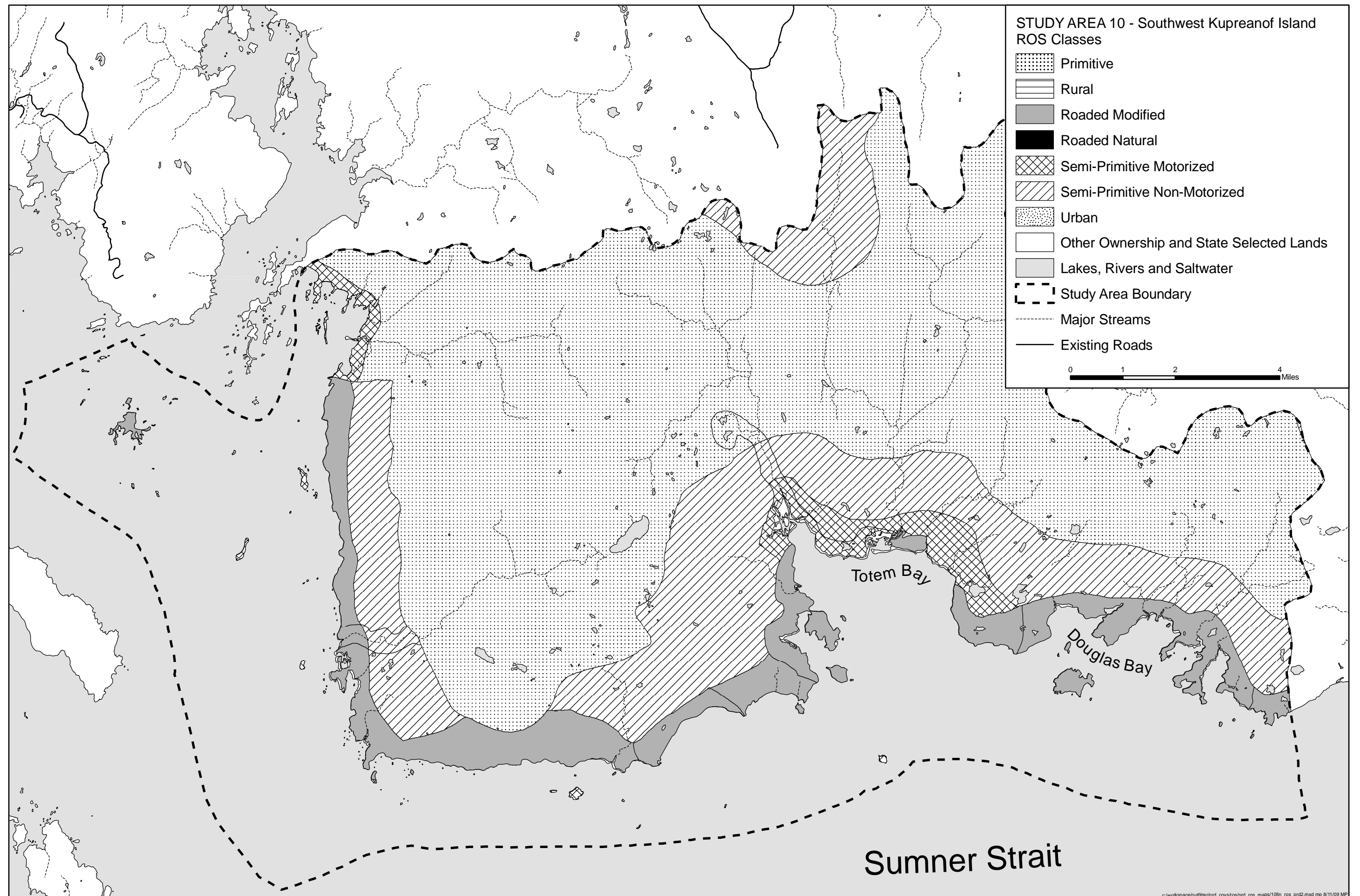




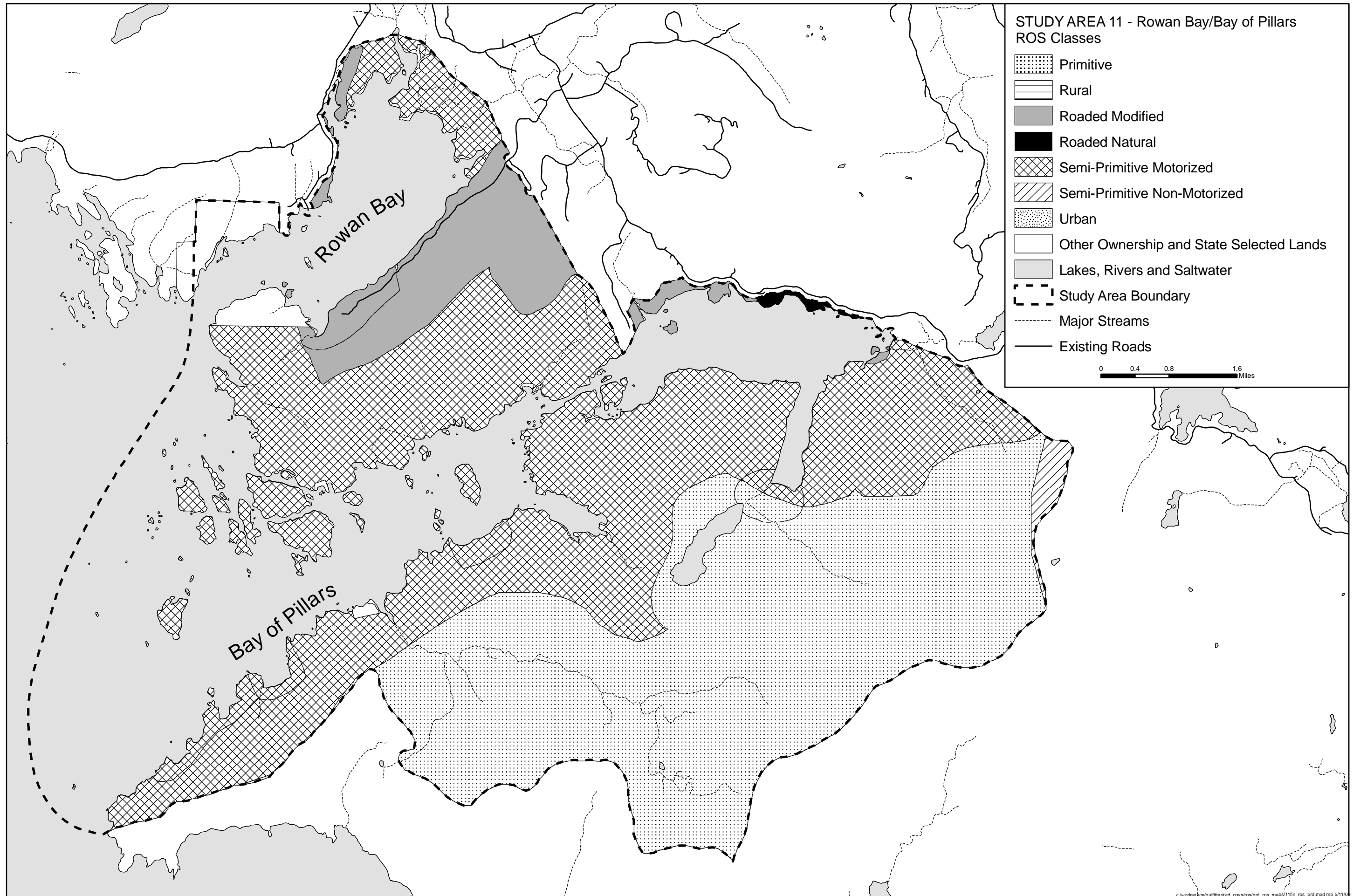




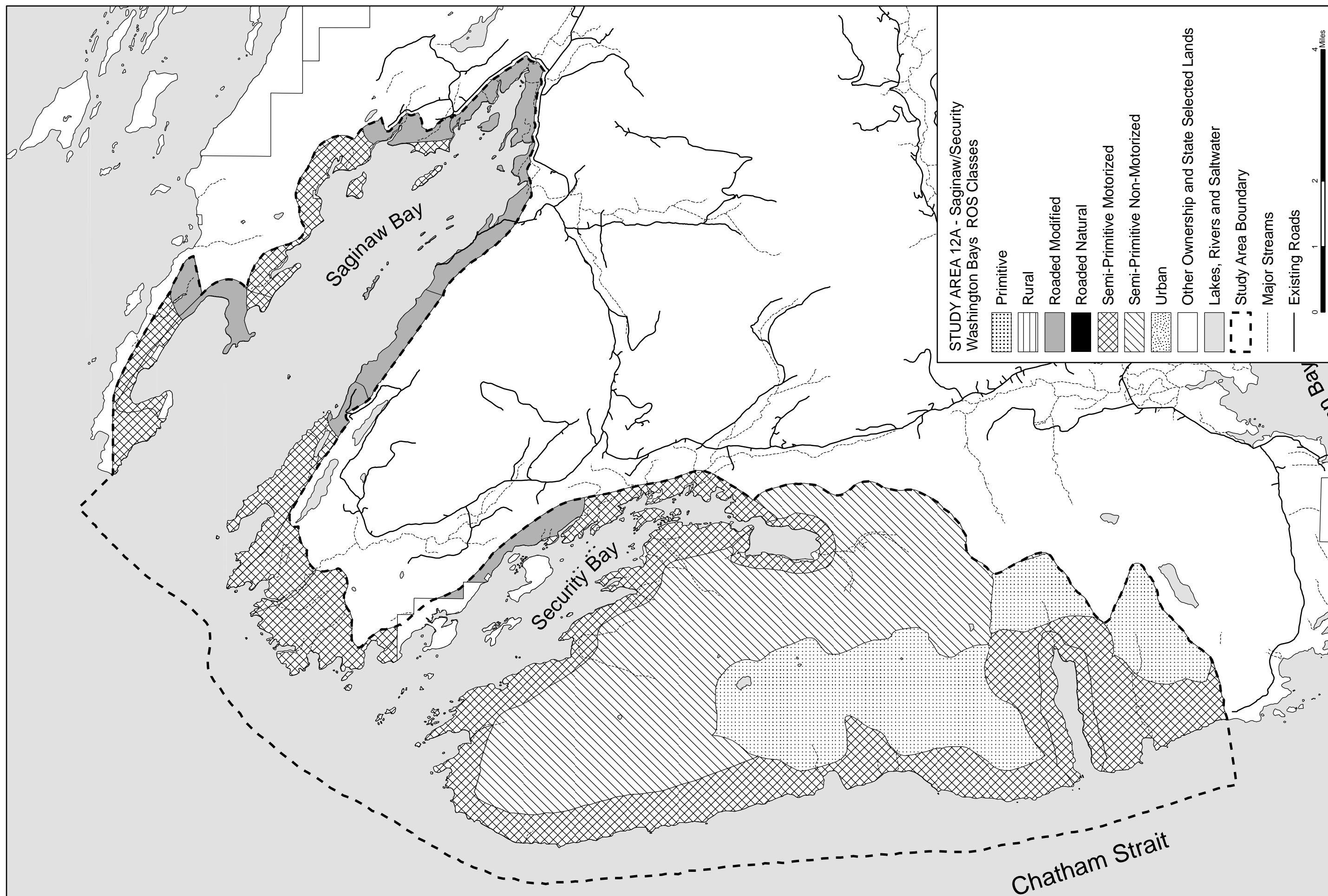




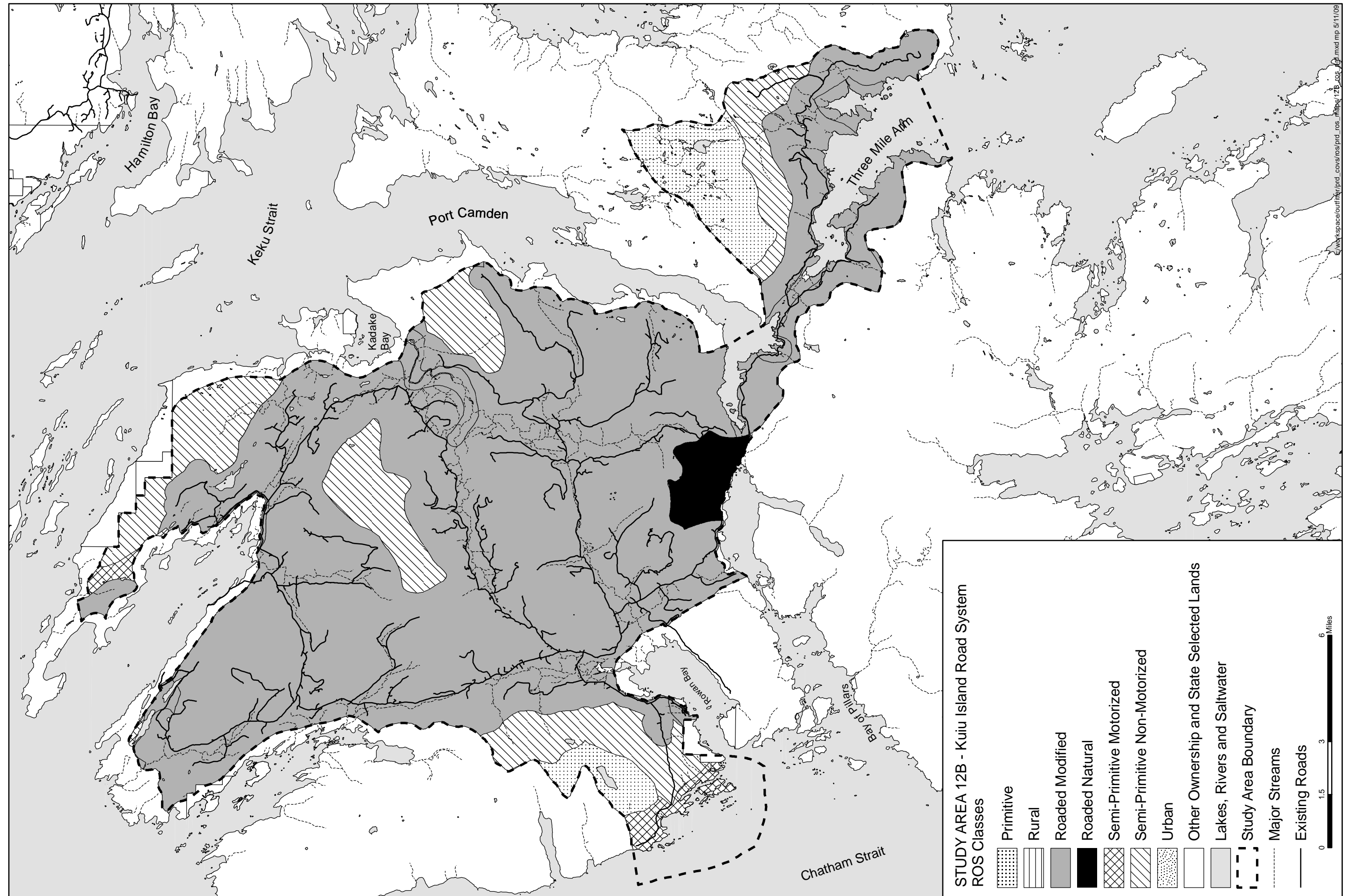






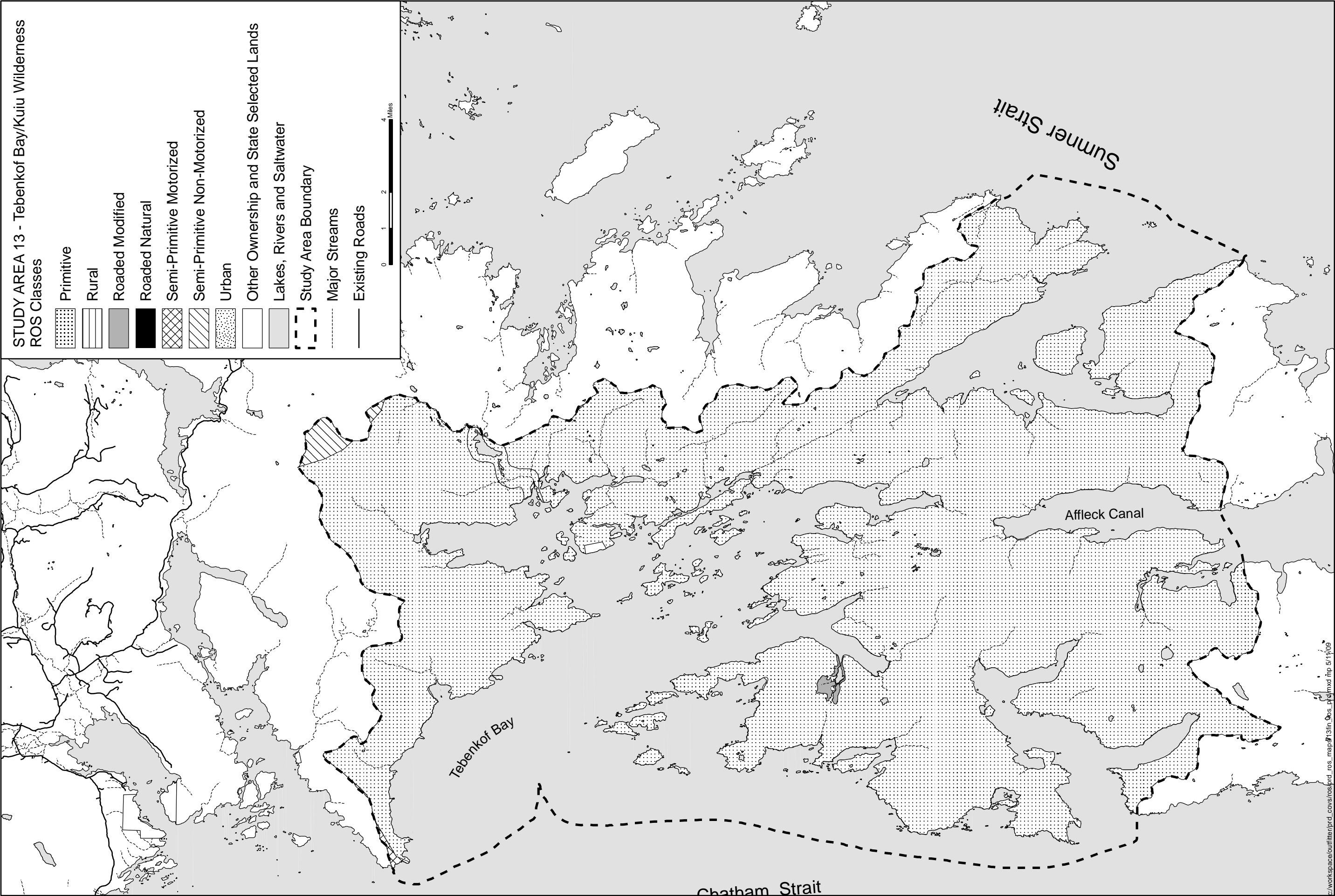




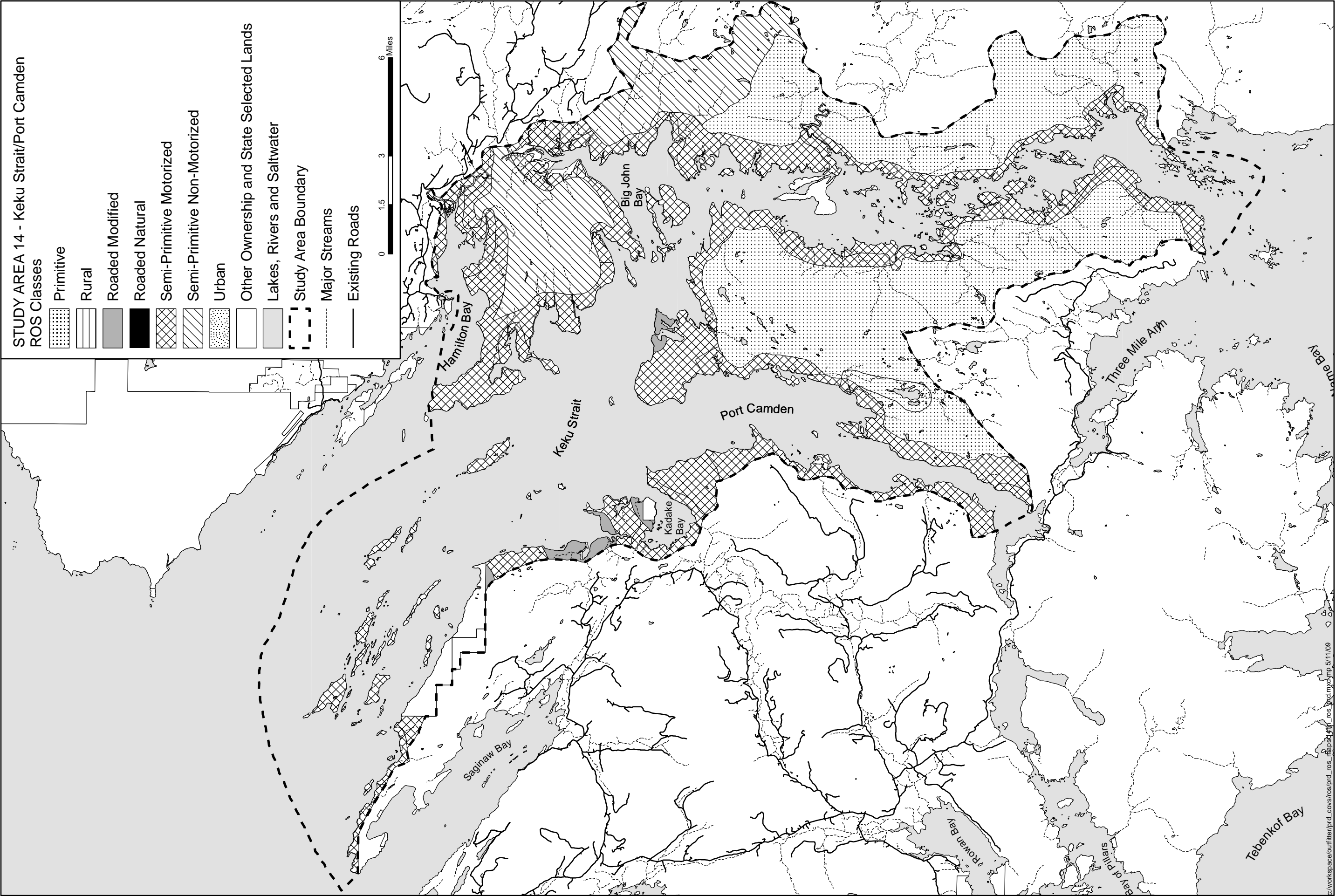




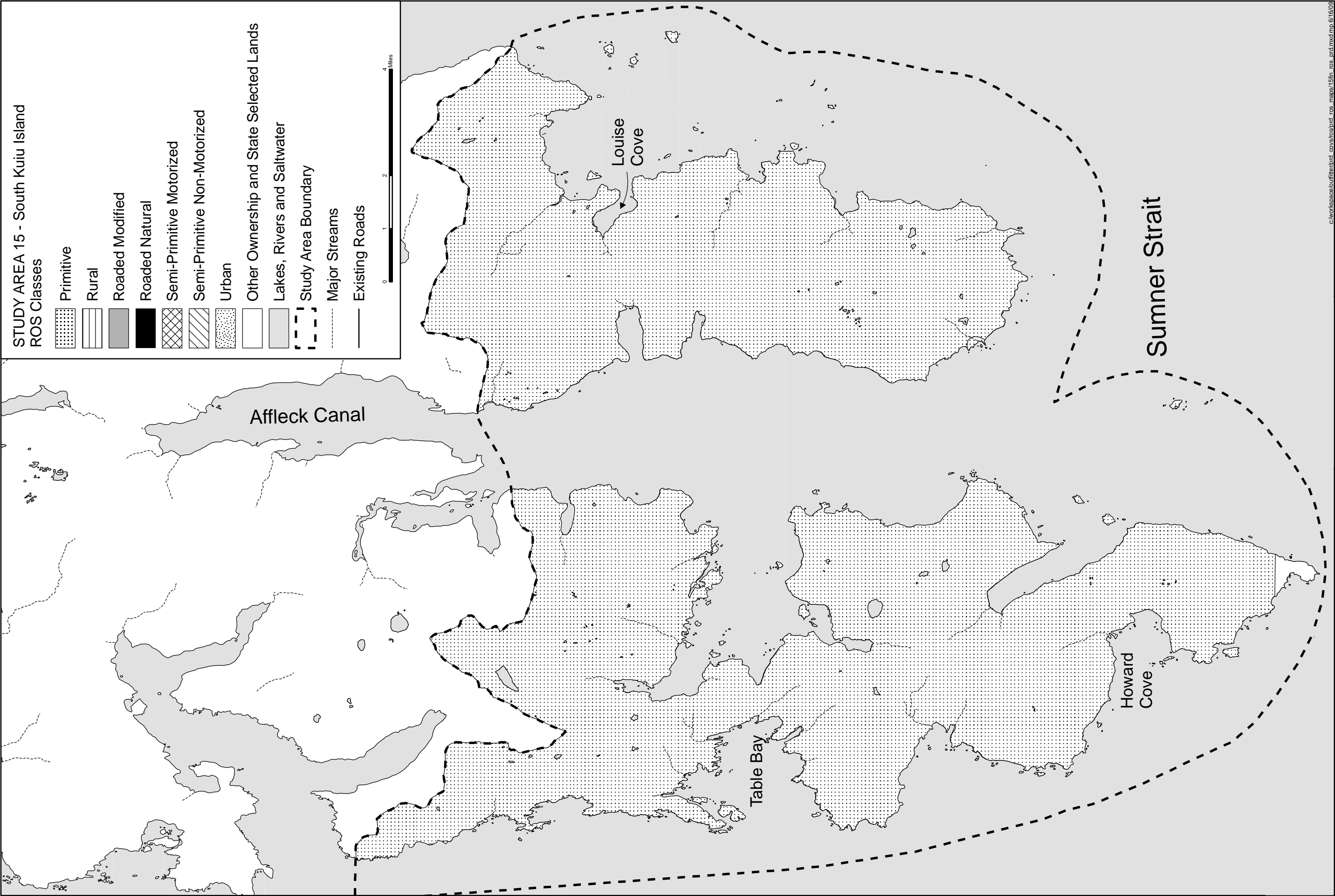






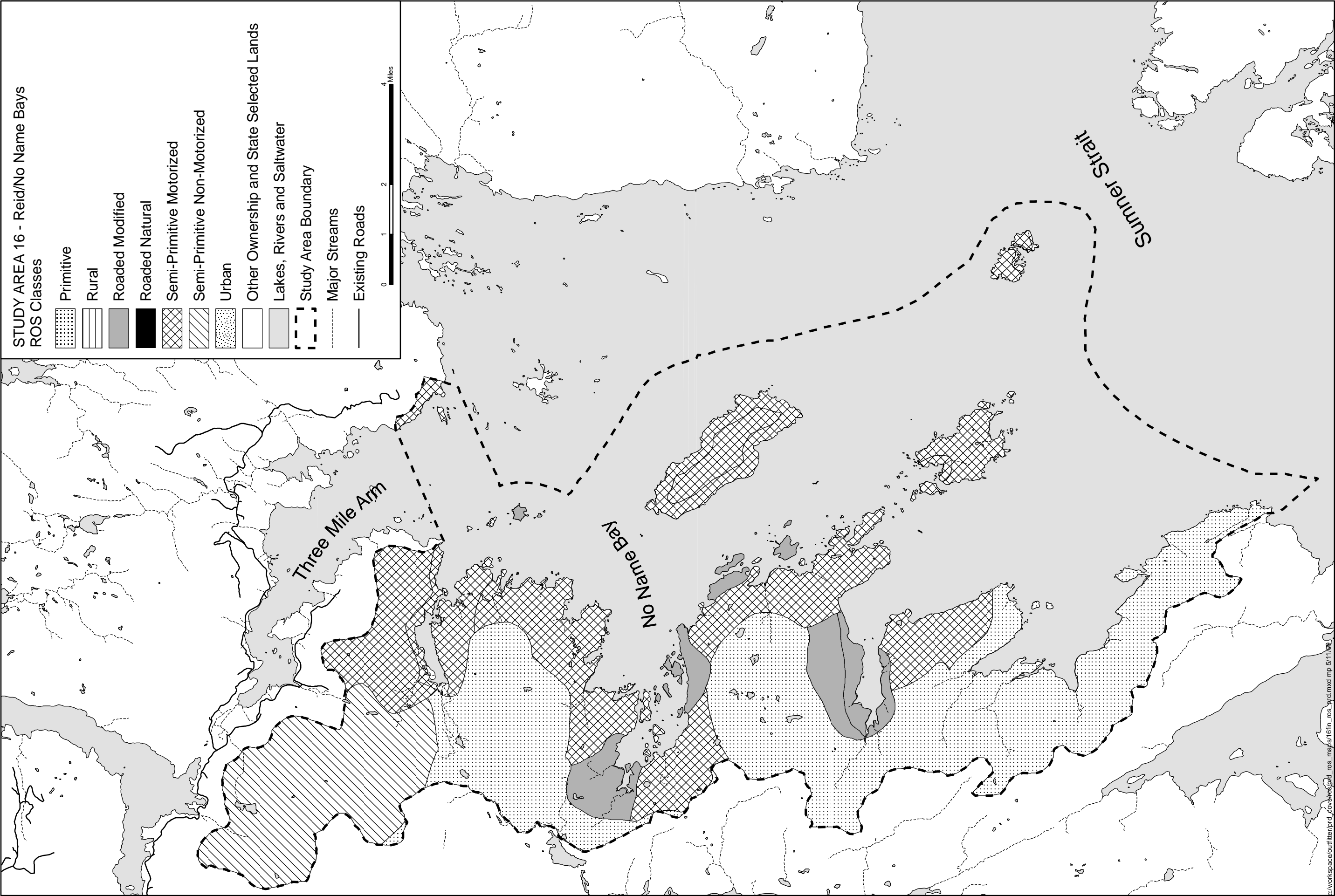






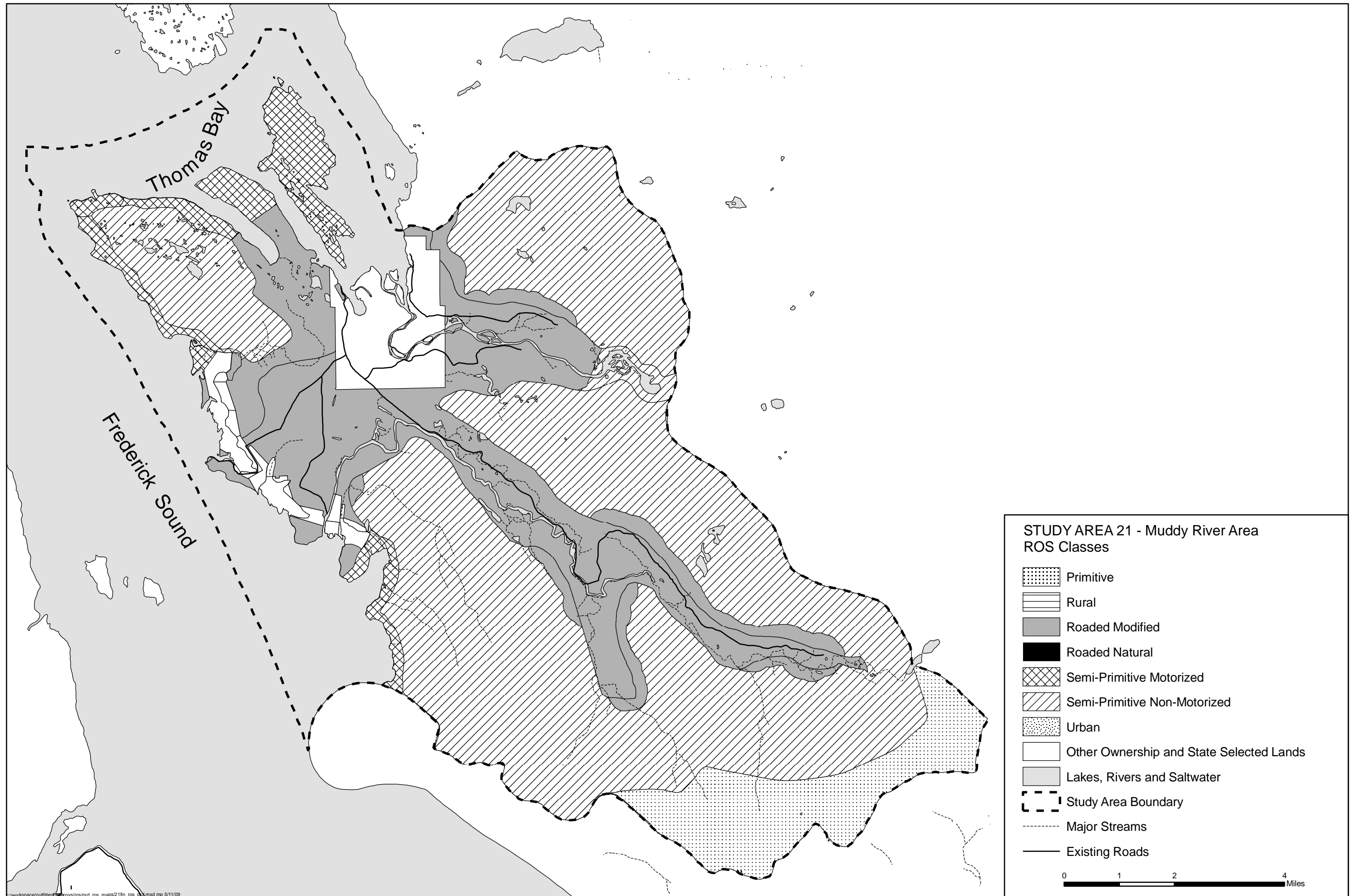
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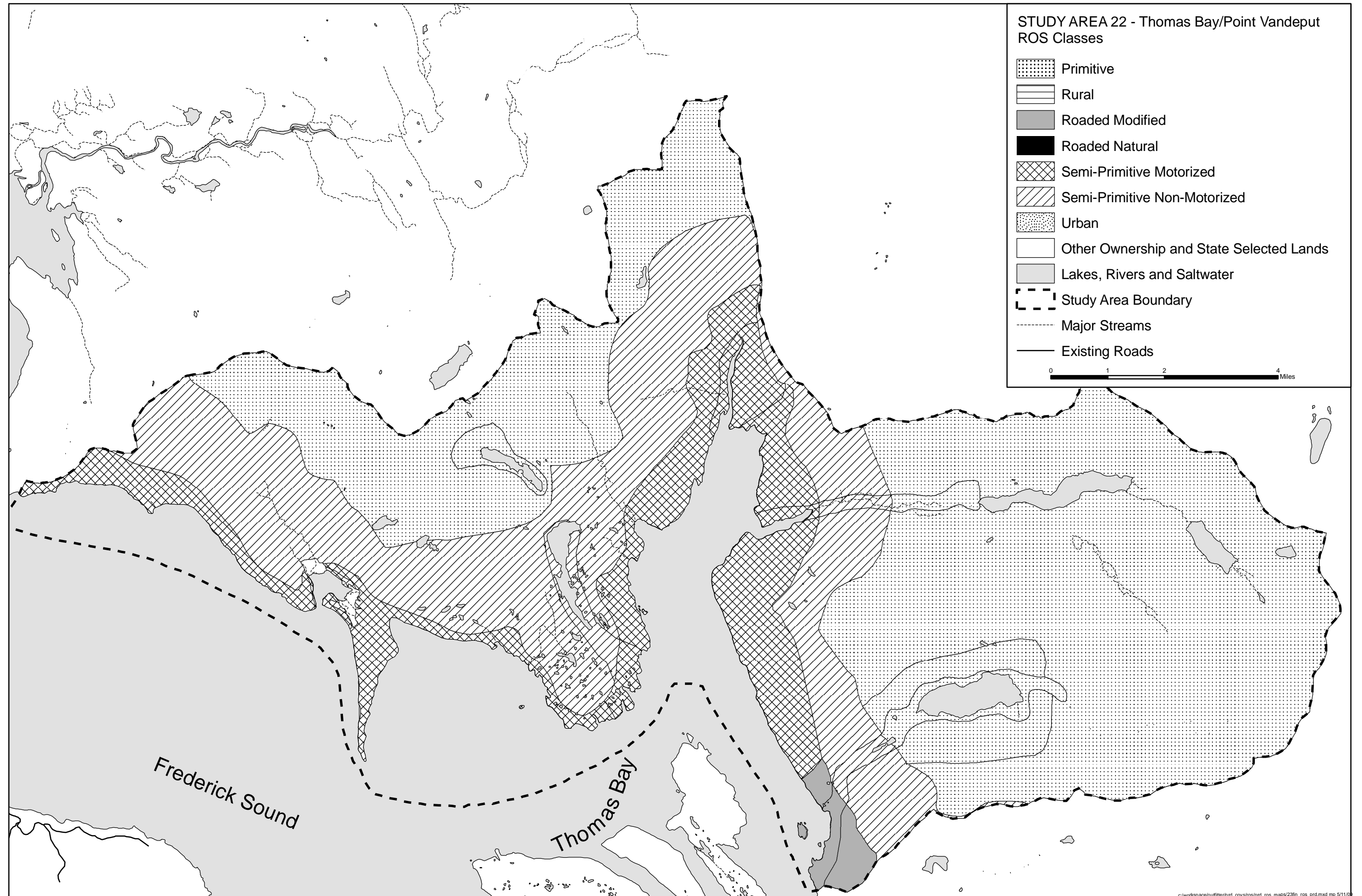




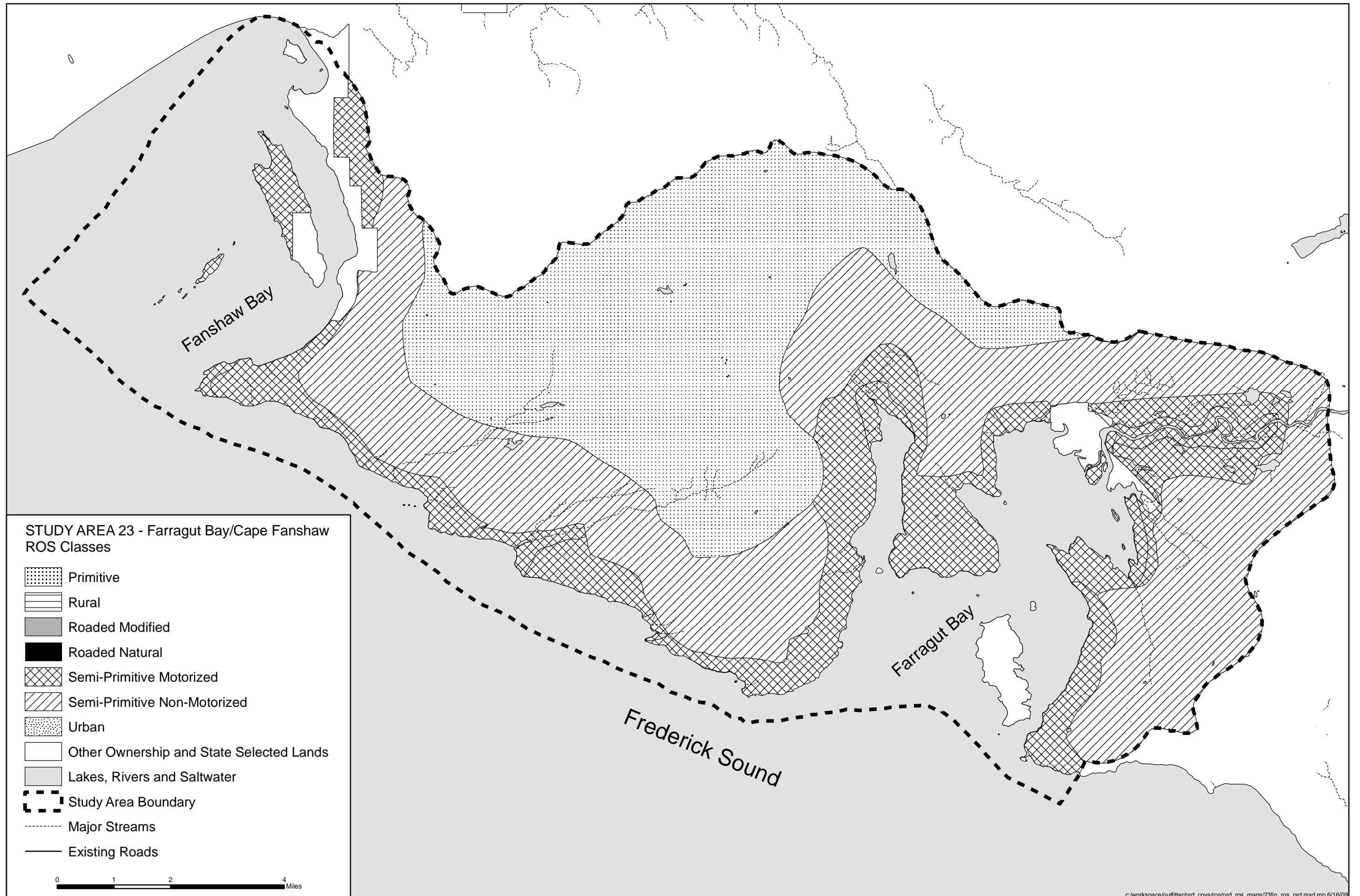




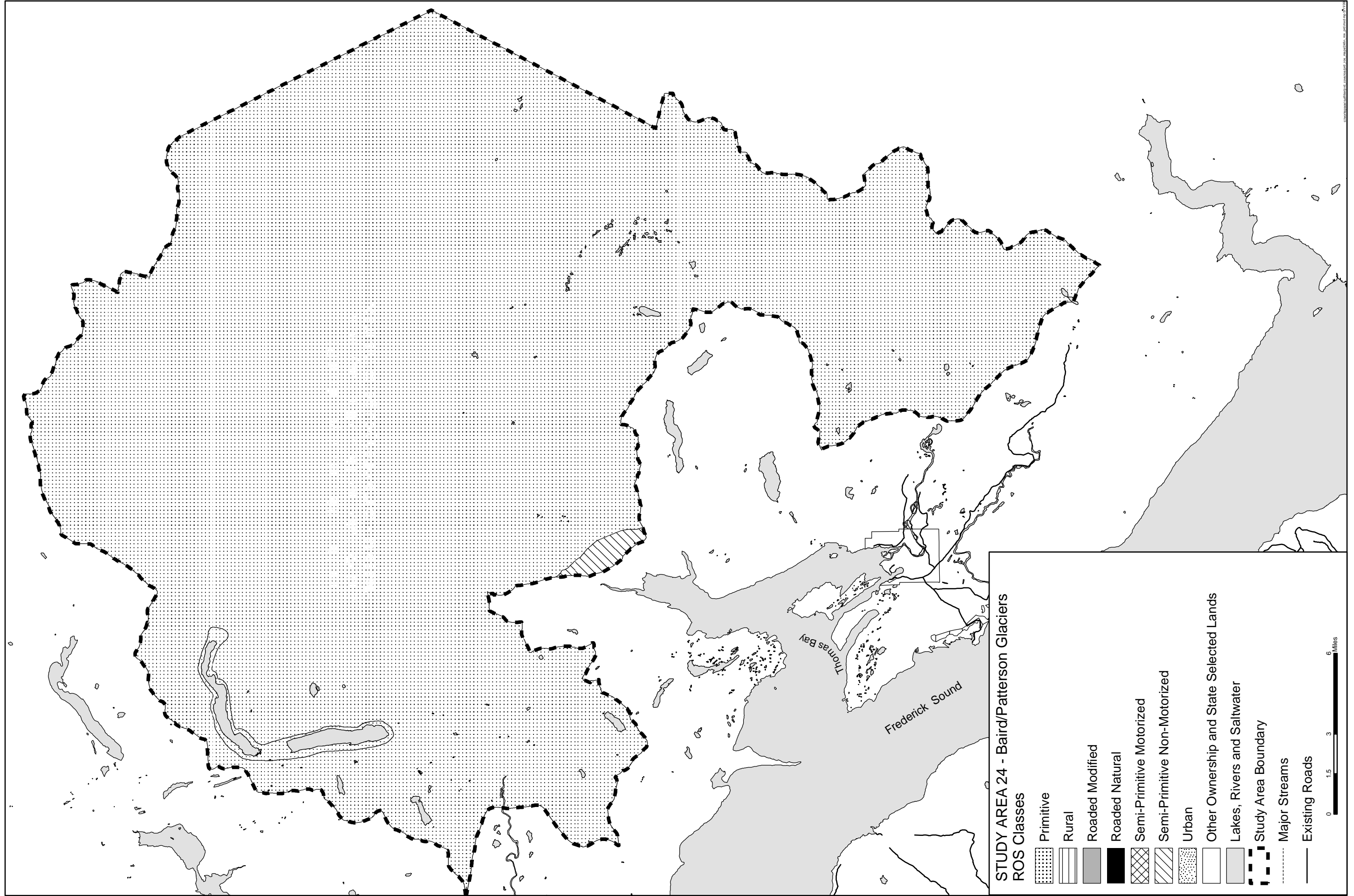
















## **APPENDIX B**

### **Wilderness Needs Assessments**



**Commercial Services Needs Assessment for the  
Petersburg Creek – Duncan Salt Chuck Wilderness  
Petersburg Ranger District  
Tongass National Forest**

Prepared by: Brad Hunter, Kathy Rodriguez, Russ Beers

Date: November 2009

**EXECUTIVE SUMMARY**

The Petersburg Ranger District, Tongass National Forest, developed the Commercial Services Needs Assessment for the Petersburg Creek – Duncan Salt Chuck Wilderness (Needs Assessment) to determine the type, extent, and location of outfitter/guide use that could take place in the Petersburg Creek – Duncan Salt Chuck Wilderness (PCDSCW). A needs assessment is a method for determining if there is a 'need' for private enterprise to assist the agency in providing access, services and/or other assistance for the recreating public to safely and properly enjoy National Forest Wilderness Areas, and if so, the extent necessary. This document is tiered to the Tongass Forest Plan as amended in February 2008 and the *Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest* (USDA Forest Service 2007).

The PCDSCW area includes Petersburg Creek which spills down a typical u-shaped glacier-cut basin with mountain peaks overlooking the valley and the Duncan Salt Chuck, a large, tidally influenced salt marsh with opportunities for bird watching, kayaking, salmon and trout fishing, hunting, and exploring. The PCDSCW area has a moderate to high quality of wilderness character. It is highly untrammeled; the area largely operates without human management or manipulation. The ecosystems are largely intact with few non-native species and good native populations, providing for a high level of naturalness. There is little human development in the wilderness. The solitude or primitive and unconfined recreation opportunities are moderate to high depending upon the location and season that a person is visiting the wilderness. The lower Petersburg Creek area has the highest boat and foot traffic, while most of the wilderness can experience aircraft over-flights. The PCDSCW area also provides many opportunities for solitude.

As managers, the Forest Service (FS) will strive to maintain a natural environment so that it may be relatively free from modern human manipulation and impacts and relatively free from the encumbrances and signs of modern society. The FS will strive to maintain a balance of uses by authorizing permitted operators to conduct suitable activities in a Wilderness setting while the casual, unguided visitor may also have an opportunity for solitude. The FS will continue monitoring to ensure that the balance is properly maintained.

A commercial services needs assessment for freshwater fishing, remote setting nature tours (RSNT) and hunting is as follows:

**Freshwater fishing:** Low amounts of guided fishing takes place within this Wilderness Area, although Petersburg Creek is one of the highest recreational use fishing areas on the Petersburg Ranger District. The guided use has ranged from 10 RVDs in 2002, to 1 RVD in 2005 (Table 1). The primary location for fishing is Petersburg Creek. There have been impacts in the past from steelhead fishers camping along the stream banks. If a new proposal was submitted for overnight use, development of a *Leave No Trace* plan specific to that campsite would be necessary for a successful outcome. In the past decade there has been an increase in the amount of jet skiff traffic on Petersburg Creek. This has resulted in concerns about damage to fish habitat, and it has affected fishers in the stream when the boat passes them. If a guide proposed using a jet skiff to travel up the stream, the Plan of Operations should address how to minimize the impacts.

## Appendix B

By having guided recreationists using Petersburg Creek, the Forest Service will be able to work in a partnership with the operator to ensure there will be minimum impacts to the wilderness resource and the public will receive education in wilderness ethics and *Leave No Trace* practices.

Fishing from boats in the saltwater is an activity that occurs off National Forest System lands and therefore is not an activity regulated by the US Forest Service.

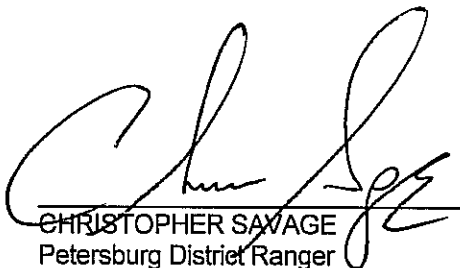
**Commercially guided freshwater fishing in the Petersburg Creek – Duncan Salt Chuck Wilderness will be authorized through this needs assessment.**

**RSNT:** Visitors in this category access the area via watercraft or floatplane. Having the knowledge, skills, experience, and equipment, even in good weather, to navigate the waters of Southeast Alaska or to fly into the lake, are things the average visitor may not have. Boat taxis from nearby Petersburg can drop hikers off for independent walks. Through interpretation of the areas natural and cultural history, guides can increase the appreciation of the area for the people they are serving, as well as help minimize resource impacts through *Leave No Trace* education. Cruise ships have historically brought large tour groups onto the Petersburg Lake Trail but their use stops before the wilderness boundary.

**Commercially guided RSNT in the Petersburg Creek – Duncan Salt Chuck Wilderness will be authorized through this needs assessment where the standards for a Primitive ROS experience can be met.**

**Hunting:** There has been concern expressed by hunters and guides that overcrowding is occurring on the Tongass for bear hunting. The Forest Service is not aware of this being an issue specific to the Petersburg Creek – Duncan Salt Chuck Wilderness. The State of Alaska does not allow black bear hunting in the Petersburg Creek drainage, which leaves open only the Salt Chuck area. Over a five year period, 2002 had 2 RVDs for hunting while the other years had zero RVDs (Table 1). The Duncan Salt Chuck is accessed either by flying in via floatplane or by small boat from Petersburg. The channel that accesses the salt chuck is rife with scattered rocks and restricted by the tides, making it difficult for the uninformed boater to navigate. Having a guide will improve the safety for boating into the salt chuck. To minimize impacts to recreationists who have rented the public recreation cabin in the Duncan Salt Chuck, the operators should have a strategy to use the bay in a manner that would minimize impacts to the cabin users.

**Commercially guided hunting in the Petersburg Creek – Duncan Salt Chuck Wilderness will be authorized through this needs assessment.**

  
CHRISTOPHER SAVAGE  
Petersburg District Ranger

11/25/09  
Date

## I. Introduction

The Petersburg Ranger District, Tongass National Forest, developed this Needs Assessment to determine the type, extent, and location of outfitter/guide use that could take place in the Petersburg Creek – Duncan Salt Chuck Wilderness (PCDSCW). Needs assessments are a tool use to determine if there is a ‘need’ for commercial enterprise to assist the agency in providing access, services and/or other assistance for the recreating public to safely and properly enjoy National Forest Wilderness Areas, and if so, the extent necessary. This document is tiered to the Tongass Forest Plan as amended in February 2008 and the *Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest* (USDA Forest Service 2007).

Commercial activities identified in the Tongass National Forest needs assessment that currently take place in this Wilderness Area include:

- freshwater fishing;
- black bear hunting; and
- remote setting nature tours (RSNT).

### Assumptions

The following are assumptions made to aid in the assessment of the need for outfitter/guide operations:

- Visitor use is expected to remain at current levels or continue to increase (TLRMP Amendment Record of Decision 2008). There may be shifts in use patterns (timing and location) and user types (hikers, backpackers, day users, etc.). However, with the current economic downturn, it is difficult to predict if this expectation will remain true for the next 2-5 years.
- Some people will not visit the wilderness without an outfitter or guide because they lack the skills, knowledge, equipment, or ability to do so on their own.
- Conflicts between outfitter/guide operations and the non-outfitted/guided public have the potential to increase as overall use increases.

Activities proposed by guides are wilderness dependent (i.e. experience depends upon a wilderness setting) and appropriate to a wilderness setting.

## II. Wilderness Management Direction

See Appendix 1. Wilderness Management Direction.

### Goals and Objectives for Wilderness

Manage designated Wilderness to maintain an enduring wilderness resource while providing for the public purposes of recreational, scenic, scientific, educational, conservation, and historical use, as provided in the Wilderness Act of 1964 and ANILCA.

- Manage wilderness as a place where self reliance and primitive skills are needed and can be honed by the public.
- Provide for public use of the wilderness in accordance with ANILCA provisions for motorized and non-motorized access and travel, including reasonable access to traditional subsistence resources.
- Provide trails and primitive facilities that are in harmony with the natural environment and that promote primitive recreation opportunities. Feature facilities designed primarily to provide

resource protection and encourage smaller group size. Facilities and trails tend to allow for challenge and risk instead of convenience.

- Maintain the wilderness to provide information on natural ecological processes.
- Preserve and perpetuate biodiversity. Inventory and reduce or eliminate invasive species in wilderness.

### III. Visitor Use and Commercial Use

#### Historical Use of the Wilderness Areas by Outfitters and Guide

Since 2002, permitted use has included fishing, big game hunting, and sightseeing (remote setting nature tours). There is sightseeing from kayak groups boating up Petersburg Creek but they rarely come ashore. Note that in the Petersburg Ranger District Recreation Use Carrying Capacity Report (2009), Petersburg Creek is considered within the home range of Petersburg and the City of Kupreanof. As a result, a smaller portion of recreation use is allotted to commercial operators on Petersburg Creek.

Actual use has ranged from two permit holders using two recreation visitor days (RVDs) in 2008, to three operators with 10 RVDs in 2002 (Table 1).

**Table 1. RVDs used by Outfitters/Guides from 2002 through 2008.**

Activity	2002	2003	2004	2005	2006	2007	2008
Fishing	10	2	4	1	3	5	0
RSNT*	0	0	0	0	0	0	0
Black bear or wolf hunting	0	0	0	2	0	0	2
Total RVDs	10	2	4	3	3	5	2

\*RSNT – remote setting nature tours, includes sightseeing, hiking, wildlife viewing, etc. at remote sites (not accessed by road system).

#### Niche and Description

Petersburg Creek spills down a typical u-shaped glacier-cut basin with mountain peaks overlooking the valley. With the close proximity to the communities of Petersburg and Kupreanof, the mouth of the creek is enjoyed by residents of Petersburg, Kupreanof, and visitors alike, for picnicking, fishing for salmon and steelhead, paddling, and hiking. The Petersburg Lake Trail and the primitive Portage Mountain Loop trail allow access to two Forest Service public cabins. The Duncan Salt Chuck, a large, tidally influenced salt marsh, offers wonderful opportunities for bird watching, coho and trout fishing, hunting, and exploring.

The 46,849 acre wilderness is composed of two major sections: the Petersburg Creek watershed, and the area surrounding the salt chuck at the head of Duncan Canal. The eastern border of the wilderness is about five miles west of the City of Petersburg. It abuts the small community of Kupreanof on the east. The western side of the wilderness can be reached by boating or flying to the Duncan Salt Chuck at the northern end of Duncan Canal. Petersburg Lake is in the central portion of the wilderness and can be reached by hiking or flying into the lake.

#### Existing Condition

One way existing condition can be assessed is to divide wilderness character into the four components of untrammeled, natural, undeveloped, and opportunities for solitude and primitive and unconfined recreation:

- ❖ Untrammeled. This quality describes the degree to which management actions “hinder” or “control” the land and natural processes. For example, the Wilderness Area has

remained free of management activities that have altered natural systems, such as dams or regulations that govern visitor activities

- ❖ Natural. This quality describes the ecological effects of management actions that manipulate vegetation, soils, air quality, or other physical and biological components of wilderness. Wildlife found within the area includes black bear, Sitka black-tailed deer, and wolf. Moose exist in the area, but in relatively small numbers. The list of smaller fur bearing animals common to the area include beaver, mink, American marten, land otter, and weasel. Annual surveys for native and non-native plants began in 2003. The Wilderness Area has relatively intact native plant communities, with the exceptions being a significant population of brass button (*Cotula coronopifolia*) in the upper Duncan Canal tideflats, and other minor plant populations at existing public and special use cabin locations.
- ❖ Undeveloped. This quality describes the effects of structures, habitations, or other evidence of human presence or occupation. There are two public recreation cabins within the Wilderness Area, one at Petersburg Lake and one in the Duncan Salt Chuck. There are three special use cabins located four miles up from the mouth of Petersburg Creek. The Petersburg Lake Trail is 10.4 miles long, with six miles inside the wilderness from the high tide trailhead to the Petersburg Lake cabin. Approximately ½ of the trail is single wide wood plank with the remainder native tread.
  - The Petersburg Creek drainage is an often used flight path for local airplane traffic enroute to Kake or other westerly destinations from the Petersburg airport or harbor.
  - Floatplanes land on Petersburg Lake, primarily transporting people to and from the cabin. In general, the expectation is that there will be less evidence of human occupation as one travels farther inland away from the shoreline.
  - Although there have not been surveys for general public use levels, field crews have noticed an increase in the amount of jet boat traffic on Petersburg Creek and an increase in the distances traveled up the creek.
- ❖ Opportunities for solitude and primitive/unconfined recreation. Visitors to the upland of the Wilderness Areas can expect a low-to-moderate probability of experiencing isolation from most sights and sounds of humans. Jet skiffs are commonly used to access the lower Petersburg Creek drainage, so visitors will see and hear jet boat, outboard, or even jet ski traffic on the lower creek. "The Logjam" is typically the upper limit for jet skiffs, approximately six miles up from the Wrangell Narrows. Historically outboard skiffs went only up the creek on extreme high tides, but the advent of jet skiffs has created higher levels of motorized use during a wide range of water levels. Small aircraft use the drainage as a flight route so airplanes are a common sight and sound. As an example, crews who were monitoring on July 15, 2008 between 0700 and 1800 hours counted 14 over-flights that included helicopters, floatplanes, and a jet. Visitors on the lower creek can often hear distant noises from the community of Petersburg, including noises from the canneries, ferries, and airport.
  - The Duncan Salt Chuck area receives much lower boat use than the Petersburg Creek area, since the salt chuck is about 40 water miles from town and because the rapids at the mouth of the Salt Chuck can only be navigated at high slack tide. It is unusual to see another boat there. The sights and sounds of aircraft are comparable to, or higher than, the numbers for the Petersburg Creek drainage since over-flights include those that use the Petersburg Creek route, as well as flights from the more frequently used Duncan Pass route.

Within 30 days of the end of the operating season, commercial outfitter/guide permit holders submit an Actual Use Report that lists the locations (latitude and longitude), type of use, number of clients, and length of stay at each location. From this information, the Forest Service can determine the number of RVDs

## Appendix B

utilized at each location, by each group (Table 2). It also provides a mechanism to monitor the amount of use at each location. The actual use information is then used to help determine the areas that get field checked.

**Table 2. Number of outfitters/guides that used the Petersburg Creek – Duncan Salt Chuck per year.**

Year	Number of O/G
2002	3
2003	1
2004	1
2005	2
2006	1
2007	3
2008	2

### Desired Condition

The Wilderness Act of 1964 directs “each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area.” Section 2(c) of the Act defines four qualities of wilderness that managers try to preserve.

As described in the 2008 Amended Forest Plan,

All designated wilderness on the Tongass National Forest is characterized by extensive, unmodified natural environments. Ecological processes and natural conditions are not measurably affected by past or current human uses or activities. Users have the opportunity to experience independence, closeness to nature, solitude, and remoteness, and may pursue activities requiring self-reliance, challenge, and risk. Motorized and mechanized use is limited to the minimum needed for the administration of the wilderness. Allow for access to state and private lands, subsistence uses, and public access and other uses to the extent provided for by ANILCA.

- **Untrammeled** – *The wilderness is essentially unhindered and free from modern human control or manipulation.*  
The desired condition is an improving or stable trend in actions that control or manipulate the wilderness. These actions include ones that manipulate plants, animals, pathogens, soil, water, or fire, whether authorized or unauthorized by the Forest Service.
- **Natural** – *Wilderness ecological and evolutionary systems are substantially free from the effects of modern civilization.*  
The desired condition is for the trend of the effect of modern civilization on plant, animal, pathogen, physical, and biophysical resources to be stable or decreasing.
- **Undeveloped** – *Wilderness retains its primeval character and influence and has minimal evidence of modern human occupation or modification.*  
The trends in recreational and non-recreational developments, use of motor equipment and transport, and loss of statutorily protected cultural resources is stable or decreasing.
- **Outstanding opportunities for solitude or a primitive and unconfined type of recreation** – *Wilderness provides outstanding opportunities for people to experience natural sights and sounds, solitude, freedom, risk, and the physical and emotional challenges of self-discovery and self-reliance.*

The trend is stable or improving for: remoteness from sights and sounds of people inside and outside wilderness; number of facilities that decrease self-reliant recreation; number of trails and level of trail classes; and amount of management restrictions on visitor behavior.



## Recreation Opportunity Spectrum (ROS) and Visitor Capacity in the Petersburg Creek – Duncan Salt Chuck Wilderness

ROS is a system for inventorying and categorizing recreation experience opportunities into seven classes as identified in the Tongass Land Management Plan. Each class is defined in terms of the degree certain recreation opportunities are possible based on the extent the natural environment has been modified, types of facilities provided, the number of interactions expected with other groups of people, and the relative density of recreation use.

The PCDCSW is practically all in the Primitive ROS class. We consider ROS standards and guidelines when looking at the need for guided services (Appendix 2, description of this ROS class). The Forest Plan directs us to manage wilderness recreation activities to meet appropriate levels of social encounters, on-site development, methods of access, and visitor impacts indicated for the Primitive ROS class.

Visitor use capacity is the approximate number of people that can visit a portion of the National Forest while having the prescribed recreation (ROS) experience, consistent with the desired conditions. The reason to determine capacity is twofold: to ensure both that visitors can enjoy recreational experiences that meet their expectations and ensure that the landscape can sustain the given level of use. Knowledge of existing use, projections of future demand, capability of an area to withstand impact, and useable terrain can be analyzed to determine capacity. For example, an area accessed by foot with multiple valleys to hunt would have a greater ability to accommodate a higher capacity of users than a small alpine lake, accessed seasonally by float plane, with one flat site for camping. Another challenge is that different recreation user groups may have different expectations; i.e., a group of six people from a tour boat that has 300 people aboard may have a different comfort level with seeing other people on shore in the wilderness, as compared to the solitude anticipated by a pair of sea kayakers who have not seen any people for several days.

There are several aspects in determining capacity, including social, biophysical, managerial, and facility capacity:

- **Social.** This refers to the sights and sounds of other people, which may impact the group's experience:
  - *Is this an area heavily used by residents?*
  - *Can people spread out over the area with little chance of encounters?*
  - *How long is the useable season?*
  - *Are there other types of recreation use that are not compatible with the proposed use?*
- **Biophysical.** This refers to the biological resources found in the area potentially impacted by visitors. Biophysical attributes influence whether a setting is capable of providing a particular recreation opportunity without degrading an area's ecological processes, structure, composition, resilience, integrity, potential, as well as the setting's ability to restore itself and provide for other resource uses and values:
  - *Are there plant or wildlife concerns?*
  - *Are campsites and travel routes located on durable surfaces?*
  - *Are user-created trails causing erosion or other unacceptable impacts?*
- **Facility.** This refers to physical attributes of the area that make it useable by visitors:
  - *How many campsites are available?*

- *Are there adequate locations for camps?*
- *Are there adequate anchorages in the saltwater?*
- *Is access by foot, water, or plane easy or difficult?*
- **Managerial.** This refers to policies, management objectives, or rules that can increase or decrease visitor capacity in an area.

Once a need is determined, we estimate the capacity of the area to accommodate the activity by evaluating terrain, screening, campsite availability, and other factors. See the 2009, Recreation Use Carrying Capacity Report for Petersburg Ranger District.

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## IV. Special Knowledge and Skills Needed for Activities in the Petersburg Creek – Duncan Salt Chuck Wilderness

### Potential Categories of Public Need<sup>1</sup> for Commercial Services

Guides can serve as important partners for the Forest Service. In particular, guides can provide wilderness awareness, wilderness ethics education, and *Leave No Trace* education. Resource protection activities, such as reporting of invasive plants and illegal activities have been helpful in the past and could help the Wilderness Areas achieve a higher level of wilderness character. Guides can help build constituency and support for wilderness among those groups of people who might not be exposed through typical outreach (for example, big game hunters).

The following are potential categories of public need for commercial services within the Petersburg Creek – Duncan Salt Chuck Wilderness:

- People with physical limitations;
- People pursuing activities where knowledge, equipment, and skill needed makes unguided use extremely difficult if not impossible. In addition, people pursuing activities where the opportunity does not exist outside of wilderness;
- People wanting to take trips that focus extensively on wilderness; or
- Wilderness stewardship activities that could be enhanced by outfitter/guides.

### Process for Determination of Public Need

“Public need” is a need determined to be essential for the well being of the entire public, guided and unguided, or to meet the intent of the Forest’s mission to manage and protect resources, provide for public safety, and to provide high quality recreation services. Within wilderness the intended use should be dependent on the wilderness resource. **A guide wanting a permit does not always mean there is a public need.**

Evaluation Criteria used for determining the need for outfitter assistance in the management of the Wilderness Area:

Wilderness Dependency. The extent the proposed service can be offered on private or non-wilderness national forest lands. Some examples of these services could be:

- <sup>1</sup> A desire for commercial services or the fact that the presence of a guide could enhance a visitor’s experience should not be confused with “need.”

- a. Trips in which solitude and unconfined, primitive recreation are the central components of the experience.
- b. Visits to ecosystems, geological, or physical resources found in wilderness for recreational, scientific, or educational purposes.

Forest-wide availability. Does this activity occur elsewhere in other wildernesses on the Tongass? For example, if an activity occurs in abundance in other areas, there may not be a need to accommodate it in these Wilderness Areas.

Wilderness Character. Will outfitter/guide activities preserve or improve the four qualities of wilderness character? Alternatively will outfitter/guide activities degrade wilderness character? For example, will the natural quality or the primitive recreation quality be impacted by an increase in fishing guides? Will the natural quality or primitive recreation be improved by outfitter/guides that are well-trained in *Leave No Trace* education?

Skills and Equipment. Outfitter/guide skills and equipment are needed by a portion of the public because of one or more of the following:

- a. Specific skills required for activities appropriate for the area require substantial time and/or talent to learn.
- b. Learning necessary skills and participating in the activity requires acquisition and consistent use of expensive, specialized equipment for which the public could not, or normally would not, expend the dollars or time.
- c. The skills required are so unique that the use of a guide is almost a prerequisite if the public is to have any opportunity to participate in and enjoy the activity.

Knowledge. Guide knowledge of the wilderness resource and the activity area is needed by the public, and especially nonresidents, in order to enjoy recreational opportunities in a manner that reduces resource damage and user conflicts. This includes knowing where and by what method to best access and travel through an area.

Safety. An outfitter/guide's special skills and equipment are needed for a reasonable level of safety for the participants. Without guide assistance, members of the public could seriously endanger their health or lives, or would not visit the wilderness due to safety concerns. These criteria are not meant to diminish the wilderness values of self-reliance or the opportunity to challenge oneself or experience a degree of risk.

Special Management Objectives and/or Issues. An outfitter/guide is needed to ensure special management objectives are met and/or issues resolved. Examples include recreational opportunities for disabled populations, instilling a wilderness ethic in clients, contribution to rural area development and economy of formerly commodity based areas, and assistance in reducing critical resource impacts and/or conflicts between users.

Extent Existing Outfitter/Guide Permits are Being Utilized. Are current outfitted or guided assignments booked or over-booked, indicating a larger interest in the service?

Level of Use and Conflict. Are there conflicts between types of users, private and commercial, in the wilderness? What is the compatibility of commercial, institutional, and general public use, and the amount of use and social capacity within a given area of the wilderness? Are use patterns (congestion and number of encounters) a potential problem? Is there a temporal congestion pattern—weekend use versus weekday use, day versus overnight use? Over time, what is the general trend? Is the projected future condition compatible with desired future condition?

Land Capability & Resource Concerns. Can the guide contribute to the protection of the land through his/her educational emphasis? What is the level of interference an outfitter/guide operation will have with the natural biological and physical processes of the wilderness? Can a guide help minimize impacts from camping by applying *Leave No Trace* skills by choosing beach campsites that are durable, yet also safe for overnight use? Can the guide help minimize campfire resource damage by teaching the best methods of building fires? Can a fishing guide help minimize streamside impacts, including stream bank erosion and fishing tackle litter?

Public purpose. The Wilderness Act Section 4(b) specifies “wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.” Guide services must help fulfill these purposes of wilderness. Does this activity contribute to the public purposes established for this wilderness? When considering the extent necessary, can people reasonably participate in this activity without a guide or is having a guide a prerequisite? Does this activity serve a broad segment of the population or is it limited to a select few?

Type of Activity and Criteria	Rating Summary
<b><u>Fishing/day hiking</u></b> <b><u>(freshwater - foot travel)</u></b>	
Wilderness dependency	Low; other streams available
Forest- wide availability	High
Wilderness character	Low impact
Skills and equipment	Moderate to low. Moderate cost for equipment
Knowledge	Moderate
Safety risk	Low to moderate
Special objectives	Low
Demand/utilization	Moderate
Level of use and conflict	Low
Land capability	Moderate, hiking trail provides durable access
Public purpose	High – recreation and scenic
<b><u>RSNT (including day kayaking)</u></b>	
Wilderness dependency	Moderate – few areas
Forest- wide availability	Low to moderate – few places on the Tongass with similar easy access
Wilderness character	Low impact
Skills and equipment	Moderate skill required
Knowledge	Moderate to low, depending on location
Safety risk	Moderate (bears cold water, protected waters)
Special objectives	Moderate
Demand/utilization	Low
Level of use and conflict	Low
Land capability	Moderate
Public purpose	High – non-motorized transportation, traditional skills development

Type of Activity and Criteria	Rating Summary
<b><u>Big game hunting</u></b>	
Wilderness dependency	Low; other areas available
Forest -wide availability	High
Wilderness character	Low impact with LNT
Skills and equipment	High skill required – high cost/equipment
Knowledge	Moderate
Safety risk	High
Special objectives	High
Demand/utilization	Moderate
Level of use and conflict	Moderate
Land capability	Moderate

## V. Need for and Extent of Commercial Use in the Petersburg Creek – Duncan Salt Chuck Wilderness

### Freshwater fishing

#### Wilderness dependency.

- a. **National Forest System (NFS) land.** Opportunities exist outside of the Wilderness Area for freshwater fishing. Approximately two-thirds of the Tongass National Forest, including the fresh water streams, is not designated wilderness. Most of the non-wilderness streams in Southeast Alaska are open for fishing, with a reasonable chance of success.
- b. **Non-NFS land.** Opportunities for fishing and day hiking are limited. The majority of Southeast Alaska, including the fresh water streams, is within the Tongass National Forest, and the opportunity for freshwater fishing is proportionate.

Forest-wide availability. The Tongass offers this activity in other Wilderness Areas.

Wilderness character. Use is temporary in nature and would not negatively impact the qualities of naturalness, untrammled, and undeveloped. Guided and unguided groups alike tend to hike and fish in the same attractive areas. Impacts to opportunities for solitude and primitive and unconfined recreation could occur, particularly in those areas where screening by vegetation and topography is low.

Skills and equipment. Unguided freshwater fishing is common in the Petersburg Creek drainage, and to a lesser extent in the salt chuck area. Guided fishing is less common. Fishing for steelhead is primarily in April and May, trout fishing is during most of the year, and coho is popular in August and September. There is no special skill needed for fishing, although fly-fishing can take some time to master. The uplands along Petersburg Creek are accessed by the Petersburg Lake Trail. Guides can impart knowledge of catch and release techniques, where the runs are occurring, fish identification, avoiding bear encounters on fish streams, and proper fish disposal methods. In addition, a boat is normally needed for access and not all persons have the skills to successfully navigate a boat to this area, given the need for local knowledge of the area (weather, tides, etc.).

Knowledge. A guide can provide assistance and information to visitors who are unfamiliar with the terrain and environment of Southeast Alaska. Many non-resident visitors do not where to hike or fish safely and successfully.

Safety risk. Hazards encountered might include black bears, getting lost, slips and falls, and hypothermia. The presence of an outfitter/guide can contribute to a feeling of safety. A portion of prospective wilderness visitors may not visit the area on their own because of concerns for their safety.

Special objectives. Outfitters and guides promote proper catch and release techniques and an understanding of population dynamics in isolated streams and lakes. Outfitter/guides are required to turn in freshwater fishing logs to ADF&G. Results of these are used to determine non-resident fishing harvest.

Demand/utilization. There have been few requests for this activity in the past ten years. Relative to the rest of the District the demand is high on Petersburg Creek for fishing, but the majority of this use is unguided, and a good portion of it does not take place on National Forest or within PCDSCW. Most of the fishing takes place from boats on the lower reaches of the stream in the intertidal area.

Level of use and conflict. There have been some conflict-of-use reports on Petersburg Creek between fly fishers and jet skiffs. Conflicts include boats passing fishers standing in the water, and logs in the stream being cut out to allow passage of boats upstream of the logjam.

Land capability. Currently, resource concerns from fishing includes litter along stream banks, development of 'fishing paths', removal of large woody debris from streams to allow for passage by small boat (such as cutting logs at the "log jam"), and displacement of wildlife.

Resource concerns from fishers who overnight camp include tree-cutting, litter, fire rings, and social trails. Most of the camping occurs in the lower reaches of Petersburg Creek. There are currently three known impacted campsites in the wilderness. Campsite monitoring measurements have shown that the amount of impact has varied. Some years the campsites receive significant impacts, but then a span of time occurs with no use. This allows some of the sites to revegetate. Education efforts should encourage the concentration of impacts on the previously used campsites, since there are few durable sites within the wilderness.

Public purpose. This activity contributes to the recreational purpose (fishing).

### Remote Setting Nature Tours (RSNT)

#### Wilderness dependency.

- a. **National Forest System (NFS) land.** Opportunities exist outside of the Wilderness Area for RSNT. Approximately two-thirds of the Tongass National Forest is not designated wilderness.
- b. **Non-NFS.** Opportunities for RSNT are limited. The majority of Southeast Alaska is within the Tongass National Forest, and the opportunity for RSNT is proportionate.

Forest-wide availability. The Tongass offers this activity in several other Wilderness Areas.

Wilderness character. While floatplanes are allowed on lakes through enabling legislation (ANILCA), permitting guides to conduct this activity does allow a higher level of motorized activity and could contribute to a loss of solitude in these areas. As long as these activities are low levels of use, day-use, and temporary in nature, they will not be expected to significantly impact the natural, untrammelled and undeveloped qualities already present.

Skills and equipment. RSNT activities include sightseeing, kayaking, hiking, and wildlife viewing, at remote (non-road system NFS lands) locations. Hiking is a skill that is relatively easy to master. Hiking equipment can be obtained at relatively inexpensive prices at stores nationwide. Wildlife viewing equipment such as spotting scopes, cameras, and binoculars are obtained at various locations nationwide or they can be provided by the outfitter/guide. For flight seeing, an aircraft is required, which the average visitor would not own.

Knowledge. A guide can provide assistance and information to non-resident visitors who are unfamiliar with the terrain and environment of Southeast Alaska. It is unlikely that the average non-resident visitor would possess the knowledge where to hike, view wildlife and spectacular scenery safely and successfully. Many visitors do not have the knowledge to safely navigate the tidal flat and waters to reach this area. Guides can teach visitors the techniques of how to minimize their impacts while hiking through the forest or muskegs. Guides who frequent the area also have the historical knowledge of the area of where the best durable trails are located, as well as what areas to avoid due to previous impacts.

Safety risk. Hazards encountered might include bears, slips and falls, sudden weather changes, and hypothermia. The presence of an outfitter/guide could contribute to the safety of non-resident visitors. A portion of prospective wilderness visitors would probably not visit the area on their own because of concerns for their safety.

Special objectives. There is a need for outfitters and guides to provide services to educate the public regarding the wilderness resource and *Leave No Trace*. Visitors who learn these skills can use them in other Wilderness Areas. Outfitters whose trip emphasis is based on appreciation for the wilderness and educating clients and instilling a wilderness ethic can assist in meeting this management objective. An outfitter can also inform the Forest Service of their observations, including other groups seen and resource damage observed.

Demand/utilization. See next paragraph.

Level of use and conflict. Current level of guided use is low. The lower Petersburg Creek area (inside and outside wilderness) receives a high amount of unguided use, primarily people in power boats, kayaks on day trips, or hikers coming up the trail. There is guided kayak use on the lower creek, but it is usually before the wilderness boundary.

Land capability. An outfitter/guide must educate visitors on *Leave No Trace* techniques and show them how to minimize visitor impacts from RSNT.

Public purpose. This activity can contribute to the recreational purpose (RSNT).

## Hunting.

### Wilderness dependency.

- a. **National Forest System (NFS) land.** Opportunities exist outside of the Wilderness Area for hunting. Approximately two-thirds of the Tongass National Forest is not designated wilderness. Most of the non-wilderness lands in Southeast Alaska are open for hunting.
- b. **Non-NFS.** There are fewer opportunities for hunting in the vicinity on private or state lands. The majority of Southeast Alaska is National Forest system lands, and the opportunity for hunting is proportionate.

Forest-wide availability. Guided hunting is offered in other Wilderness Areas on the Tongass, and across most of the other land use designations.

Wilderness character. ADF&G sets harvest levels. Most clients and guides live on a boat and spend very little time in the upland areas of the wilderness during a typical day hunt. Guided hunting should have little effect on wilderness character.

Skills and equipment. Hunters need to have the skill to identify and stalk, in a dynamic, challenging environment, and do it in a way that is respectful of the wildlife and the wilderness resources. While it is hoped that most hunters will follow proper procedures, a guide can ensure that ethical hunting practices and procedures are followed.

Knowledge. Guides are knowledgeable about animal behavior, as well as how to avoid areas where conflict may occur with other recreational or subsistence users. This information is not readily available to the average nonresident hunter. Guides can ensure that a hunter knows the appropriate *Leave No Trace* practices for the rainforest environment.

Safety risk. Hazards that might be encountered include wounded black bears. Guides generally have more knowledge about how to track and retrieve animals and have back-up rifles in case of emergency. There have been infrequent maulings of hunters by black bear.

Special objectives. Guides can help accomplish ADFG's harvest objectives and can ensure that hunters care for and process the carcass in accordance with state law. The guide hunt records, turned in to the Commercial Services Board, help track harvest locations and hunter success rates. Since Duncan Salt Chuck is a valuable waterfowl area, there is potential for a permit request for waterfowl hunting. This would be an appropriate use and would not interfere with other recreationists since the use levels are low due to reasons previously stated.

Demand/utilization. There is little demand for guided hunting in this wilderness. One reason is the State of Alaska has the Petersburg Creek drainage closed to black bear hunting. The Duncan Salt Chuck area is open for bear hunting and has been used occasionally by one permit holder. The Petersburg Ranger District has a maximum number of 188 black bear hunts authorized to outfitter/guides per year on the entire district.

Level of use and conflict. The State has designated the Petersburg Creek drainage as a bear sanctuary and is closed to black bear hunting. The current level of commercial use is low in the remainder of the wilderness, and especially in Duncan Salt Chuck. As shown in Table 1 the guided RVDs have been low and fairly stable the past five years.

Land capability. Current resource concerns from hunting are low. Unguided hunters have been known to leave carcasses at the Salt Chuck East cabin, but this has not been associated with commercial use. Guides may be able to help educate the public about proper hunting techniques.

Public purpose. This activity contributes to the recreational purpose (hunting).

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## VI. Determination of Need and Extent

As stated in the Introduction, above, this document is tiered to the Tongass Forest Plan and the *Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest* (2007). The Forest-level Determination of Need document, states "subsequent decisions regarding the type, extent, amount, and location of commercial use for all Wilderness Areas on the Tongass must be made on a wilderness-by-wilderness basis." It further states, "Future decisions or revisions of environmental documents that allow commercial services in a Wilderness Area will be specific to each wilderness and include":

1. A statement defining the wilderness character;



2. Specific information regarding the wilderness values which require monitoring or protection;
3. A finding that commercial services are necessary for that Wilderness Area;
4. A description of the uses to authorize;
5. The amount of use to authorize; and
6. A description of the extent of activities.

The items specific to the Petersburg Creek – Duncan Salt Chuck Wilderness Area are addressed, below.

### Statement defining the Wilderness Character of the Petersburg Creek – Duncan Salt Chuck Wilderness Area

The PCDSC Wilderness Area has a moderate-to-high quality of wilderness character. It is highly untrammeled; the area largely operates without human management or manipulation. The ecosystems are largely intact with healthy native populations and few non-native species, providing for a high level of naturalness. The moderate, undeveloped character of the wilderness is affected by the two public recreation cabins, three special use cabins, six miles of improved trail (Class 3), and about 10 miles of undeveloped trail (Class 1). The solitude or primitive and unconfined recreation opportunities are moderate-to-high depending upon the location and season of use. The lower Petersburg Creek area has the highest boat and foot traffic, while most of the wilderness can experience aircraft over-flights.

### Finding or Determination of Need for Commercial Use

**Determination of need for commercial use for freshwater fishing:** Low amounts of guided fishing takes place within this Wilderness Area, although it is one of the highest recreational use fishing streams on the Petersburg Ranger District. The guided use has ranged from 10 RVDs in 2002, to one RVD in 2005 (Table 1). The primary location for fishing is at Petersburg Creek. There have been impacts in the past from steelhead fishers camping along the stream banks. If a new proposal is submitted for overnight use, the development of a *Leave No Trace* plan specific to that campsite will be necessary for a successful outcome. In the past decade there has been an increase in the amount of jet skiff traffic on Petersburg Creek. This has resulted in concerns about damage to fish habitat and effects to fishers in the stream when a boat passes. If a guide proposes using a jet skiff to travel up the creek, the Plan of Operations should address how to minimize the impacts.

By having guided recreationists using Petersburg Creek, the Forest Service will be able to work in a partnership with the operator to ensure there will be minimum impacts to the wilderness resource and the public will receive an education in wilderness ethics and *Leave No Trace* practices.

Fishing from boats in the saltwater is an activity that occurs off National Forest System lands; therefore, it is not an activity regulated by the US Forest Service.

**Commercially guided freshwater fishing in the Petersburg Creek – Duncan Salt Chuck Wilderness *will* be authorized through this needs assessment.**

**Determination of need for commercial use for RSNT:** Visitors in this category access the area via watercraft or floatplane. Having the knowledge, skills, experience, and equipment, even in good weather, to navigate the waters of Southeast Alaska or to fly into Petersburg Lake, are things the average visitor may not have. Boat taxis from nearby Petersburg can drop hikers off for independent walks. Through interpretation of the area's natural and cultural history, guides can increase the appreciation of the area for the people they are serving, as well as help minimize resource impacts through *Leave No Trace* education. Cruise ships have historically brought large tour groups onto the Petersburg Lake Trail but their use stops before the wilderness boundary.

**Commercially guided RSNT in the Petersburg Creek – Duncan Salt Chuck Wilderness *will be authorized through this needs assessment where the standards for a Primitive ROS experience can be met.***

**Determination of need for commercial use for hunting:** There has been concern expressed by hunters and guides that overcrowding is occurring on the Tongass for bear hunting. The Forest Service is not aware of this being an issue specific to the Petersburg Creek – Duncan Salt Chuck Wilderness. The State of Alaska does not allow black bear hunting in the Petersburg Creek drainage, which leaves only the Salt Chuck area open to bear hunting. Over a five year period, 2002 had two RVDs for hunting while the other years had zero RVDs (Table 1). The Duncan Salt Chuck is accessed either by floatplane or small boat from Petersburg. The channel that accesses the salt chuck is rife with scattered rocks and restricted by the tides, making it difficult for the uninformed boater to navigate. Having a guide will improve the safety for boating into the salt chuck. To minimize impacts to recreationists who have rented the public recreation cabin in the Duncan Salt Chuck, the operators should have a strategy to use the bay in a manner that would minimize impacts to the cabin users.

**Commercially guided hunting in the Petersburg Creek – Duncan Salt Chuck Wilderness *will be authorized through this needs assessment.***

### **Information Specific to PCDSCW Which Requires Monitoring or Protection of Wilderness Values**

The amount of visitor use in the lower Petersburg Creek area should be monitored to ensure a primitive recreation experience is provided. The area receives a relatively high level of use from the general public due to its proximity to the town of Petersburg.

#### **Types of uses to authorize**

Freshwater fishing

Remote Setting Nature Tours (RSNT)

Hunting

#### **Amount of use to authorize**

The amount of use in wilderness is presented in the Petersburg Ranger District Recreation Use Carrying Capacity Report (2009) using the information presented in this needs assessment.

## Appendix 1. Wilderness Management Direction

### **Wilderness Management Direction for a Needs Assessment**

Following is a discussion about when a needs assessment may be employed to address commercial use requests within wilderness when there is a regional or local wilderness management concern.

#### **Direction Provided by the 1964 Wilderness Act**

The Wilderness Act of 1964 states the purpose of Wilderness is “to secure for the American people of present and future generations the benefits of an enduring resource of Wilderness.” Wilderness being an area “affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; . . . has outstanding opportunities for solitude or a primitive unconfined type of recreation; . . . and may also contain ecological, geological, or other feature of scientific, educational, scenic, or historical value.”

The Wilderness Act also describes how Wilderness Areas are to be used and managed. Management is to focus on preserving the wilderness character of the area; and use of the area “shall be devoted to the public purposes of recreational, scenic, scientific, education, conservation, and historical uses.” In realizing these uses wilderness provides an opportunity for solitude or primitive unconfined types of recreation not attainable in settings more man-made, or influenced by humans.

In accomplishing the purpose of, and uses of wilderness, the Wilderness Act gives some additional direction. Specifically, with one notable exception commercial enterprises are prohibited by Section 4(c) of the Act. The exception covered in Section 4(d) (6) says “commercial services may be performed within the Wilderness area . . . to the extent necessary for activities which are proper for realizing the recreation or other Wilderness purposes of the areas.”

#### **Alaska National Interest Lands Conservation Act of 1980 (ANILCA)**

Section 707 of ANILCA states; “Except as otherwise expressly provided for in this Act, wilderness designated by this Act shall be administered in accordance with applicable provisions of the Wilderness Act ...”

Items expressly provided for in ANILCA wilderness are many. Some include;

1. Section 811 – (a) Ensures rural residents reasonable access to subsistence resources and (b) permits the use of snowmobiles, motorboats, and other means of surface transportation traditionally employed for subsistence purposes, subject to reasonable regulation.
2. Section 1010 – Mineral assessments with access by air.
3. Section 1110(a) – Allows for the use of snowmachines, motorboats, airplanes and nonmotorized surface transportation methods for traditional activities on conservation system units, including designated wilderness, and for travel to and from villages and homesites, subject to reasonable regulation to protect the natural and other values of the unit or area.
4. Section of 1303(b)(1) – Allows for the construction of new cabins and administrative cabins if necessary for the administration of the area as wilderness
5. Section 1303(b)(2) – Allows for the continuation of existing cabins.
6. Section 1310 – Allows for the maintenance of existing and future navigation aids and other facilities.

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7. Section 1315(c) – Permitting the continued use and maintenance of public use cabins. 1315(d) allows for the construction of new cabins if they're necessary for the protection of public health and safety.
8. Section 1316(a) – Allows for existing and future establishment of temporary structures necessary for the taking of fish and game subject to reasonable regulation to insure compatibility, the continuance of existing uses, and the future establishment, and use, of temporary campsites, tent platforms, shelters, and other temporary facilities and equipment directly and necessarily related to such activities. Section 1316(b) allows for the denial of the temporary facilities if the use of equipment or facilities is determined to be detrimental to the wilderness character.

During the evaluation of commercial recreation use for any one wilderness, an effort should be made to consider the long-term effects of accommodating increasing uses or proposals for new use. The economic benefits to a business are not a substantive basis of a decision to allow use presented in either the Wilderness Act or ANILCA.

### **Direction Provided by Regulation**

Federal Regulations 36 CFR 293.2 – Objectives, states in part: “Except as otherwise provided in the regulations..., National Forest Wilderness shall be so administered as to meet the public purposes of recreational, scenic, scientific, educational, conservation, and historical uses; and it shall also be administered for such other purposes for which it may have been established in such a manner as to preserve and protect its wilderness character...To that end:

- a) Natural ecological succession will be allowed to operate freely to the extent feasible.
- b) Wilderness will be made available for human use to the optimum extent consistent with the maintenance of the primitive conditions.
- c) In resolving conflicts in resource use, wilderness values will be dominant to the extent not limited by the Wilderness Act, subsequent establishing legislation, or the regulations in this part.”

Federal Regulations 36 CFR 293.8 - Permanent structures and commercial services, states in part that: “The Chief, Forest Service, may permit . . . commercial services within National Forest Wilderness to the extent necessary for realizing the recreational or other Wilderness purposes, which include, but are not limited to, the public services generally offered by packers, outfitters, and guides.”

### **Agency Direction**

#### **USDA Forest Service Strategic Plan for 2004 - 2008**

The mission of the USDA Forest Service is based on the relationship between the American people and their natural resource heritage. The relationship is founded on the principles of sustaining U.S. natural resources for future generations, producing personal and community well-being, and providing economic wealth for the Nation.

The Strategic Plan embodies the Forest Service's many areas of responsibility, as captured in the agency's mission statement:

“The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forest and grasslands to meet the needs of present and future generations.”

One of the many goals of the Strategic Plan is to provide high-quality outdoor recreational opportunities on forests and grasslands, while sustaining natural resources, to meet the Nation's recreational demands.

In 2005, the Chief of the Forest Service adopted the 10-year Wilderness Stewardship Challenge (WSC) as recommended by the Chief's Wilderness Advisory Group. This effort is a renewal of the commitment to wilderness by pledging to bring all 406 wildernesses administered by the Forest Service to a minimum level of stewardship within 10 years. Element 7 of the WSC identifies that, "**Needs assessments are completed for new operations or for major changes to existing outfitter programs.**" As clarified in the definitions for this element; "*needs assessments*"; a methodology for determining if, in fact, there is a 'need' for private enterprise to assist the Agency in providing access, services and/or other assistance for the recreating public to safely and properly enjoy National Forest wilderness."

Another part of the WSC related to forest plan management direction is Element 5 – Protecting Opportunities for Solitude or Primitive and Unconfined Recreation. Managing to protect "outstanding opportunities for solitude or a primitive and unconfined type of recreation" has been perhaps the most controversial aspect of wilderness management to date. Controversy typically emerges if managers propose any type of restriction on visitor access or behavior, such as use limits, to improve opportunities for solitude. Factors contributing to this controversy include:

1. Lack of clarity over the meaning of solitude thus leading to lack of agreement over what the problem really is (e.g. visitors may view the concept holistically while managers may focus on the number of encounters in particular locations).
2. Perception that solitude is too subjective and individualistic for management.
3. Lack of standards or agreement on standards that define when there is a problem requiring corrective action.
4. Managing for solitude without equal consideration of managing for primitive and unconfined recreation opportunities.
5. The importance of access to visitors even when they support wilderness preservation.
6. Tension between providing outstanding opportunities for solitude vs. primitive and unconfined recreation.

### **Forest Service Manual Direction**

Forest Service Manual Chapter 2320 – Wilderness Management, has been reserved by the Washington Office. Management direction regarding the implementation of specific exemptions for wilderness management in the Regional Supplements to the Forest Service Manual, still remain in effect. The Forest Service Manual from the Washington Office is expected to be reissued sometime in the near future.

Forest Service Handbook (FSH) 2709.11, 41.53e - Needs Assessment, Resource Capacity Analysis, and Allocation of Use – Conduct a needs assessment to determine the public or agency need for authorized outfitting and guiding activities. When conducting a needs assessment for outfitting and guiding activities in a Wilderness Area, assess whether these activities are necessary for realizing the recreational or other wilderness purposes of the area and the extent to which the activities may be authorized consistent with maintaining the wilderness character of the area. Review previous needs assessments when reauthorizing use to ensure that they remain relevant to current and projected use trends, and update them if necessary.

### **Other FSM direction includes**

Under FSM 2340 – Privately Provided Recreation Opportunities

#### **2340.2 - Objectives**

To provide, under special use authorization, sufficient, suitable facilities and services that supplement or complement those provided by the private sector, State, and local government on private land and

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the Forest Service on National Forest System land to meet public needs, as determined through land and resource management planning.

To facilitate the use, enjoyment, understanding, and appreciation of natural resource settings on the National Forest.

### **Forest Plan Direction for Wilderness**

#### Goals

To manage all designated Wilderness to maintain the enduring resource of Wilderness as directed by the Wilderness Act of 1964, subject to the special provisions and exceptions in the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) and the Tongass Timber Reform Act of 1990 (TTRA).

Protect and perpetuate natural biophysical and ecological conditions and processes. Ensure Wilderness ecosystems are substantially free from the effects of civilization.

Provide a high degree of remoteness from the sights and sounds of humans, and opportunities for solitude and primitive recreation activities consistent with Wilderness preservation.

Keep Wilderness untrammelled and free from human control or manipulation, including actions taken to manage Wilderness.

Protect the undeveloped character of Wilderness by following legislative guidelines regarding permanent improvements or human occupation, including mechanized transport and motorized equipment.

#### Objectives

Apply a multi-disciplinary focus to Wilderness management; consider stewardship of Wilderness in the annual program of work by all resources.

Manage recreation activities so that the levels of social encounters, on-site developments, methods of access, and visitor impacts indicated for the Primitive Recreation Opportunity Spectrum (ROS) Class are emphasized. Areas managed as Semi-Primitive within a Wilderness are an exception and are not encouraged.

Provide for public uses of Wilderness as authorized in the Wilderness Act, but subject to ANILCA provisions for motorized and non-motorized access and travel, including reasonable traditional subsistence use by rural residents, and provisions of other applicable Wilderness designation acts.

Maintain trails and primitive facilities that are in harmony with the natural environment and that promote primitive recreation opportunities. Feature facilities designed primarily to provide resource protection and encourage smaller group size and emphasize challenge and risk instead of convenience.

Maintain the Wilderness capacity to provide information on natural ecological processes.

Preserve and perpetuate biodiversity.

Inventory, reduce, and, when possible, eliminate non-native species in Wilderness.

Manage Wilderness as a place where self-reliance and primitive skills are needed and can be honed.

### **Stikine Area Outfitter and Guide Environmental Assessment**

In 1997, the ***Stikine Area Outfitter and Guide Environmental Assessment*** (EA) to develop a strategy to manage outfitter and guide special use permits was completed for both the Wrangell and Petersburg Ranger Districts. A Decision Notice was published in August 1997 describing the rationale for the selected alternative. The districts reviewed the EA in April of 2004. The review recommended a few minor changes (primarily to address new sites and roads) and determined that no further environmental analysis was required and that the 1997 Decision Notice would be extended until the next review (scheduled for 2009).

Included in the 1997 ***Stikine Area Outfitter and Guide Environmental Assessment*** is a Recreation Use Carrying Capacity Report, (CCR) developed to determine the maximum amount of use that could be accommodated in a given area without loss in the quality of the natural environment and/or the prescribed visitor experience (ROS). The CCR provides managers with a tool and rationale for apportionment of outfitter and guide use allocations. When possible, conservative use variables were used in calculations to take into account the more primitive experience that most visitors expect in Alaska.

The EA includes various Mitigation Measures that are used to address site specific concerns in the various study areas. The Mitigation Measures are included with all Outfitter and Guide Special Use Permits as Special Stipulations and therefore become part of the permit. Failure to adhere to the Special Stipulations would be a violation of the terms in the Special Use Authorization and could lead to the termination of the permit. The Special Stipulations that address areas of concern include:

1. Outfitter/Guides will submit revisions of their Operating Plans in writing.
2. Land ownership is mixed and it is the responsibility of the permit holder to determine ownership and obtain proper authorization for use of private, native, and/or local government-held lands.
3. Outfitter-guides will incorporate *Leave No Trace* skills into all activities on National Forest System lands (<http://www.lnt.org/index.php>).
4. Outfitter-guided use of public use recreation cabins or their amenities (e.g. skiffs, firewood, fire rings) is prohibited. Exceptions may occur as specifically approved for a site by the District Ranger. These exceptions must be identified in the permit or addressed in District Stipulations.
5. Within designated Wilderness, no more than 12 people (including guides) can occupy a site<sup>2</sup> at one time.
6. All campfires will be built below high tide, as mound fires (a LNT technique) or in fire pans.
7. Beach Meadows: Outfitter/guides will not establish camps, or allow their clients to camp in these areas. When walking through these areas, people should stay on existing paths and game trails to avoid trampling or damaging vegetation in beach meadows. Located at the margin between marine beaches and the forest fringe, beach meadows are characterized by the presence of tall grasses, beach pea, Indian paintbrush, Pacific silverweed, yarrow, chocolate lily, pretty shooting star, and Nootka lupine. These meadows often have between 20-40 different plant species, some of which are on the sensitive species list.
8. Impacts on Bald Eagle Nest Sites: The Forest Service and the U.S. Fish and Wildlife Service have a Memorandum of Understanding which establishes a minimum 330-

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<sup>2</sup> Site: an area on the National Forest occupied by persons that is not within sight and sound of other Forest users.

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foot radius "habitat management zone" around each bald eagle nest tree. Camping in this zone is prohibited to guided groups.

9. A copy of the permit must be with the operator at all times when operating on National Forest System lands.
10. Use Reports will reflect specific locations of use on National Forest System lands.
11. 36 CFR Ch.11 261.10 The following are prohibited: ...(d) Discharging a fire arm or any other implement capable of taking human life, causing injury, or damaging property: (1) in or within 150 yards of a residence, building, developed recreation site or occupied area, or (2) across or on a Forest development road or a body of water adjacent thereto, or in any manner or place whereby any person or property is exposed to injury or damage as a result in such discharge.



## Appendix 2. ROS classes for PCDSC Wilderness Area.

### Primitive

Setting indicators	Standards and Guidelines
Scenic Quality	Not to exceed the High Scenic Integrity Objective. An Existing Scenic Integrity level of Very High is fully compatible and encouraged.
Access	Non-motorized cross-country travel and travel on non-motorized trails and on waterways is typical. Use of airplanes, helicopters, motorboats, off-highway vehicles, and snowmachines for traditional activities, subsistence, emergency search and rescue, and other authorized resource management activities may occur but is rare.
Remoteness	No or infrequent sights and sounds of human activity are present. Setting is located more than 1.5 hours walking or paddling distance, or 3 miles, from any human developments other than infrequently traveled marine travelways. Areas are generally greater than 5,000 acres, but may be smaller if contiguous with a Semi-Primitive class.
Visitor Management	On-site regimentation and controls are very rare. Signing is limited to directional information and safety. There are no on-site interpretive facilities. There is great opportunity for discovery on the part of the users.
On-site Recreation Development	Structures do not exceed Development Scale I, except for public recreation cabins, and are maintained for appropriate levels of use.
Social Encounters	User meets less than three parties per day during trip. No other parties are within sight or sound of dispersed campsites or cabins. Authorize a party size of no more than 12 persons for any one site or activity group for commercial recreation use. Exceptions to the commercial group's size should be rare. A group size of 12 persons or less is recommended for general public use. Refer to REC122 in Chapter 3 for exceptions.
Visitor Impacts	Visitor-caused impacts to resources are slight and usually not noticeable the following year. Site hardening is limited to boardwalk trails and necessary boat moorings or bear-proof food caches and rustic public recreation cabins.

### Semi-Primitive non-motorized

Setting indicators	Standards and Guidelines
Scenic Quality	Not to exceed the High Scenic Integrity Objective. An Existing Scenic Integrity level of Very High is fully compatible and encouraged.
Access	Non-motorized cross-country travel and travel on non-motorized trails is typical. Use of airplanes, helicopters, motorboats, and snowmachines for traditional activities, subsistence, emergency search and rescue, and other authorized resource management activities may occur unless specifically restricted for safety and/or resource protection purposes. Use of off-highway vehicles may occur on designated routes in accordance with 36 CFR 212, 251, and 261 – Travel Management; Designated Routes and Areas for Motor Vehicle Use.
Remoteness	Nearby sights or sounds of human activity are rare, but distant sights or sounds may occur. Setting is located more than 0.5 hour walk or paddle, or approximately 0.5 mile (greater or less depending on terrain and vegetation, but no less than 0.25 mile) from 1) infrequently traveled waterways; 2) roads and trails open to motorized recreation use; and 3) clearcut harvest areas. Aircraft access is only occasional. Areas are generally greater than 2,500 acres, but may be smaller if contiguous with Primitive or Semi-Primitive Motorized classes.
Visitor Management	On-site regimentation and controls are rare. Visitor information facilities may be used to interpret cultural and natural resource features, but are not elaborate and harmonize with the setting.
On-site Recreation Development	Facilities and structures generally do not exceed Development Scale II and are maintained to accommodate the types and levels of use anticipated for the site. Forest Service recreation cabins are fully compatible.
Social Encounters	User meets less than 10 parties per day (6 parties per day in Wilderness) on trails and waterways during 80 percent of the primary use season. No other parties are within sight or sound of dispersed campsites during 80 percent of the primary use season. Maximum party size for commercial use within Wilderness is 12. Exceptions for larger party sizes within Wilderness should be rare. Refer to REC122 in Chapter 3 in the Forest Plan for exceptions. A party size of up to 20 people can be considered in Semi-Primitive settings outside of Wilderness. Outside of Wilderness, party sizes larger than 20 people may occur during less than 15 percent of the primary use season in limited locations as appropriate by LUD.
Visitor Impacts	Visitor-caused impacts to resources are rare and usually not long-lasting. Site hardening is limited to boardwalk trails, boat tramways, moorings and docks, bear-proof food cache facilities, and rustic public recreation cabins.

**Semi-Primitive motorized**

<b>Setting indicators</b>	<b>Standards and Guidelines</b>
Scenic Quality	Not to exceed the Moderate Scenic Integrity Objective. Existing Scenic Integrity levels ranging from Very High through High are fully compatible and encouraged.
Access	Travel on motorized and non-motorized trails and Traffic Service Level D roads, although some Traffic Service Level C roads provide access to and through the area. Use by high-clearance vehicles and motorized water travel is common. Road density is less than 1 mile per square mile. Off-road snowmachine travel on snow may occur.
Remoteness	Nearby sights or sounds of human activity are rare, but distant sights or sounds may occur. Setting is located within 0.5 hour walk or paddle or within 0.5 mile (greater or less depending on terrain and vegetation, but no less than 0.25 mile) of infrequently traveled waterways or small aircraft access points and/or roads that are open and maintained for passage by high-clearance and four-wheel drive vehicles (Maintenance Level 2), and provide access to recreation opportunities and facilities. Areas are generally greater than 2,500 acres, but may be smaller if contiguous with Primitive or Semi-Primitive Non-Motorized classes.
Visitor Management	On-site regimentation and controls are few. Control facilities consist primarily of informational signs and site-specific road closures. Visitor information facilities may be used to interpret cultural and natural resource features, but are not elaborate and harmonize with the setting.
On-site Recreation Development	Facilities and structures generally do not exceed Development Scale II and are maintained to accommodate the types and levels of use anticipated for the site and area. Forest Service recreation cabins are fully compatible.
Social Encounters	User meets less than 10 parties per day (6 parties per day in Wilderness) on trails, roads, and shorelines during 80 percent of the primary use season. During 80 percent of the primary use season, no other parties are visible from campsites. Maximum party size for commercial uses in Wilderness is 12 people. Exceptions should be rare. Refer to REC122 in Chapter 3 in the Forest Plan for exceptions. A party size of up to 20 people can be considered in Semi-Primitive settings outside of Wilderness. Outside of Wilderness, party sizes larger than 20 people may occur during less than 15 percent of the primary use season in limited locations.
Visitor Impacts	Visitor-caused impacts may be noticeable, but not degrading to basic resource elements. Site hardening is very infrequent, but, when it occurs, is in harmony with, and appropriate for, the natural-appearing backcountry setting.

**Commercial Services Needs Assessment in the Tebenkof Bay and Kuiu  
Wildernesses  
Petersburg Ranger District  
Tongass National Forest**

Prepared by: Brad Hunter, Kathy Rodriguez, Russ Beers

Date: November 2009

**EXECUTIVE SUMMARY**

The Petersburg Ranger District, Tongass National Forest, developed the Commercial Services Needs Assessment in the Tebenkof Bay and Kuiu Wildernesses (Needs Assessment) to determine the type, extent, and location of outfitter/guide use that could take place in the Tebenkof Bay and Kuiu Wilderness Areas. Needs assessments are used to determine if there is a 'need' for private enterprise to assist the agency in providing access, services and/or other assistance for the recreating public to safely and properly enjoy National Forest Wilderness Areas, and if so, the extent necessary. This document is tiered to the Tongass Forest Plan as amended in February 2008 and the *Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest* (USDA Forest Service 2007).

These two Wilderness Areas extend from Point Ellis on Kuiu Island south to Port Malmesbury and east to Port Beauclerc. The Tebenkof Bay Wilderness Area was designated by Congress in 1980 through the Alaska National Interest Lands Conservation Act of 1980 (ANILCA). The Kuiu Wilderness Area was designated by Congress in 1990 through the Tongass Timber Reform Act which amended ANILCA. The area is very remote making it difficult to access which can make it expensive and/or hazardous to reach. Both Wilderness Areas can provide exceptional opportunities for solitude. They are highly untrammeled; the area largely operates without human management or manipulation.

As managers, the Forest Service will strive to maintain a natural environment and a balance of uses by authorizing permitted operators to conduct suitable activities in a Wilderness setting while providing all visitors an opportunity for a solitude. The Forest Service will continue monitoring to ensure that the balance is properly maintained.

A commercial services needs assessment for backpacking/camping, hunting, freshwater fishing and remote setting nature tours (RSNT) is as follows:

**Camping:** Of the permitted activities in these Wilderness Areas to date; camping has had the highest amount of use over the years (Table 1). Camping by those not well versed in *Leave No Trace* principles can cause unnecessary impact to an area. By practicing and teaching low impact techniques for camping, professional guides are helping to ensure that the wilderness integrity of the area is maintained. Use by the guided sector is much easier to track, monitor and regulate and can be used as a tool to have groups camp in locations that are best for the resources. Care must be taken to ensure that the current levels of solitude are maintained or improved. Camping use is appropriate if done in a low impact manner.

**Commercially guided camping will be authorized in the Tebenkof Bay and Kuiu Wilderness Areas through this needs assessment .**

**Hunting:** There has been concern expressed by hunters and guides that overcrowding is occurring on the Tongass for bear hunting. The overcrowding concern has been expressed between hunters and other visitors, as well as between hunters. This concern has been expressed for Kuiu Island because of its renowned high black bear densities.

Currently on the Petersburg Ranger District, commercially guided black bear hunts are capped at 188 hunts. The total number of black bear hunts that take place on Kuiu Island (commercial and

non-commercial) is an ongoing discussion between the Forest Service and the State Department of Fish and Game. For the foreseeable future, this number of commercial hunts authorized on Kuiu will not increase. If the demand in hunter use continues to rise, a prospectus will be used to allocate future hunts.

**Commercially guided hunting in the Tebenkof Bay and Kuiu Wilderness Areas at current levels will be authorized through this needs assessment. Allocations within Wilderness for commercial services have been limited to 10 percent of the carrying capacity in previous recreation use carrying capacities. In order to protect the wilderness hunting experience, it is recommended to maintain this limitation, and to look for additional ways to respond to guides and hunters concerns regarding loss of solitude.**

**Freshwater fishing:** Very little guided freshwater fishing takes place within these two Wilderness Areas. The primary location for fishing is at Aleck's Creek. The use has ranged from 20 RVDs in 2000, to 2 RVDs in 2005 (Table 1). Guides are used to accessing this remote area, both for transport to the area and for route finding in areas without trails.

**Commercially guided freshwater fishing in the Tebenkof Bay and Kuiu Wilderness Areas will be authorized through this needs assessment.**

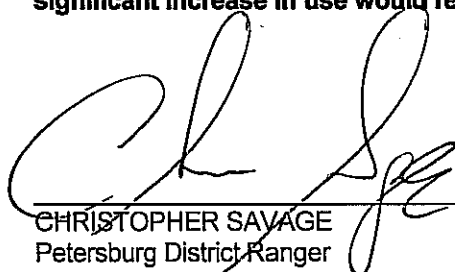
**Remote Setting Nature Tours (RSNT):** Visitors in this category access the area via watercraft or floatplane. Activities such as wildlife viewing, sightseeing, picnicking, birding, photography, hiking, nature viewing, etc. are included in this category.

Having the knowledge, skills, experience, and equipment, even in good weather, to navigate the waters of Chatham and Sumner Straits, or to fly into the area lakes, are things the average visitor would not have. For most of the population, outfitters and guides provide the only means by which they could access/experience the area. Through interpretation of the area's natural and cultural history, guides can increase their clients' appreciation of the Wilderness Area.

Large cruise ships do not currently stop at communities near these Wilderness Areas. Smaller cruise ships have the potential to bring a larger numbers of visitors into the Wilderness, which could bring substantial negative change to the wilderness character. Even a small increase in visitation would be a proportionally significant change when considering the extent to which use is occurring now. RSNT opportunities for larger groups exist at many places outside these two Wildernesses.

Both Wilderness Areas have a niche of providing outstanding opportunities for solitude, as well as primitive and unconfined recreation. These opportunities are becoming harder to find on the Tongass as the tourism industry grows.

**Commercially guided RSNT in the Tebenkof Bay and Kuiu Wilderness Areas will be authorized through this needs assessment where the standards for a Primitive ROS experience can be met<sup>1</sup>; an activity group size will not exceed 12 people; exceptions will be rare. While some increase in this use can be anticipated, new operators proposing a significant increase in use would require additional analysis prior to approval.**



CHRISTOPHER SAVAGE  
Petersburg District Ranger

11/27/09  
Date

<sup>1</sup> Tongass National Forest Land and Resource Mgmt. Plan, Wilderness Management Prescriptions, Recreation and Tourism.

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## I. Introduction

The Petersburg Ranger District, Tongass National Forest, developed this needs assessment to determine the type, extent, and location of outfitter/guide use that could take place in the Tebenkof Bay and Kuiu Wilderness Areas. A needs assessment is a means to determine if there is a 'need' for commercial enterprise to assist the agency in providing access, services and/or other assistance for the recreating public to safely and properly enjoy National Forest Wilderness Areas, and if so, the extent necessary. This document is tiered to the Tongass Forest Plan as amended in February 2008 and the *Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest* (USDA Forest Service 2007).

The Tebenkof Bay Wilderness and the Kuiu Wilderness are both analyzed in this analysis. Tebenkof Bay Wilderness was designated by the Alaska National Interest Lands Conservation Act (ANILCA) in 1980, and the Kuiu Wilderness was designated through an amendment to ANILCA by the Tongass Timber Reform Act in 1990. The two Wilderness Areas are on the same island, share an adjacent boundary, have similar biophysical characteristics and public recreational uses. For these reasons the Forest Service often manages these two Wilderness Areas in a similar manner and it was deemed appropriate and efficient to combine them for this document.

The following commercial activities that were identified in the Tongass National Forest Needs Assessment and currently take place in these two Wilderness Areas include:

- guided kayaking and camping;
- freshwater fishing;
- big game (black bear/deer/wolf) hunting; and
- remote setting nature tours (RSNT).

### Assumptions

The following are assumptions made to aid in the assessment of the need for outfitter/guide operations:

- Visitor use is expected to remain at current levels or continue to increase (TLRMP Amendment Record of Decision 2008). There may also be shifts in use patterns (timing and location) and user types (hikers, backpackers, day users, etc.). However, with the current economic downturn, it is hard to predict if this will remain true for the next 2-5 years.
  - Some people would not visit the Wilderness without an outfitter or guide because they lack the skills, knowledge, equipment, or ability to do so on their own.
  - Conflicts between outfitter/guide operations and the non-outfitted/guided public have the potential to increase as overall use increases.
  - Activities proposed by guides are wilderness dependent and appropriate to a wilderness setting.
- 

## II. Wilderness Management Direction

See Appendix 1. Wilderness Management Direction.

### **Goals and Objectives for Wilderness**

Manage designated Wilderness to maintain an enduring wilderness resource while providing for the public purposes of recreational, scenic, scientific, educational, conservation, and historical use, as provided in the Wilderness Act of 1964 and ANILCA.

- Manage Wilderness as a place where self-reliance and primitive skills are needed and can be honed by the public.
- Provide for public use of the Wilderness in accordance with ANILCA provisions for motorized and nonmotorized access and travel, including reasonable access to traditional subsistence resources.
- Provide trails and primitive facilities that are in harmony with the natural environment and that promote primitive recreation opportunities. Feature facilities designed primarily to provide resource protection and encourage smaller group size. Facilities and trails tend to allow for challenge and risk instead of convenience.
- Maintain the Wilderness to provide information on natural ecological processes.
- Preserve and perpetuate biodiversity. Inventory and reduce or eliminate invasive species in Wilderness.

## III. Visitor Use and Commercial Use

### Historical Use of the Wilderness Areas by Outfitters and Guides

Permitted use over the past few years has included camping, big game outfitting, fishing, and sightseeing. Use has varied (Table 1) from 13 permit holders using 561 recreational visitor days (RVDs)<sup>2</sup> in 2002, to 10 operators with 220 RVDs in 2007, with the highest total RVDs being 610 in 2006.

**Table 1. RVDs used by outfitters/guides from 2002 through 2007**

Activity	2002	2003	2004	2005	2006	2007
Camping*	510	213	471	397	575	183
Fishing	20	19	7	2	6	6
RSNT**	10	5	14	9	0	3
Black bear or wolf hunting	21	15	3	16	29	28
Total	561	252	495	424	610	220

\*The camping is from guided sea kayak groups.

\*\*RSNT – remote setting nature tours, includes sightseeing, hiking, wildlife viewing, etc. at remote sites (not accessed by road system).

### Niche and Description

#### TEBENKOF BAY

Tebenkof Bay Wilderness is on central Kuiu Island, north of the Kuiu Wilderness. The area is a complex system of bays, islets and coves that first attracted the Tlingit Indians to the bay long ago. Even the most remote beaches in the bay have had a human presence in the past. The land offered hunting, trapping, camping and gardening, and the water was rich with a variety of shellfish and saltwater and freshwater fish. In the mid-1900's, fox farm operations were abundant on the small islands, and today commercial fishing is an important way of life. Most of the time it is a serene place where the only sound in the distance is the call of a young sea otter or the blow of a humpback whale.

The area's main attractions are its: remoteness and solitude, protected waters in relation to the surrounding unprotected waters of lower Chatham Strait and the Pacific Ocean, terrestrial and marine wildlife, and subsistence value for the community of Kake.

<sup>2</sup> One RVD is equal to 12 hours of recreation use in one day, so 12 people recreating for 1 hour is = one RVD, as is one person recreating for 12 hours.

## KUIU

Kuiu Wilderness is on the south-central portion of Kuiu Island which is contained by two large bodies of water: Sumner Strait to the east and Chatham Strait to the west. The Tlingit Indians braved these waters and sought protection in the deep bays that now make up the Kuiu Wilderness. The remoteness of this Wilderness, coupled with the challenge and risk of travel by water or land, offers outstanding opportunities for solitude. Kuiu Island has a high density of black bears, and visitors are more likely to encounter this wild creature than a human.

### Existing Condition

One way existing condition can be assessed is to divide wilderness character into the four components from the Wilderness Act of untrammeled, natural, undeveloped, and opportunities for solitude and primitive and unconfined recreation:

- ❖ Untrammeled. This quality describes the degree to which management actions “hinder” or “control” the land and natural processes. For example, the Wilderness Area has remained free of management activities that have altered natural systems, such as dams or regulations that govern visitor activities. There has been some logging in the past which is difficult for the untrained eye to identify due to the amount of natural regeneration that has occurred. The Tebenkof Bay Wilderness has a total of approximately 442 acres that have been either clear cut or partially logged; dating from 1918 to 1966 (less than 1% of the Wilderness). The Kuiu Wilderness has approximately 950 acres that have been previously harvested, with the majority taking place between 1915 and 1948, and 20 acres in 1986 (1.6% of the Wilderness).
- ❖ Natural. This quality describes the ecological effects of management actions that manipulate vegetation, soils, air quality, or other physical and biological components of wilderness. Wildlife found within the area includes black bear, Sitka black-tailed deer, and wolf. Kuiu Island has some of the highest black bear population densities in North America. Local hunters and guides are concerned about black bear population number declines (Peacock 2003). The island also has two subspecies of American marten (Small, et al. 2002). Moose exist in the area, but in relatively small numbers. The list of smaller fur bearing animals common to the area includes beaver, mink, pine marten, land otter, and weasel. It is common to see humpback whales and sea otters in adjacent saltwater areas, as well as numerous sea birds. Annual surveys for native and non-native plants began in 1997. Due to the remoteness from human developments these two Wilderness Areas have relatively intact native plant communities. Small populations of non-native plants are primarily located at previously disturbed sites, such as fur farms and fish processing sites. The nearest roads are located to the northeast of Alecks Lake in the Three Mile Arm area. The areas that had trees harvested have grown back to where they are not readily apparent and have a minimal impact on the visual qualities.
- ❖ Undeveloped. This quality describes the effects of structures, habitations, or other evidence of human presence or occupation. There are no public recreation cabins within these two Wilderness Areas. There is one special use residence in the Tebenkof Bay Wilderness, which historically was a fox farm. The main cabin burned down in 2005 but there is still a barn and several smaller buildings. The permit holder currently retains the right to replace the old cabin. There is one primitive 1.5 mile long trail that crosses both Wilderness Areas between Petrof Bay and Affleck Canal. Saltwater access by floatplanes, motorboats, or kayaks, can be challenging and expensive due to the long distance that must be traveled from the nearest communities. Chatham Strait also poses challenging water conditions for boats and planes. Floatplanes can land on Aleck’s Lake and Malmesbury Lake. Except for access afforded from saltwater and lakes, the area is relatively inaccessible and undisturbed by the activities of people. The eastern portion of the Kuiu Wilderness (Port Beauclerc) is accessed from more protected waters (Sumner Strait) than the southern (Affleck Canal) and western side of the Wilderness Area (Port

Malmesbury). The water access to Tebenkof Bay is only from Chatham Strait, which is known for rough water conditions. The remoteness and challenge of accessing these areas has minimized human use. The majority of the guided use in the Wilderness is from sea kayaking permit holders who camp overnight on the uplands. In general, the expectation is there will be less evidence of human occupation as one travels farther in from the shoreline.

- ❖ Opportunities for solitude or primitive and unconfined recreation. Visitors to the upland areas of the Wilderness Areas can expect a moderate-to-high probability of experiencing isolation from most sights and sounds of humans. The visitor may see or hear boats on the saltwater. Sometimes there are commercial fishery openings that bring several fishing boats to a bay, primarily trollers, seiners, or long liners. A saltwater fishing charter operation is based in Bay of Pillars, which sends boats to the mouth of Tebenkof Bay daily during the summer months. There are also occasional overflights of low flying aircraft. In 2008 during a total of 15 days of field surveys by wilderness rangers during the months of June and July four aircraft were sighted and 44 were heard. Twenty-eight boats were sighted; 21 of which were commercial trollers mostly around the mouths of Tebenkof Bay and Port Malmesbury. The majority of these aircraft and boats were rated as low impact on solitude (67 low, six medium, and three high). The only maintained access route into the uplands is the 1.5 mile Affleck Trail, which is a primitive trail with no structural trail components. Shoreline areas are accessed by boat or floatplane giving the chance for wilderness visitors to encounter other users.

Subsistence is an important activity for some people, most of whom travel from Kake. The sockeye salmon at the mouth of Alecks Creek in Tebenkof Bay is a traditional fishery in July. Residents from Port Alexander and Point Baker also use the two Wilderness Areas for deer hunting and trapping.

Within 30 days of the end of the operating season, the permit holders submit an Actual Use Report that lists the locations (latitude and longitude), type of use, the number of clients, and length of stay at each location. From this information, we determine the number of RVDs (Table 2) utilized at each location, by each group. This provides a mechanism to monitor the amount of use at each location. That information is then used to help determine the areas that get field checked.

**Table 2. Number of outfitters/guides operating in these Wildernesses by year.**

Year	Number of Outfitters and Guides
2002	13
2003	10
2004	7
2005	11
2006	9
2007	10

### Desired Condition

The Wilderness Act of 1964 directs “each agency administering any area designated as Wilderness shall be responsible for preserving the wilderness character of the area.” Section 2(c) of the Act defines four qualities of wilderness that managers try to preserve.

As described in the 2008 Amended Forest Plan,

All designated Wilderness on the Tongass National Forest is characterized by extensive, unmodified natural environments. Ecological processes and natural conditions are not measurably affected by past or current human uses or activities. Users have the opportunity to experience independence, closeness to nature, solitude, and remoteness, and may pursue activities requiring



self-reliance, challenge, and risk. Motorized and mechanized use is limited to the minimum needed for the administration of the Wilderness. Allow for access to state and private lands, subsistence uses, and public access and other uses to the extent provided for by ANILCA.

- **Untrammelled** – *The Wilderness is essentially unhindered and free from modern human control or manipulation.*  
The desired condition is an improving or stable trend in actions that control or manipulate the Wilderness. These actions include ones that manipulate plants, animals, pathogens, soil, water, or fire, whether authorized or unauthorized by the Forest Service.
- **Natural** – *Wilderness ecological and evolutionary systems are substantially free from the effects of modern civilization.*  
The desired condition is for the trend of the effect of modern civilization on plant, animal, pathogen, physical, and biophysical resources to be stable or decreasing.
- **Undeveloped** – *Wilderness retains its primeval character and influence and has minimal evidence of modern human occupation or modification.*  
The trends in recreational and non-recreational developments, use of motor equipment and transport, and loss of statutorily protected cultural resources is stable or decreasing.
- **Outstanding opportunities for solitude or a primitive and unconfined type of recreation** – *Wilderness provides outstanding opportunities for people to experience natural sights and sounds, solitude, freedom, risk, and the physical and emotional challenges of self-discovery and self-reliance.*  
The trend is stable or improving for: remoteness from sights and sounds of people inside and outside Wilderness; number of facilities that decrease self-reliant recreation; number of trails and level of trail classes; and amount of management restrictions on visitor behavior.

### Recreation Opportunity Spectrum (ROS) and Visitor Use Capacity in the Tebenkof Bay and Kuiu Wilderness Areas

ROS is a system for inventorying recreation experience opportunities into seven classes as identified in the Tongass Land Management Plan. Each class is defined in terms of the degree certain recreation opportunities are possible based on the extent the natural environment has been modified, types of facilities provided, the number of interactions expected with other groups of people, and the relative density of recreation use.

The Tebenkof Bay/Kuiu Wilderness study area is all managed for the Primitive ROS class. ROS standards and guidelines are considered when looking at the need for guided services (Appendix 2, description of this ROS class). The Forest Plan directs us to manage wilderness recreation activities to meet appropriate levels of social encounters, on-site development, methods of access, and visitor impacts indicated for the Primitive ROS class.

Visitor use capacity is the approximate number of people that can visit a portion of the National Forest while having the prescribed recreation (ROS) experience. The reason to determine capacity is twofold; to ensure that visitors can enjoy recreational experiences that meet their expectations and ensure the wilderness resource can sustain the potential level of use. Knowledge of existing use, projections of future demand, capability of an area to withstand impact, and useable terrain can be analyzed to determine capacity. For example, an area accessed by foot with multiple valleys to hunt would have a greater ability to accommodate a higher capacity of users than a small alpine lake, accessed seasonally by float plane, with one flat site for camping. There are several aspects in determining capacity, including social, biophysical, managerial, and facility capacity:

- **Social.** This refers to the sights and sounds of other people, which may impact the group's experience:
  - *Is this an area heavily used by residents?*
  - *Can people spread out over the area with little chance of encounters?*
  - *How long is the useable season?*
  - *Are there other types of recreation use that are not compatible with the proposed use?*
  - *Are there periods of high use that can be identified? (Salmon runs, commercial fishing openings, etc...).*
- **Biophysical.** This refers to the biological resources found in the area potentially impacted by visitors. Biophysical attributes influence whether a setting is capable of providing a particular recreation opportunity without degrading an area's ecological processes, structure, composition, resilience, integrity, potential, as well as the setting's ability to restore itself and provide for other resource uses and values:
  - *Are there plants or wildlife concerns?*
  - *Are campsites and travel routes located on durable surfaces?*
  - *Are user-created trails causing erosion or other unacceptable impacts?*
- **Facility.** This refers to physical attributes of the area that make it useable by visitors:
  - *How many campsites are available?*
  - *Are there adequate locations for camps that are on durable surfaces and out of site and sound?*
  - *Are there adequate anchorages in the saltwater?*
  - *Is access by foot, water, or plane easy or difficult?*
- **Managerial.** This refers to policies, management objectives, or rules that can increase or decrease visitor capacity in an area.

Once a need is determined, the capacity of the area is estimated to accommodate the activity by evaluating terrain, screening, campsite availability, and other factors. See the 2009 Recreation Use Carrying Capacity Report for Petersburg Ranger District.

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## IV. Special Knowledge and Skills Needed for Activities in the Tebenkof Bay and Kuiu Wilderness Areas

### Potential Categories of Public Need<sup>3</sup> for Commercial Services

Guides can serve as important partners for the Forest Service. In particular, guides can provide wilderness awareness, wilderness ethics education, and *Leave No Trace* education. Resource protection activities, such as reporting of invasive plants and illegal activities have been helpful in the past and could help the Wilderness Areas achieve a higher level of wilderness character. Guides can help build constituency and support for Wilderness among those groups of people who might not be exposed through typical outreach (for example, big game hunters).

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• <sup>3</sup> A desire for commercial services or the fact that the presence of a guide could enhance a visitor's experience should not be confused with "need."

The following are potential categories of public need for commercial services within the Tebenkof Bay and Kuiu Wilderness Areas:

- People with physical limitations;
- People pursuing activities where knowledge, equipment, and skill needed makes unguided use extremely difficult if not impossible;
- People wanting to take trips that focus extensively on Wilderness; or
- Wilderness stewardship activities that could be enhanced by outfitter/guides.

## Process for Determination of Public Need

“Public need” is a need determined to be essential for the well being of the entire public, guided and unguided, or to meet the intent of the Forest’s mission to manage and protect resources, provide for public safety, and to provide high quality recreation services. Within Wilderness the intended use should be dependent on the wilderness resource. **A guide wanting a permit does not always mean there is a public need.**

The principle of wilderness dependency is used to guide visitor management toward preventing overuse. It calls for favoring activities most dependent on wilderness conditions. Defining an activity as “wilderness dependent” can be difficult. Often it is not the activity itself that is dependent, but the particular style in which it is pursued. Hunting or kayak camping in remote locations with little or no human interaction and with more primitive techniques, are good examples of activities with a wilderness dependent style.

Evaluation Criteria used for determining the need for outfitter assistance in the management of the Wilderness Area:

Wilderness Dependency. The extent to which the proposed service can be offered on private or non-wilderness national forest lands. Some examples of these services could be:

- a. Trips in which solitude and unconfined, primitive recreation are the central components of the experience.
- b. Visits to ecosystems, geological, or physical resources found in Wilderness for recreational, scientific, or educational purposes.

Forest-wide Availability. Does this activity occur elsewhere in other Wildernesses on the Tongass? For example, if an activity occurs in abundance in other areas, there may not be a need to accommodate it in these Wilderness Areas.

Wilderness Character. Will outfitter/guide activities preserve or improve the four qualities of wilderness character? Alternatively will outfitter/guide activities degrade wilderness character? For example will the natural quality or the primitive recreation quality be impacted by an increase in bear hunting guides? Will the solitude or primitive and unconfined recreation quality be affected by increasing use from small tour ships? Will the natural quality or primitive recreation be improved by outfitter/guides that are well trained in *Leave No Trace* education?

Skills and Equipment. Outfitter/guide skills and equipment are needed by a portion of the public because of one or more of the following:

- a. Specific skills required for activities appropriate for the area require substantial time and/or talent to learn.
- b. Learning necessary skills and participating in the activity requires acquisition and consistent use of expensive, specialized equipment for which the public could not, or normally would not, expend the dollars or time.

- c. The skills required are so unique that the use of a guide is almost a prerequisite if the public is to have any opportunity to participate in and enjoy the activity.

Knowledge. Guide knowledge of the wilderness resource and the activity area is needed by the public, and especially nonresidents, in order to enjoy recreational opportunities in a manner that reduces resource damage and user conflicts. This includes knowing where and by what method to best access and travel through an area.

Safety. An outfitter/guide's special skills and equipment are needed for a reasonable level of safety for the participants. Without guide assistance, members of the public could seriously endanger their health or lives, or would not visit the Wilderness due to safety concerns. These criteria are not meant to diminish the wilderness values of self-reliance or the opportunity to challenge oneself or experience a degree of risk.

Special Management Objectives and/or Issues. Outfitter/guide assistance is needed to insure special management objectives are met and/or issues resolved. Examples could include recreational opportunities for disabled populations, instilling a wilderness ethic in clients, contribution to rural area development and economy of formerly commodity based areas, and assistance in reducing critical resource impacts and/or conflicts between users. Another example is when a guide is required by the State of Alaska for participating in a mountain goat or brown bear hunt. Since neither of these species inhabits Kuiu Island, this is not a consideration for this Wilderness.

Extent Existing Outfitter/Guide Permits are Being Utilized. Are current outfitted or guided assignments booked or over-booked, indicating a larger interest in the service?

Level of Use and Conflict. Conflicts between all types of users, private and commercial in the Wilderness. The extent to which already authorized use days or capacity exists for existing permit holders to fill the need. What is the compatibility of commercial, institutional, and general public use, and the amount of use and social capacity within a given area of the Wilderness? Are use patterns (congestion and number of encounters) a potential problem? Is there a temporal congestion pattern - weekend use versus weekday use, day versus overnight use? Over time, what is the general trend? Is the projected future condition compatible with desired future condition?

Land Capability and Resource Concerns. Can the guide contribute to the protection of the land through his/her educational emphasis? What is the level of interference an outfitter/guide operation will have with the natural biological and physical processes of the Wilderness? Can a guide contribute to minimizing impacts from camping by applying *Leave No Trace* skills in choosing beach campsites that are durable, yet also safe for overnight use? Can the guide help in minimizing campfire resource damage by teaching best practice methods of building fires?

Public purpose. The Wilderness Act section 4(b) specifies "Wilderness Areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use." Guide services must help fulfill these purposes of Wilderness. Does this activity contribute to the public purposes established for this Wilderness? When considering the extent necessary, can people reasonably participate in this activity without a guide or is having a guide a prerequisite? Does this activity serve a broad segment of the population or is it limited to a select few? The Wilderness Act Section 4(c) prohibits commercial services but then allows some use as necessary to realize the recreational and wilderness purposes in Section 4(d).)

Type of Activity and Criteria	Rating Summary
<b><u>Camping from guided sea kayakers</u></b> Wilderness dependency Forest-wide availability Wilderness character Skills and equipment Knowledge Safety risk Special objectives Demand/utilization Level of use and conflict Land capability Public purpose	Low High Low impact with LNT, high impact with poor LNT skills Moderate. Moderate cost for equipment Moderate High for outside waters, moderate inside bays High for extended length trips ( <i>Leave No Trace</i> skills) Low Moderate Moderate, depending on location and amount of durable surface Moderate: only a select group will participate (recreation and scenic purposes)
<b><u>Fishing/day hiking (freshwater - foot travel)</u></b> Wilderness dependency Forest-wide availability Wilderness character Skills and equipment Knowledge Safety risk Special objectives Demand/utilization Level of use and conflict Land capability Public purpose	Low; other streams available High Low impact with a small number of people with LNT skills Moderate to low. Moderate cost for equipment Moderate Low to moderate Low Being met Low Moderate, depending on location High – recreation and scenic
<b><u>RSNT (fly-in)</u></b> Wilderness dependency Forest-wide availability Wilderness character Skills and equipment Knowledge Safety risk Special objectives Demand/utilization Level of use and conflict Land capability Public purpose	Low; other lakes/streams available High Moderate – increased floatplane noise Moderate skill due to remoteness. Moderate cost for flying Moderate to low, depending on location Moderate (bears, weather) Low Low Low Moderate Moderate – only select group can afford
<b><u>Big game hunting</u></b> Wilderness dependency Forest-wide availability Wilderness character Skills and equipment	Low; other areas available High Low impact with LNT High skill required – high cost/equipment

Type of Activity and Criteria	Rating Summary
Knowledge	High to moderate
Safety risk	High
Special objectives	High
Demand/utilization	High
Level of use and conflict	Moderate
Land capability	Low for camping – there are few LNT camp sites near good bear habitat; moderate for boat based
Public purpose	Moderate – only select group can afford/participate

## V. Need for and Extent of Commercial Use in the Tebenkof Bay and Kuiu Wilderness Areas.

### Camping.

#### Wilderness dependency.

- a. **National Forest System (NFS) land.** Tebenkof Bay and Kuiu are Wilderness areas that are not near the larger communities in SE Alaska. Use of this Wilderness for recreation is from those who choose this as a destination because of its remoteness and opportunities for solitude. The primary mode of transport from much of the guided and non-guided users is by kayak and smaller boats and the shorelines of these Wilderness Areas are the locations where overnight camping must take place. The solitude experience available in this Wilderness is dependent upon the low use the area receives.
- b. **Non-NFS.** There are very few opportunities for camping in the immediate vicinity on private or state lands.

Forest-wide availability. This type of use occurs in multiple areas on the Tongass.

Wilderness character. With small groups in durable locations, and with solid LNT practices, impacts to the wilderness character can be low. In addition to providing protection to resources from using proper camping techniques, guides knowledgeable about invasive plant species have provided the Forest Service with plant information for the Wilderness which improves our ability to manage wilderness resources.

Skills and equipment. Camping in a manner that leaves little or no impacts is a learned skill that many visitors and locals have little experience with in this wet and sensitive ecosystem. Equipment can be purchased at most outdoor stores with the expense depending upon the quality. There are local businesses that rent out or sell equipment to travelers, and maps are available to purchase at various locations (sporting good stores, FS offices, etc) and aerial photos are available on the internet.

Knowledge. Recreationists access these two Wilderness Areas by motor boat, kayak, or float plane, all of which take certain technical skills and an understanding of weather and water conditions in southeast Alaska. Some of the public do access the area with their own motor boats or sea kayaks, but the majority depends upon guides to provide knowledge of the local conditions for safe passage. The only trail located in the study area is the Affleck Portage Trail; otherwise foot access is by off-trail hiking. Good maps and compass skills are essential; a GPS and aerial photos will be help. A guide can enhance visitor knowledge and ensure that clients don't get lost and take safe and durable paths to destinations. Guides can also help minimize visitor impacts by showing where it is best to concentrate or to disperse impacts

depending upon the amount of expected cumulative recreation use and upon the sensitivity of the biological resource.

Safety risk. Hazards that might be encountered while accessing the Wilderness include the exposed seas of lower Chatham Strait while accessing the Wilderness, or the steep terrain, wildlife, or the cold wet climate. The presence of a guide can contribute to a feeling of safety. A portion of prospective wilderness visitors will probably not visit the area on their own because of concerns for their safety.

Special objectives. Guides are required to impart wilderness camping ethics to their clients, such as *Leave No Trace*. In particular, a guide might encourage clients to spread out in alpine and muskeg areas rather than walk single file, and will eliminate the use of flagging or rock cairns. Current problems at campsites in nearly all Wilderness Areas include the improper location of campsites and inappropriate use of campfires. A skilled guide can teach clients proper use of fires, such as using the mound, firepan, or durable beach methods.

Demand/utilization. In the past few years, there has been up to three permit holders in the study area for this type of activity. There have been one or two other expressions of interest for camping. In 2009 there is only one operator planning to use the area. It appears the cost of traveling to this remote Wilderness coupled with recent trends in the economy has negatively impacted the current demand.

Level of use and conflict. The existing permit holder conducts four 30-day long trips with groups of twelve. A portion of those trips occur in the Wilderness, varying from two to eight days.

Land capability. Current resource concerns from camping include use of non-durable sites, litter, fire rings in inappropriate places, constructing "campsite furniture", and development of social trails. The majority of the impacts have been caused by the unguided public and not the clients of the permit holders, but the two user groups often use the same sites, although the permittee uses solid LNT practices with few impacts. These impacts have been documented by doing Level III campsite monitoring in the spring after unguided bear hunting use, and again in late August after the guided kayaking/camping. The guides that use Tebenkof Bay have made earnest efforts to improve on *Leave No Trace* skills by attending training and this has resulted in significant improvements. The decreasing trend of impacts from the permitted camping has been documented in campsite monitoring performed by wilderness rangers and the permit administrator.

Public purpose. This activity contributes to the public purpose of recreation. It allows visitors to experience a remote Wilderness. There are outstanding opportunities for solitude that might not be experienced, otherwise.

## Hunting.

### Wilderness dependency.

- a. **National Forest System (NFS) land.** Opportunities exist outside of the wilderness area for hunting. Approximately two thirds of the Tongass National Forest is not designated Wilderness. Most of the non-Wilderness lands in SE AK are open for hunting.
- b. **Non-NFS.** There are fewer opportunities for hunting in the vicinity on private or state lands. The majority of SE AK is National Forest system lands, and the opportunity for hunting is proportionate.

## Appendix B

Forest-wide availability. Hunting is offered in other wilderness areas on the Tongass, and across most of land use designations of the Tongass.

Wilderness character. ADF&G sets harvest levels. Most clients and guides live on a boat and spend very little time in the upland areas of the wilderness during a typical day hunt. Guided hunting should have little effect on wilderness character. An exception would be if the amount of hunters begins to have an effect on their solitude. Any camping would need to adhere to *Leave No Trace* standards to avoid campsite and campfire impacts.

Skills and equipment. Hunters need to have the skill to identify and stalk, in a dynamic, challenging environment, and to do it in a way that is respectful of the wildlife and the wilderness resources. While it is hoped that most hunters will follow proper procedures, a guide can help ensure that ethical hunting practices and procedures are followed. As a result of having a professional guide, there may be a reduced number of wounded bear, deer, and wolf. While guides provide a service, the species on Kuiu Island being hunted do not require the use of a guide by the State of Alaska. These species include black bear, deer, and wolf.

Knowledge. Guides are knowledgeable about animal behavior and as well as where issues with other users could occur (subsistence, other guides). This information is not readily available to the average nonresident hunter. Guides share appropriate *Leave No Trace* practices with clients to help with the protection of the rainforest environment.

Safety risk. Hazards that might be encountered include wounded black bears. Guides generally have more knowledge and skill, know how to track and retrieve animals and have back-up rifles in case of emergency. There have been infrequent maulings of hunters by black bear. The majority of these were local residents.

Special objectives. Guides can help accomplish ADFG's harvest objectives and can ensure that hunters care for and process the carcass in accordance with state law. The guide hunt records, turned in to the Commercial Services Board, help to track harvest locations and hunter success rates.

Demand/utilization. The maximum number of black bear hunts authorized to outfitter/guides per year on the entire Petersburg Ranger District is 188 hunts. The demand for these hunts is highest on Kuiu Island.

Level of use and conflict. The current level of use is moderate. As shown in Table 1 the RVDs have increased over the past five years from 15 to 29. For Kuiu Island the black bear harvest has increased about 10 percent annually from 1990 to 2000 (Peacock 2001). While there are few reported conflicts with local users, there have been conflicts between hunting guides groups as well as other recreationists across the Tongass. Bear hunters are generally less tolerant of crowding than other recreationists. The carrying capacity for this area is currently being reviewed and a decision for the number of hunts is being considered in an environmental analysis.

Land capability. Current resource concerns from hunters who camp include tree-cutting, litter, fire rings, and social trails. Most of these are related to camping from unguided hunters. The majority of hunting clients live aboard a boat where resource concerns from that activity are few.

Public purpose. This activity contributes to the recreational purpose (hunting).

### Freshwater fishing

Wilderness dependency.

- a. **National Forest System (NFS) land.** Opportunities exist outside of the Wilderness Area for fishing. Approximately two-thirds of the Tongass National Forest is not



designated Wilderness. Most of the non-Wilderness lands in Southeast Alaska are open for fishing.

- b. **Non-NFS.** There are fewer opportunities for fishing in the vicinity on private or state lands. The majority of Southeast Alaska is National Forest system lands, and the opportunity for fishing is proportionate.

Forest-wide availability. On the Tongass fishing is offered in other Wilderness Areas, and across most of the land use designations.

Wilderness character. ADF&G sets harvest levels. Most clients and guides live on a boat and spend very little time in the upland areas of the Wilderness during a typical day. Guided fishing should have little effect on wilderness character with the exception of potential impacts to hiking routes if the amount of fishing use increases.

Skills and equipment. Unguided or guided freshwater fishing is uncommon in these two Wilderness Areas, partially due to the remoteness and partially due to the few sizable streams or lakes. Most of the fishing is an incidental activity, although Alecks Creek and Lake occasionally are visited specifically for the purpose of fishing. The streams that have fish do not have trails for access, so navigation map and compass skills are needed, and previous experience with the route is beneficial. Guides can also impart knowledge of catch and release techniques, where the runs are occurring, fish identification, avoiding bears encounters on fish streams, and proper disposal methods. In addition, a boat is normally needed for access and not all persons have the skills to successfully navigate a boat to this area, given the need for local knowledge of the area (weather, tides, etc.).

Knowledge. A guide can provide assistance and information to visitors who are unfamiliar with the terrain and environment of Southeast Alaska. It is unlikely that the average non-resident visitor would possess the ability to know where to hike or fish safely and successfully.

Safety risk. Hazards encountered might include black bears, getting lost, slips and falls, and hypothermia. The presence of an outfitter/guide can contribute to a feeling of safety. A portion of prospective wilderness visitors would probably not visit the area on their own because of concerns for their safety.

Special objectives. Outfitters and guides promote proper catch and release techniques and an understanding of population dynamics in isolated streams and lakes. Outfitter/guides are required to turn in freshwater fishing logs to ADF&G. Results of these are used to determine the level of fishing effort, as well as the harvest of all species.

Demand/utilization. There have been few requests for this activity in the past ten years.

Level of use and conflict. There have been no reports of conflicts of use on the fishing streams. The level of use has trended downward over the past five years from 20 to 6 RVDs.

Land capability. Currently, resource concerns from this activity are litter along streambanks, development of 'fishing paths,' and displacement of wildlife.

Public purpose. This activity contributes to the recreational purpose (fishing).

### Remote Setting Nature Tours (RSNT)

#### Wilderness dependency.

- a. **National Forest System (NFS) land.** Opportunities exist outside of the Wilderness Area for RSNT. Approximately two-thirds of the Tongass National Forest, are not designated Wilderness.
- b. **Non-NFS.** Opportunities for RSNT are limited. The majority of Southeast Alaska is within the Tongass National Forest, and the opportunity for RSNT is proportionate.

Forest-wide availability. The Tongass offers this activity in several other Wilderness Areas.

Wilderness character. While floatplanes are allowed on lakes through enabling legislation (ANILCA), permitting guides to conduct this activity does allow a higher level of motorized activity and could contribute to a loss of solitude in these areas. As long as these activities are low levels of use, day-use, and temporary in nature, they would not be expected to significantly impact the natural, untrammeled and undeveloped qualities already present. The introduction of small cruise ship use would represent a significant change in the type and amount of use in the Wilderness Areas. It would have a negative impact on the solitude and the primitive and unconfined recreation of the Wilderness. Small cruise ship use would also have the potential to impact other aspects of wilderness character.

Skills and equipment. RSNT activities include sightseeing, hiking, and wildlife viewing, at remote (non-road system NFS lands) locations. Hiking is a skill that is relatively easy to master. Hiking equipment can be obtained at relatively inexpensive prices at stores nationwide. Wildlife viewing equipment such as spotting scopes, cameras, and binoculars are obtained at various locations nationwide or they can be provided by the outfitter/guide. For flightseeing, an aircraft (helicopter or fixed wing) is required, which the average visitor would not own. These two Wilderness Areas are typically viewed from a boat, and the exposed waters require a seaworthy boat, which most visitors do not own.

Knowledge. A guide can provide assistance and information to non-resident visitors who are unfamiliar with the terrain and environment of Southeast Alaska. It is unlikely that the average non-resident visitor would possess the knowledge of where to hike, view wildlife and spectacular scenery safely and successfully. Most visitors do not have the knowledge to safely navigate the open waters to reach this area. Guides can teach visitors the techniques of how to minimize their impacts while hiking through the forest or muskegs. Guides who frequent the area also have the historical knowledge of the area of where the best durable sites are located, as well as what areas to avoid due to problems from previous impacts.

Safety risk. Hazards encountered might include bears, slips and falls, sudden weather changes, and hypothermia. The presence of an outfitter/guide could contribute to the safety of non-resident visitors. A portion of prospective wilderness visitors would probably not visit the area on their own because of concerns for their safety.

Special objectives. There is a need for outfitters and guides to provide services to educate the public regarding the importance of the wilderness resource, *Leave No Trace*, and specifically the special features unique to the Tebenkof Bay and Kuiu Wildernesses. Visitors who learn these skills can use them in other Wilderness Areas. Outfitters whose trip emphasis is based on appreciation for the Wilderness, educating clients and instilling a wilderness ethic can assist in meeting this management objective. An outfitter can also inform the Forest Service of their observations, including other groups seen and resource damage observed.

Demand/utilization. This activity has relatively low demand/utilization within the area. Since 2002 the RVDs have ranged from 0 to 14 (Table 1). There have been mid-size cruise ship

companies who have expressed an interest to have several skiff loads of clients disembark from the mother ship and hike in the area. The district determined that having several Zodiac skiffs coming to shore with 12 to 50 clients would not meet the standards for wilderness management.

Level of use and conflict. Current level of use is low. Increases in motorized access from large boats or from airplanes could create conflict with users who use less intrusive forms of access. Guides who use sea kayaks have complained about the impacts from large motorized boats.

Land capability. An outfitter/guide must educate visitors on *Leave No Trace* techniques and would show them how to minimize visitor impacts from RSNT.

Public purpose. This activity can contribute to the recreational purpose.

## VI. Determination of Need and Extent

As stated in the Introduction, above, this document is tiered to the Tongass Forest Plan and the *Determination of Need for Commercial Services within Wilderness Areas on the Tongass National Forest* (2007). The Forest-level Determination of Need document, states “subsequent decisions regarding the type, extent, amount, and location of commercial use for all Wilderness Areas on the Tongass must be made on a wilderness-by-wilderness basis.” It further states, “future decisions or revisions of environmental documents that allow commercial services in a Wilderness Area will be specific to each Wilderness and include”:

1. A statement defining the wilderness character;
2. Specific information regarding the wilderness values which require monitoring or protection;
3. A finding that commercial services are necessary for that Wilderness Area;
4. A description of the uses to authorize;
5. The amount of use to authorize; and
6. A description of the extent of activities.

The items specific to Tebenkof Bay and Kuiu Wilderness Areas are addressed, below.

### Statement Defining the Wilderness Character of the Tebenkof Bay and Kuiu Wilderness Areas

The study area has a high quality of wilderness character. They are highly untrammelled; the area largely operates without human management or manipulation. The ecosystems are largely intact with very few non-native species and good native populations, providing for a high level of naturalness. There is very little human development in the Wilderness resulting in it having a high level of being undeveloped. The solitude or primitive and unconfined recreation opportunities are excellent due to the remoteness and low levels of human use, although subject to impacts from off-forest use on the saltwater or from the air.

### Finding or Determination of Need for Commercial Use

**Determination of need for commercial use for backpacking/camping:** Of the permitted activities in these Wilderness Areas to date; camping has had the highest amount of use over the years (Table 1). Camping by those not well versed in *Leave No Trace* principles can cause unnecessary impact to an area. By practicing and teaching low impact techniques for camping, professional guides are helping to ensure that the wilderness integrity of the area is maintained and that visitors are educated in *Leave No Trace* principles/techniques. Having experienced and knowledgeable guides can help managers ensure that

camping use is located on durable sites and resource impacts are minimized. Use by the guided sector is much easier to track, monitor and regulate and can be used as a tool to have groups camp in locations that are best for the resources. Care must be taken to ensure that the current levels of solitude are maintained or improved. Camping use is appropriate if done in a low impact manner.

**Commercially guided camping will be authorized in the Tebenkof Bay and Kuiu Wilderness Areas through this needs assessment .**

**Determination of need for commercial use for hunting:** There has been concern expressed by hunters and guides that overcrowding is occurring on the Tongass for both black and brown bear hunting. Kuiu Island does not have brown bears, but it does have a significant black bear population. The overcrowding concern is between hunters, as well as between hunters and non-hunters. This concern has been expressed for Kuiu Island because of the renowned high black bear densities on the northern portion of the island and the number of people attracted to that phenomenon.

The Wilderness Act directs the Forest Service to protect the public's recreation experience and manage Wilderness for outstanding opportunities for solitude or undeveloped and primitive recreation. The Forest Plan directs the Forest Service to manage the Wilderness land use designation (LUD) primarily for the Recreation Opportunity Spectrum class of Primitive, which means that Wilderness Areas are the places that the public is most likely to experience isolation from most sights and sounds of humans. Other LUDs are managed for higher levels of development and amounts of interaction between people. Therefore, when managing for recreation experience on all LUDs across the Forest, Wilderness is the first LUD that is limited to preserve the opportunity for uncrowded bear hunting. Current black bear hunting use within the Tebenkof Bay and Kuiu Wilderness is generally lower than other areas on Kuiu Island. Higher bear concentrations and easier access focuses the majority of black bear hunting north of Bay of Pillars. However, use has increased over the last few years as hunter pressure has displaced hunters further south.

Currently on the Petersburg Ranger District, commercially guided black bear hunts are capped at 188 hunts. For the foreseeable future, this value will not increase. If the demand in hunter use continues to rise, most likely a prospectus will be initiated to allocate future commercially guided hunts.

**Commercially guided hunting in the Tebenkof Bay and Kuiu Wilderness Areas at current levels will be authorized through this needs assessment. Allocations within Wilderness have been limited to 10 percent of the Wrangell Ranger District recreation use carrying capacity. In order to protect the wilderness hunting experience, it is recommended to maintain this limitation, and to look for additional ways to respond to guides and hunters complaints regarding loss of solitude.**

**Determination of need for commercial use for freshwater fishing:** Very little guided freshwater fishing takes place within these two Wilderness Areas. The primary location for fishing is at Aleck's Creek. The use has ranged from 20 RVDs in 2000, to 2 RVDs in 2005 (Table 1). Guides are primarily needed to access this remote area, both for transport to the area and for route finding in an area without trails such as Alecks Creek.

Guided saltwater fishing from boats is a commercial activity that occurs off of National Forest lands and therefore is not an activity regulated by the US Forest Service.

**Commercially guided freshwater fishing in the Tebenkof Bay and Kuiu Wilderness Areas will be authorized through this needs assessment.**

**Determination of need for commercial use for Remote Setting Nature Tours:** Visitors in this category access the area via watercraft or floatplane. Activities such as wildlife viewing, sightseeing, picnicking, birding, photography, hiking, nature viewing, etc. would all be grouped into this activity. Having the knowledge, skills, experience, and equipment, even in good weather, to navigate the waters of Chatham and Sumner Straits, or to fly into the area lakes, are things the average visitor would not have. For most of the population, outfitters and guides provide the only means by which they could access or experience the

area. Through interpretation of the area's natural and cultural history, guides can increase the appreciation of the area for the people they are serving. Cruise ships have the potential to bring large numbers of visitors into the Wilderness, which would bring substantial negative change to the wilderness character, especially in light of the extraordinary outstanding opportunities for solitude or primitive and unconfined recreation that the area offers currently. Even a small increase would be a proportionally significant change. RSNT opportunities for larger groups exist at many places outside these two Wildernesses. Both Wilderness Areas have a niche of providing excellent opportunities for solitude, as well as primitive and unconfined recreation. These opportunities are becoming harder to find on the Tongass as the tourism industry grows. Management of these Wilderness Areas will ensure protection of these opportunities for small groups of the public.

**Commercially guided RSNT in the Tebenkof Bay and Kuiu Wilderness Areas *will* be authorized through this needs assessment where the standards for a Primitive ROS experience can be met<sup>4</sup>; an activity group size will not exceed 12 people; exceptions will be rare.**

### **Information Specific to Tebenkof Bay and Kuiu Wilderness Areas Which Requires Monitoring or Protection of Wilderness Values**

The exceptional opportunities for solitude and the primitive and unconfined recreation of this area need to be monitored to ensure appropriate management.

The high quality of the native flora and fauna biological systems need to be monitored to ensure appropriate management.

### **Description of Uses to Authorize**

Backpacking/camping

Freshwater fishing

Hunting

Remote Setting Nature Tours (RSNT)

### **Amount of Use to Authorize**

The amount of use in Wilderness is determined and presented in the **Petersburg Ranger District Recreation Use Carrying Capacity Report** using the information presented in this needs assessment.

<sup>4</sup> Tongass National Forest Land and Resource Mgmt. Plan, Wilderness Management Prescriptions, Recreation and Tourism.

### Appendix 1. Wilderness Management Direction

#### **Wilderness Management Direction for a Needs Assessment**

Following is a discussion about when a needs assessment may be employed to address commercial use requests within Wilderness based on a regional or local wilderness management concern.

#### **Direction Provided by the 1964 Wilderness Act**

The Wilderness Act of 1964 states the purpose of Wilderness is “to secure for the American people of present and future generations the benefits of an enduring resource of Wilderness.” Wilderness being an area “affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; . . . has outstanding opportunities for solitude or a primitive unconfined type of recreation”; . . . and “may also contain ecological, geological, or other feature of scientific, educational, scenic, or historical value.”

The Wilderness Act also describes how Wilderness Areas are to be used and managed. Management is to focus on preserving the wilderness character of the area; and use of the area “shall be devoted to the public purposes of recreational, scenic, scientific, education, conservation, and historical uses.” In realizing these uses Wilderness provides an opportunity for solitude or primitive unconfined types of recreation not attainable in settings more man-made, or influenced by humans.

In accomplishing the purpose of, and uses of Wilderness, the Wilderness Act gives some additional direction. Specifically, with one notable exception commercial enterprises are prohibited by Section 4(c) of the Act. The exception covered in Section 4(d) (6) says “commercial services may be performed within the Wilderness Area . . . to the extent necessary for activities which are proper for realizing the recreation or other Wilderness purposes of the areas.”

#### **Alaska National Interest Lands Conservation Act of 1980 (ANILCA)**

Section 707 of ANILCA states “Except as otherwise expressly provided for in this Act, Wilderness designated by this Act shall be administered in accordance with applicable provisions of the Wilderness Act ...”

Items provided for in ANILCA wilderness include:

1. Section 811 – (a) Ensures rural residents reasonable access to subsistence resources and (b) permits the use of snowmobiles, motorboats, and other means of surface transportation traditionally employed for subsistence purposes, subject to reasonable regulation.
2. Section 1010 – Mineral assessments with access by air with reasonable requirements to protect the resources of the area.
3. Section 1110(a) – Allows for the use of snowmachines, motorboats, airplanes and nonmotorized surface transportation methods for traditional activities on conservation system units, including designated Wilderness, and for travel to and from villages and homesites, subject to reasonable regulation to protect the natural and other values of the unit or area.
4. Section of 1303(b)(1) – Allowance for the construction of new cabins and administrative cabins if necessary for the administration of the area as Wilderness
5. Section 1303(b)(2) – Allowance for the continuation of existing cabins.
6. Section 1310 – Allowing for the maintenance of existing and future navigation aids and other facilities.

7. Section 1315(c) – Permitting the continued use and maintenance of public use cabins. 1315(d) allows for the construction of new cabins if they're necessary for the protection of public health and safety.
8. Section 1316(a) – Allows for existing and future establishment of temporary structures necessary for the taking of fish and game subject to reasonable regulation to insure compatibility, the continuance of existing uses, and the future establishment, and use, of temporary campsites, tent platforms, shelters, and other temporary facilities and equipment directly and necessarily related to such activities. Section 1316(b) allows for the denial of the temporary facilities if the use of equipment or facilities is determined to be detrimental to the wilderness character.

In ANILCA, there are 17 sections that may influence the character of the wilderness and the consideration of commercial use. During the evaluation of commercial recreation use for any one Wilderness, an effort should be made to consider the long-term effects of accommodating increasing uses or proposals for new use. The economic benefits to a business are not a substantive basis of a decision to allow use presented in either the Wilderness Act or ANILCA.

### **Direction Provided by Regulation**

Federal Regulations 36 CFR 293.2 – Objectives, states in part: “Except as otherwise provided in the regulations..., National Forest Wilderness shall be so administered as to meet the public purposes of recreational, scenic, scientific, educational, conservation, and historical uses; and it shall also be administered for such other purposes for which it may have been established in such a manner as to preserve and protect its wilderness character...To that end:

(a) Natural ecological succession will be allowed to operate freely to the extent feasible.

(b) Wilderness will be made available for human use to the optimum extent consistent with the maintenance of the primitive conditions.

(c) In resolving conflicts in resource use, wilderness values will be dominant to the extent not limited by the Wilderness Act, subsequent establishing legislation, or the regulations in this part.”

Federal Regulations 36 CFR 293.8 - Permanent structures and commercial services, states in part that: “The Chief, Forest Service, may permit . . . commercial services within National Forest Wilderness to the extent necessary for realizing the recreational or other Wilderness purposes, which include, but are not limited to, the public services generally offered by packers, outfitters, and guides.”

### **Agency Direction**

#### **USDA Forest Service Strategic Plan for 2004 - 2008**

The mission of the USDA Forest Service is based on the relationship between the American people and their natural resource heritage. The relationship is founded on the principles of sustaining U.S. natural resources for future generations, producing personal and community well-being, and providing economic wealth for the Nation.

The Strategic Plan embodies the Forest Service's many areas of responsibility, as captured in the agency's mission statement:

“The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forest and grasslands to meet the needs of present and future generations.”

One of the many goals of the Strategic Plan is to provide high-quality outdoor recreational opportunities on forests and grasslands, while sustaining natural resources, to meet the Nation's recreational demands.

### Forest Service Chief's 10-Year Wilderness Stewardship Challenge

In 2005, the Chief of the Forest Service adopted the 10-year Wilderness Stewardship Challenge (WSC) as recommended by the Chief's Wilderness Advisory Group. This effort is a renewal of the commitment to wilderness by pledging to bring all 406 wildernesses administered by the Forest Service to a minimum level of stewardship within 10 years. Element 7 of the WSC identifies that, **"Needs assessments are completed for new operations or for major changes to existing outfitter programs."** As clarified in the definitions for this element; *"needs assessments"*; a methodology for determining if, in fact, there is a "need" for private enterprise to assist the Agency in providing access, services and/or other assistance for the recreating public to safely and properly enjoy National Forest Wilderness."

Another part of the WSC related to forest plan management direction is Element 5 – Protecting Opportunities for Solitude or Primitive and Unconfined Recreation. Managing to protect "outstanding opportunities for solitude or a primitive and unconfined type of recreation" has been perhaps the most controversial aspect of wilderness management to date. Controversy typically emerges if managers propose any type of restriction on visitor access or behavior, such as use limits, to improve opportunities for solitude. Factors contributing to this controversy include:

1. Lack of clarity over the meaning of solitude thus leading to lack of agreement over what the problem really is (e.g. visitors may view the concept holistically while managers may focus on the number of encounters in particular locations).
2. Perception that solitude is too subjective and individualistic to manage for.
3. Lack of standards or agreement on standards that define when there is a problem requiring corrective action.
4. Managing for solitude without equal consideration of managing for primitive and unconfined recreation opportunities.
5. The importance of access to visitors even when they support Wilderness preservation.
6. Tension between providing outstanding opportunities for solitude vs. primitive and unconfined recreation.

#### Forest Service Manual Direction

Forest Service Manual Chapter 2320 – Wilderness Management, has been reserved by the Washington Office. Management direction regarding the implementation of specific exemptions for wilderness management in the Regional Supplements to the Forest Service Manual, still remain in effect. The Forest Service Manual from the Washington Office is expected to be reissued sometime in the near future.

Forest Service Handbook (FSH) 2709.11, 41.53e - Needs Assessment, Resource Capacity Analysis, and Allocation of Use – Conduct a needs assessment to determine the public or agency need for authorized outfitting and guiding activities. When conducting a needs assessment for outfitting and guiding activities in a Wilderness Area, assess whether these activities are necessary for realizing the recreational or other wilderness purposes of the area and the extent to which the activities may be authorized consistent with maintaining the wilderness character of the area.

#### Other FSM direction includes

Under FSM 2340 – Privately Provided Recreation Opportunities

##### 2340.2 - Objectives

To provide, under special use authorization, sufficient, suitable facilities and services that supplement or complement those provided by the private sector, State, and local government on private land and the



Forest Service on National Forest System land to meet public needs, as determined through land and resource management planning.

To facilitate the use, enjoyment, understanding, and appreciation of natural resource settings on the National Forest.

## **Forest Plan Direction for Wilderness**

### **Goals**

To manage all designated Wilderness to maintain the enduring resource of Wilderness as directed by the Wilderness Act of 1964, subject to the special provisions and exceptions in the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) and the Tongass Timber Reform Act of 1990 (TTRA).

Protect and perpetuate natural biophysical and ecological conditions and processes. Ensure Wilderness ecosystems are substantially free from the effects of civilization.

Provide a high degree of remoteness from the sights and sounds of humans, and opportunities for solitude and primitive recreation activities consistent with Wilderness preservation.

Keep Wilderness untrammelled and free from human control or manipulation, including actions taken to manage Wilderness.

Protect the undeveloped character of Wilderness by following legislative guidelines regarding permanent improvements or human occupation, including mechanized transport and motorized equipment.

### **Objectives**

Apply a multi-disciplinary focus to Wilderness management; consider stewardship of Wilderness in the annual program of work by all resources.

Manage recreation activities so that the levels of social encounters, on-site developments, methods of access, and visitor impacts indicated for the Primitive Recreation Opportunity Spectrum (ROS) Class are emphasized. Areas managed as Semi-Primitive within a Wilderness are an exception and are not encouraged.

Provide for public uses of Wilderness as authorized in the Wilderness Act, but subject to ANILCA provisions for motorized and non-motorized access and travel, including reasonable traditional subsistence use by rural residents, and provisions of other applicable Wilderness designation acts.

Maintain trails and primitive facilities that are in harmony with the natural environment and that promote primitive recreation opportunities. Feature facilities designed primarily to provide resource protection and encourage smaller group size and emphasize challenge and risk instead of convenience.

Maintain the Wilderness capacity to provide information on natural ecological processes.

Preserve and perpetuate biodiversity.

Inventory, reduce, and, when possible, eliminate non-native species in Wilderness

Manage Wilderness as a place where self-reliance and primitive skills are needed and can be honed.

### **Stikine Area Outfitter and Guide Environmental Assessment**

In 1997, the ***Stikine Area Outfitter and Guide Environmental Assessment*** (EA) to develop a strategy to manage outfitter and guide special use permits was completed for both the Wrangell and Petersburg Ranger Districts. A Decision Notice was published in August 1997 describing the rationale for the selected alternative. The Districts reviewed the EA in April of 2004. The review recommended a few minor changes (primarily to address new sites and roads) and determined that no further environmental analysis was required and that the 1997 Decision Notice would be extended until the next review (scheduled for 2010).

Included in the 1997 ***Stikine Area Outfitter and Guide Environmental Assessment*** is a Recreation Use Carrying Capacity Report (CCR) developed to determine the maximum amount of use that could be accommodated in a given area without loss in the quality of the natural environment and/or the prescribed visitor experience (ROS). The CCR provides managers with a tool and rationale for apportionment of outfitter and guide use allocations. When possible, conservative use variables were used in calculations to take into account the more primitive experience that most visitors expect in Alaska.

The EA includes various Mitigation Measures that are used to address site specific concerns in the various study areas. The Mitigation Measures are included with all Outfitter and Guide Special Use Permits as Special Stipulations and therefore become part of the permit. Failure to adhere to the Special Stipulations would be a violation of the terms in the Special Use Authorization and could lead to the termination of the permit. The Special Stipulations that address areas of concern are:

1. Outfitter/guides will submit revisions of their Operating Plans in writing.
2. Land ownership is mixed and it is the responsibility of the permit holder to determine ownership and obtain proper authorization for use of private, native, and/or local government-held lands.
3. Outfitter/guides will incorporate *Leave No Trace* skills into all activities on National Forest System lands (<http://www.lnt.org/index.php>).
4. Outfitter-guided use of public use recreation cabins or their amenities (e.g. skiffs, firewood, fire rings) is prohibited. Exceptions may occur as specifically approved for a site by the District Ranger. These exceptions must be identified in the permit or addressed in District Stipulations.
5. Within designated Wilderness, no more than 12 people (including guides) can occupy a site at one time. "Site:" an area on the National Forest occupied by persons not within sight and sound of other Forest users.
6. All campfires will be built below high tide, as mound fires (a LNT technique) or in fire pans.
7. Beach Meadows: Outfitter/guides will not establish camps, or allow their clients to camp in these areas. When walking through these areas, people should stay on existing paths and game trails to avoid trampling or damaging vegetation in beach meadows. Located at the margin between marine beaches and the forest fringe, beach meadows are characterized by the presence of tall grasses, beach pea, Indian paintbrush, Pacific silverweed, yarrow, chocolate lily, pretty shooting star, and Nootka lupine. These meadows often have between 20-40 different plant species, some of which are on the sensitive species list.
8. Impacts on Bald Eagle Nest Sites: The Forest Service and the U.S. Fish and Wildlife Service have a Memorandum of Understanding which establishes a minimum 330-foot radius "habitat management zone" around each bald eagle nest tree. Camping in this zone is prohibited to guided groups.

9. A copy of the permit must be with the operator at all times, when operating on National Forest System lands.
10. Use Reports will reflect specific locations of use on National Forest System lands.
11. 36 CFR Ch.11 261.10 The following are prohibited: ...(d) Discharging a fire arm or any other implement capable of taking human life, causing injury, or damaging property: (1) in or within 150 yards of a residence, building, developed recreation site or occupied area, or (2) across or on a Forest development road or a body of water adjacent thereto, or in any manner or place whereby any person or property is exposed to injury or damage as a result in such discharge.

## Appendix 2. ROS classes for Tebenkof Bay and Kuiu Wilderness Areas.

### Primitive

Setting indicators	Standards and Guidelines
Scenic Quality	Not to exceed the High Scenic Integrity Objective. An Existing Scenic Integrity level of Very High is fully compatible and encouraged
Access	Non-motorized cross-country travel and travel on non-motorized trails and on waterways is typical. Use of airplanes, helicopters, motorboats, off-highway vehicles, and snowmachines for traditional activities, subsistence, emergency search and rescue, and other authorized resource management activities may occur but is rare.
Remoteness	No or infrequent sights and sounds of human activity are present. Setting is located more than 1.5 hours walking or paddling distance, or 3 miles, from any human developments other than infrequently traveled marine travelways. Areas are generally greater than 5,000 acres, but may be smaller if contiguous with a Semi-Primitive class.
Visitor Management	On-site regimentation and controls are very rare. Signing is limited to directional information and safety. There are no on-site interpretive facilities. There is great opportunity for discovery on the part of the users.
On-site Recreation Development	Structures do not exceed Development Scale I, except for public recreation cabins, and are maintained for appropriate levels of use.
Social Encounters	User meets less than three parties per day during trip. No other parties are within sight or sound of dispersed campsites or cabins. Authorize a party size of no more than 12 persons for any one site or activity group for commercial recreation use. Exceptions to the commercial group's size should be rare. A group size of 12 persons or less is recommended for general public use. Refer to REC122 in Chapter 3 for exceptions.
Visitor Impacts	Visitor-caused impacts to resources are slight and usually not noticeable the following year. Site hardening is limited to boardwalk trails and necessary boat moorings or bear-proof food caches and rustic public recreation cabins



## **APPENDIX C**

### **Biological Assessments for the Petersburg Outfitter Guide Environmental Assessment**



Biological Evaluation  
for the  
Petersburg Outfitter and Guide Management Plan

USFWS, reference # 71440-2009-SL-0062

Petersburg Ranger District  
Tongass National Forest

Prepared By: /s/ Matthew T. Moran Date: June 4, 2009  
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## **I. INTRODUCTION**

Biological Evaluations (BE) provide a process to review all Forest Service planned, funded, executed or permitted programs and activities for possible effects on threatened, endangered, proposed or sensitive species (TEPS) (Forest Service Manual 2672.4). BEs are intended to help ensure that Forest Service actions do not contribute to a loss of viability or any native or desired non-native plant or animal species or contribute to trends toward Federal listing of any species. They provide a process and standard to ensure that TEPS species receive full consideration in the decision-making process (FSM 2672.41).

The effects analysis in the BE is required to address any direct, indirect, and cumulative effects of an action on threatened or endangered species or their critical habitat (50 Code of Federal Regulations [CFR] 402.02) and on sensitive species or their habitat (FSM 2672.42). This BE also complies with Section 7 of the Endangered Species Act (ESA), which requires all Federal Agencies, in consultation with the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS), to insure that their actions are not likely to jeopardize the continued existence of threatened, endangered or proposed species or adversely modify their habitat.

Current management direction on desired conditions for Threatened, Endangered, Proposed and Sensitive species on the Tongass National Forest can be found in the following documents:

- Forest Service Manual and Handbooks (FSM/H 2670/2609)
- National Forest Management Act (NFMA)
- Endangered Species Act (ESA)
- National Environmental Policy Act (NEPA)
- Tongass National Forest Land and Resource Management Plan (referred to as the Forest Plan) (USDA 2008a)
- Species-specific recovery plans that establish population goals for recovery of those species
- Regional Forester policy and management direction (i.e., Sensitive Species List)

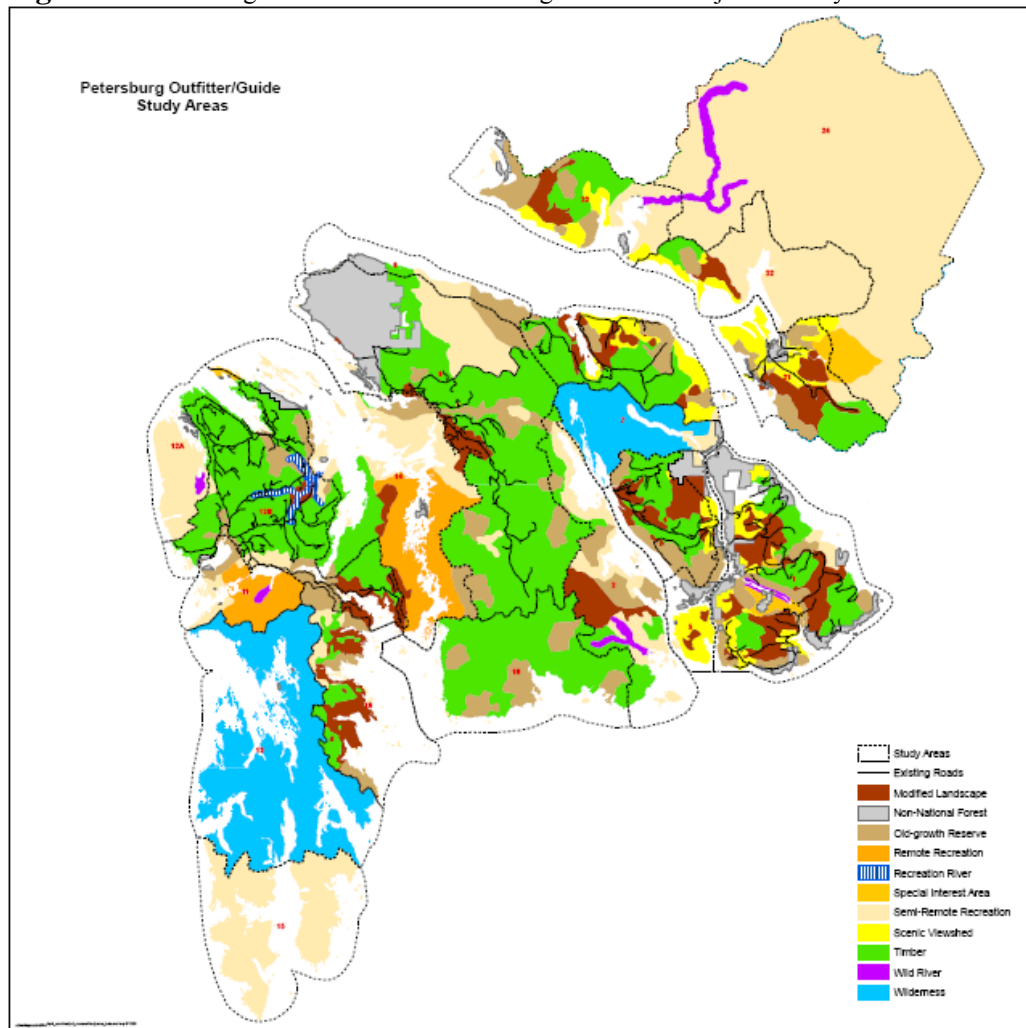
The Forest is organized into Land Use Designations (LUD) for management purposes. Each LUD has specific goals, objectives, desired conditions and management prescriptions which are discussed in Chapter 3 of the Forest Plan. LUDs within the project area are included in Table 1.

**Table 1.** Acres and percent of project area for each type of Land Use Designation (LUD)

<b>LUD</b>	<b>Acres</b>	<b>Percent of Project Area</b>
LUD II (L2)	3341.53	0.17%
Modified Landscape (ML)	142,548.14	7.31%
Municipal Watershed (MW)	5,538.71	0.28%
Non-National Forest Land (NNF)	94,556.07	4.85%
Old Growth (OG)	176,598.58	9.06%
Research Natural Area (RA)	633.65	0.03%
Remote Recreation (RM)	61,892.59	3.18%
Recreation River (RR)	6,519.31	0.33%
Special Interest Area (SA)	19,440.76	1.00%
Semi-Remote Recreation (SM)	660,667.83	33.90%
Scenic Viewshed (SV)	73,517.44	3.77%

Timber Production (TM)	509,085.24	26.12%
Wild River (WR)	19,706.32	1.01%
Wilderness (WW)	172,659.34	8.86%
Wilderness Wild River (WWWR)	2,408.49	0.12%
<b>Total 1,949,11</b>	<b>4.00</b>	<b>100.00%</b>

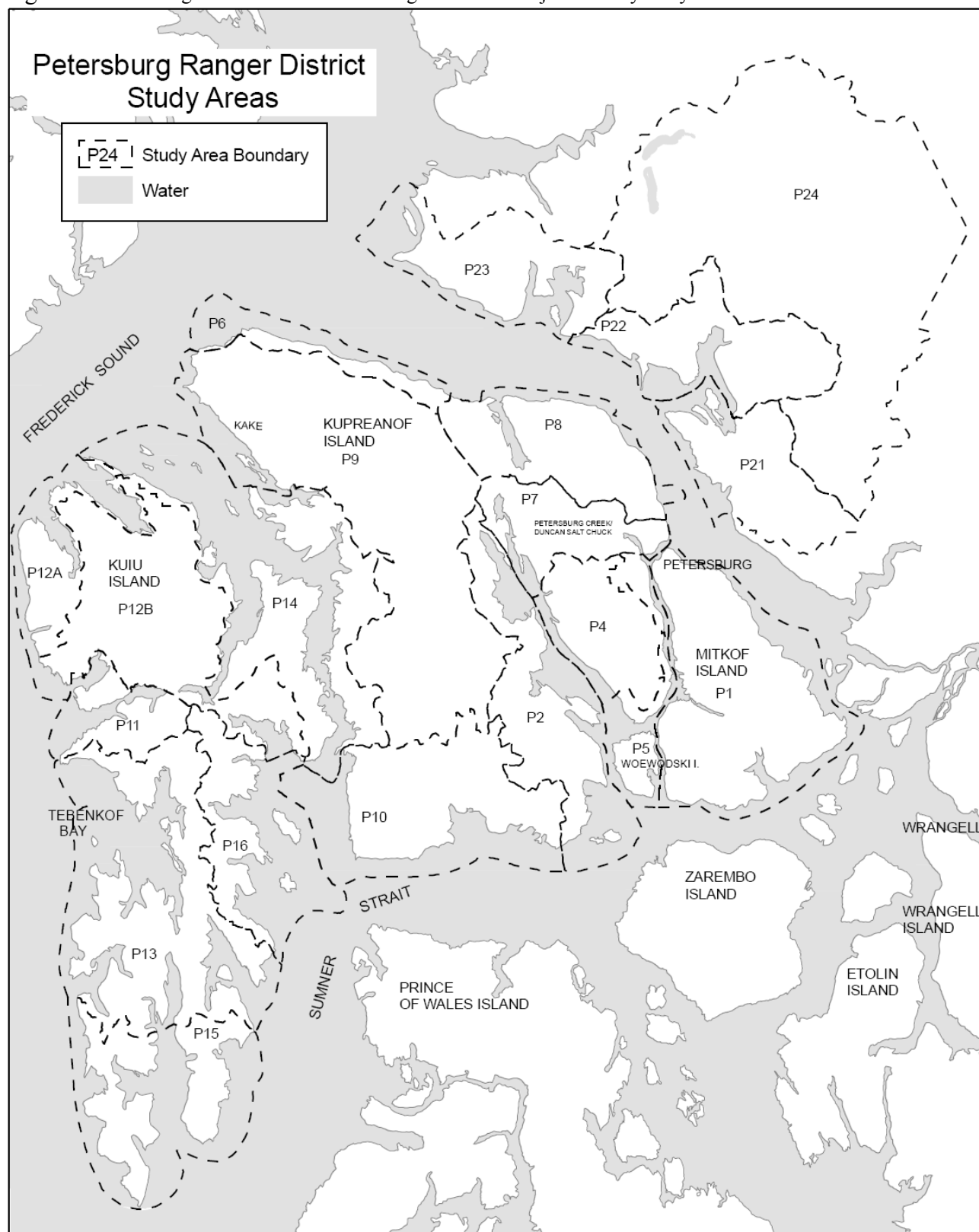
**Figure 1.** Petersburg Outfitter and Guide Management Plan Project Area by LUD



The Forest Plan provides specific information on how TEPS species will be managed. Forest-wide desired conditions and goals for fish and wildlife are included in Chapter 2 of the Forest Plan. The Forest Plan standards and guidelines for TEPS species provide the direction for species management within the project area (USDA 2008a, pp. 4-14, 4-89 through 4-100). The direction is incorporated by reference.

The project area consists of the National Forest System lands encompassing the Petersburg Ranger District of the Tongass National Forest (TNF), totaling approximately 1.9 million acres in central Southeast Alaska, including Mitkof, Kupreanof, Woewodski, and Kuiu Islands, a section of the mainland, and several smaller islands. It surrounds the communities of Petersburg, Kupreanof, and Kake. A map displaying the project area is presented in Figures 1 and 2.

Figure 2. Petersburg Outfitter and Guide Management Plan Project Area by study areas.



### **II. PROJECT DESCRIPTION**

The USDA Forest Service, Tongass National Forest, Petersburg Ranger District is proposing the Petersburg Outfitter and Guide Management Plan. The proposed action is to authorize outfitter and guide operations through the issuance of special use permits, based on the Petersburg Recreation Use Carrying Capacity Report. The District is proposing to allocate outfitter and guides up to 10% of the capacity within an identified home range and 25% outside an identified home range. These allocations would be proportioned out by season; 10% in the spring, 65% in the summer, 15% in the fall and 10% in the winter (Appendix III and IV). This emphasizes more limitation on commercial use in the spring and fall to reduce user conflicts and provide more opportunities for solitude.

The proposal would authorize up to approximately 39,605 Recreation Visitor Days (RVDs) across the District for use by outfitters and guides. The use authorized may be temporary in nature (less than one year) or could be for multiple years. For those operators who have demonstrated satisfactory performance, the District Ranger may issue priority use permits, for a period of up to 10 years, in accordance with FSH 2709.11.

This action is needed to analyze the potential impacts from outfitter/guide use on National Forest System (NFS) lands and to set reasonable levels of use based on social and environmental conditions. It responds to the goals and objectives outlined in the Tongass Forest Plan (2008), and helps move the Petersburg Ranger District towards the desired conditions described in the Forest Plan (p. 2-1). The Forest Plan provides standards and guidelines to authorize services of qualified outfitters and guides to the public, where the need has been identified and is compatible with the objectives and management direction of the affected Land Use Designation (LUD), and to issue priority use permits, whenever possible, supplemented with temporary permits (p. 4-46). Forest Service policy (FSM 2720 and FSH 2709.11) allows for the issuance of special use authorizations for up to 10 years. Applications for multi-year permits allow outfitters and guides to make financial commitments necessary to continue to provide services to the public.

Special Use Authorizations permitting individuals, companies, or organizations to provide visitor services in Wilderness may be issued if there is demonstrated need for the service(s) and they are deemed appropriate for the area proposed (Forest Plan, p. 3-20). In September 2007, the Forest Supervisor made a determination of need for the services of outfitters and guides within Wilderness Areas to meet recreational purposes on the Tongass. In that document, it specifies that District Rangers remain responsible for making the final decision regarding the type, extent, amount, and location of commercial use within wilderness. In addition, as Congress has identified each wilderness as being separate management units with their own unique characteristics, decisions will be made on a wilderness-by-wilderness basis.

The analysis of this document is tiered to the Tongass National Forest Land and Resource Management Plan (2008a), the Wildlife Specialist Report, and the Subsistence Report for this project. These documents are incorporated by reference.

### **III. THREATENED, ENDANGERED, CANDIDATE AND PROPOSED SPECIES**

In compliance with the Forest Plan and ESA, species that are listed as threatened, endangered, candidate or proposed in this area were identified. Federally listed threatened and endangered species are those plant and animal species formally listed by the Fish and Wildlife Service or National Marine Fisheries Service under authority of the Endangered Species Act of 1973, as amended. An endangered species is defined as one that is “in danger of extinction throughout all or a

significant portion of its range.” A threatened species is defined as one that “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Petitioned species are species that are actively being considered for listing.

The FWS and NMFS Internet web sites were consulted, for the preparation of this document because they provide occurrence and habitat information. An email correspondence from Katharine Savage (NMFS) to Chuck Parsley (USDA FS) was also obtained for clarification of current listed species recognized by NMFS.

The FWS list of threatened, endangered, candidate, and proposed species for all of Alaska is shown in **Table 2** (USDI 2009). The Kittlitz’s murrelet is listed as a candidate species, but will be addressed in the Forest Service Sensitive Species listing, further on in the document, and will not be covered here.

**Table 2.** Threatened, endangered, candidate and proposed species managed by the FWS and location description throughout Alaska (USDI 2009).

Common Name	Scientific Name	ESA Status	Location Description
Eskimo Curlew	<i>Numenius borealis</i>	Endangered	Occurred in the arctic and is assumed to no longer occur in Alaska (USDI 2007a and 2006a).
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered	Occupies coastal waters in the Gulf of Alaska and the Aleutian Islands (USDI 2001).
Spectacled Eider	<i>Somateria fischeri</i>	Threatened	Occupies coastal waters in northern and western Alaska (USDI 2004 and 2007).
Polar Bear	<i>Ursus maritimus</i>	Proposed	Lives only in the Northern Hemisphere (USDI 2006b, p. 1).
Steller's Eider	<i>Polysticta stelleri</i>	Threatened	Occurs in northern and western Alaska (USDI 2004 and 2007).
Steller Sea Lion (Eastern AK DPS)*	<i>Eumetopias jubatus</i>	Threatened	Includes sea lions born on rookeries from CA north through Southeast Alaska (NMFS 2008).
Steller Sea Lion (Western AK DPS)*	<i>Eumetopias jubatus</i>	Endangered	Includes sea lions born on rookeries from Prince William Sound westward (NMFS 2008).
Northern sea otter (SW Alaska Population)	<i>Enhydra lutris kenyoni</i>	Threatened	The FWS listed only the sea otter populations in southwest Alaska as threatened (USDI 2008, pp. 5-6).
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	Endangered	Species is "known to occur" in Alaska (USDI 2009).
Bowhead whale	<i>Balaena mysticetus</i>	Endangered	Species is "known to occur" in Alaska (USDI 2009).

## Appendix C

Finback whale	<i>Balaenoptera physalus</i>	Endangered	Species is "known to occur" in Alaska (USDI 2009).
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Species is "known to occur" in Alaska (USDI 2009).
Yellow-billed loon	<i>Gavia adamsii</i>	Candidate	Species is "known to occur" in Alaska (USDI 2009). Breeds in arctic Alaska. Winters as far south as Southeast Alaska (USDI 2006d).

\* DPS = Distinct population segment.

The list of Alaska threatened, endangered, and proposed species from the NMFS is shown in **Table 3**. A discussion to validate referenced occurrence information was obtained from an email correspondence from Katharine Savage, NMFS, on 12 February 2009.

**Table 3.** Summary of NMFS listed threatened, endangered, proposed & candidate species in Alaska (NMFS 2009).

Common Name	Scientific Name	ESA Status	Location Description
Blue whale	<i>Balaenoptera musculus</i>	Endangered	These whales are generally found in off-shore (pelagic) marine waters of the Bering Sea, Chukchi Sea, North Pacific Ocean and/or Gulf of Alaska (NMFS 2009b). Critical habitat has been designated for North Pacific right whales in the Bering Sea and the Gulf of Alaska (NMFS 2009b).
Beluga whale (Cook Inlet)	<i>Delphinapterus leucas</i>	Endangered	
Bowhead whale	<i>Balaena mysticetus</i>	Endangered	
Fin whale	<i>Balaenoptera physalus</i>	Endangered	
North Pacific right whale	<i>Eubalaena japonica</i>	Endangered	
Sei whale	<i>Balaenoptera borealis</i>	Endangered	
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	This species is likely to occur in waters surrounding the Tongass NF.
Green sea turtle	<i>Chelonia mydas</i>	Threatened	These species occur in the Gulf of Alaska and some species are found as far west as the Aleutian Islands. Adults are highly migratory, but the details and locations of migrations are largely unknown (NMFS 2009c).
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	
Olive Ridley sea turtle	<i>Lepidochelys olivacea</i>	Threatened	
Steller sea lion - Western AK DPS*	<i>Eumetopias jubatus</i>	Endangered	The eastern DPS is likely to occur in waters surrounding the Tongass NF. There may be an occasional occurrence by the western DPS in the Yakutat area. Critical habitat has been designated.
Steller sea lion - Eastern AK DPS*		Threatened	
Fish Species			
Chinook salmon:	<i>Onchorhynchus tshawytscha</i>		Listed stocks of salmon and steelhead originate from freshwater habitats in Washington, Idaho, Oregon and California. Some of the listed species migrate into marine waters off the coast of Alaska. Some individuals are occasionally present in the inside waters of Southeast Alaska where they may feed on prey resources originating within marine and estuarine waters of the Tongass NF (USDA FS 2008b, p. F-7).
Lower Columbia River		Threatened	
Puget Sound		Threatened	
Snake River spring/summer		Threatened	
Snake River fall		Threatened	
Upper Columbia River spring		Endangered	
Upper Willamette River	Threatened		
Snake River Sockeye Salmon	<i>Onchorhynchus nerka</i>	Endangered	
Steelhead:	<i>Onchorhynchus mykiss</i>		
Lower Columbia River		Threatened	
Middle Columbia River		Threatened	
Snake River Basin		Threatened	
Upper Columbia River		Endangered	

Common Name	Scientific Name	ESA Status	Location Description
Upper Willamette River		Threatened	

\* DPS = Distinct population segment.

## SPECIES NOT ADDRESSED IN DETAIL

Blue, Right, Finback, Sei, Beluga, and Sperm whales are generally found in off-shore (pelagic) marine waters of the Bering Sea, Chukchi Sea, Cook Inlet, North Pacific Ocean and/or Gulf of Alaska (NMFS 1998, NMFS 2006, and NMFS 2005). No critical habitat has been designated for these species in Alaskan waters. Bowhead whales are distributed in seasonally ice-covered waters of the Arctic and near-Arctic, generally north of 54°N and south of 75°N in the western Arctic Basin. The majority of the Western Arctic stock migrates annually from wintering areas in the northern Bering Sea, through the Chukchi Sea in the spring, to the Beaufort Sea where they spend much of the summer before returning again to the Bering Sea in the fall to overwinter. No critical habitat has been designated for this species in Alaskan waters (Shelden and Rugh 1995). These species generally are not known to occur in the project areas. Therefore, no effects to these species are expected and they will not be discussed further in this document.

The spotted, bearded, and ringed seals that are listed in Alaska occur further north than the Petersburg Ranger District, in the Bering Sea and the Chukchi Sea (NMFS 2009), therefore are not effected by our project area, and will not be discussed further in this document.

The Green, Leatherback, Olive Ridley and Loggerhead sea turtles occur in the Gulf of Alaska and some species are found as far west as the Aleutian Islands. Adults are highly migratory, but the details and locations of migrations are largely unknown. These turtle species have been documented to occur in Southeast Alaska (NMFS 2009), but those sightings are considered incidental and the species are not common to the Petersburg Ranger District. These turtle species are suspected to be uncommon in Alaska marine waters and critical habitat has not been designated in Alaskan waters (NMFS 2007a and NMFS 2009, NMFS and FWS 1998). Leatherback, Green, Olive Ridley and Loggerhead sea turtles have not been documented in or around the salt waters of the Petersburg Outfitter and Guide project area are not known to occur in habitats likely to be affected by this project. Therefore, no effects to these species are expected and they will not be discussed further in this document.

The Yellow-billed loon is an uncommon winterer in Southeast Alaska in offshore and inshore waters adjacent to the Tongass National Forest. Allocations would be proportioned by season and is only expected to be 10-15% when Yellow-billed loons would occur. Proposed activities are for permitted land-based activities, therefore, no effects to this species or its habitat are expected and they will not be discussed further in this document.

The proposed action to increase permitted land based activities is outside of Pacific Herring (Lynn Canal DPS). Transportation via boat to get to land based activities is not expected to increase from existing use, therefore, no effect to these species is expected and they will not be discussed further in this document.

None of the stocks of Pacific salmon or steelhead known to originate from freshwater habitat in Alaska are listed under the Endangered Species Act. However, some individuals of the listed species originating from freshwaters in the lower 48 states occur in Alaskan outside waters. No critical habitat has been designated for these species in Alaskan water (USDA 2008b, p. F-7). None

of the listed stocks of salmon or steelhead are known to originate in Alaskan streams. However, many species and stocks are listed that originated from freshwater habitats in Washington, Idaho, Oregon, and California. Some of the listed species migrate into marine waters off the coast of Alaska. While distribution of these stocks is primarily in outer coastal waters some are occasionally present in the inner waters of Southeast Alaska and they may feed on prey resources originating within marine and estuarine waters of the Tongass National Forest (USDA 2008b, p. F-7). Critical habitat has not been designated for these species in Alaskan waters, therefore, no effect to these species is expected and they will not be discussed further in this document.

General Forest Plan direction for threatened and endangered species applies (USDA 2008a, p. 4-98 through 4-100).

### **Effects Analysis**

The analysis area was analyzed and a determination was made to assess the direct, indirect, and cumulative effects of the proposed project on proposed, endangered, and threatened species or critical habitat (50 CFR 402.14, FSM 2671.44) (Table 4). There will be no effect to the Eskimo curlew, Polar bear, Northern sea otter, Short-tailed albatross, Yellow-billed loon, Spectacled eider, and Steller's eider listed by the FWS and the Blue whale, Bowhead whale, Fin whale, Green sea turtle, Leatherback sea turtle, Olive Ridley sea turtle, Loggerhead sea turtle, North Pacific right whale, Sei whale, or Sperm whale listed by the NMFS have not been documented to occur in southeast Alaska, or on the Tongass National Forest, or in habitats likely to be affected by the Petersburg Outfitter and Guide Management Plan Project Area or they are not listed as threatened, endangered, or proposed in southeast Alaska. Therefore, there should be no direct, indirect or cumulative effects to these species and they will not be addressed further in this document. Informal consultation with USFWS (Steve Brockmann, 20 May 2009, reference #71440-2009-SL-0062) occurred.

### **Affected Environment**

The NMFS and FWS listed wildlife species that may occur within the waters surrounding the project area include the endangered humpback whale (*Megaptera novaeangilae*) and the threatened Steller sea lion (*Eumetopias jubatus*). This Biological Evaluation will address the Humpback whale and Steller Sea Lion in further detail.

### **HUMPBACK WHALE**

The NMFS listed the humpback whale as a threatened species because of over-exploitation from commercial whaling (NMFS 1991, p.15). Primary objectives of humpback whale recovery include maintaining and enhancing habitat and reducing human-related mortality, injury, and disturbance (NMFS 1991, p. 7).

Humpback whales are the most abundant of the seven species of endangered whales that occur in southeast Alaska waters. They are common in the inside waters of the Alexander Archipelago and are regularly sighted in the Inside Passage and coastal waters of the southeast Alaska panhandle from Yakutat Bay south to Queen Charlotte Sound. The local distribution of humpbacks in Southeast Alaska appears to be correlated with the density and seasonal availability of prey, particularly herring (*Clupea harengus*) and euphausiids (NMFS 1991, p. 18). Humpback whales feed in southeast Alaskan panhandle waters from about May through December, although some have



been seen every month of the year. Peak numbers of whales are usually found in near shore waters during late August and September, but substantial numbers usually remain until early winter (NMFS 1991).

Important feeding areas include Glacier Bay and adjacent portions of Icy Strait, Stephens Passage/Frederick Sound, Seymour Canal, and Sitka Sound. Glacier Bay and Icy Strait appear to be important feeding areas early in the season, when whales prey heavily on herring and other small, schooling fishes. Frederick Sound is important later in summer, when whales feed on swarming euphausiids. During autumn and early winter, humpbacks move out of the Sound to areas where herring are abundant, particularly Seymour Canal. Other areas of southeast Alaska may also be important for humpbacks and need to be evaluated. These include: Cape Fairweather, Lynn Canal, Sumner Strait, Dixon Entrance, the west coast of Prince of Wales Island, and offshore banks such as the Fairweather Grounds (NMFS 1991). The NMFS has not designated critical habitats for this species in Alaskan waters. Humpback whales are known to use the waters of Frederick Sound and Chatham Strait, areas already having high commercial vessel use; slow-moving barge traffic should not increase the disturbance of these animals.

Humpback whales are commonly observed in the waters adjacent to the Tongass NF. Specific Forest Plan direction for humpback whale is given on pages 4-98 to 4-99 (USDA 2008a).

### **Direct and Indirect Effects**

The implementation of the Petersburg Outfitter and Guide Management Plan are limited to the land-based permitting system, and would not affect stream or marine environments, so would result in a negligible level of influence and “no effect” to this species or its habitat. No critical habitat for this species has been designated on the PRD.

Humpback whales may inhabit shallow coastal areas where they are increasingly exposed to human activity. Recovery plans for the humpback whale (NMFS 1991, p. 25) identified potential human induced factors that could affect individual reproductive success, alter survival, and/or limit the availability of habitat for these species.

National Forest management activities that could have an effect on habitats or populations of this species generally fall into the categories of direct disturbance, acoustic disturbance, and habitat degradation (including effects to prey species). The proposed action would have no direct, indirect or cumulative effects to the humpback whale. Increasing the allocation of permits is not anticipated to result in an increase in boating activity or alter habitat that could affect streams or the marine environment. It is anticipated that increased use will cause permittees to use larger, slower boats causing no net increase in existing disturbance.

The Marine Mammal Protection Act (NMFS 2007B) and 50 CFR 224 establish measures to protect marine mammals. These measures includes prohibiting the harassment, hunting, capturing, or killing of any marine mammal and prohibiting approaching within 100 yards of a humpback whale.

Permit-holders are required to ensure that activities conducted are in a manner consistent with Marine Mammal Protection Act, Endangered Species Act, and NMFS regulations for approaching whales, dolphins, and porpoise. “Taking” of whales is prohibited; “taking” includes but is not limited to: harassing or pursuing, or attempting any such activity, as per page 4-99 of the Forest Plan. Because permitted individuals are required to comply with all prohibitions and regulations

protecting marine mammals, there is no effect expected to these species.

### **Cumulative Effects**

No cumulative effects are expected to the Humpback whale as a result of this project. Permittees are required to adhere to regulations and prohibitions governing the “taking” of protected marine mammals, therefore no direct, indirect or cumulative effects are expected from such activities.

### **STELLER SEA LION**

NMFS recognizes two distinct population segments (DPS) of Steller sea lions. The eastern DPS includes sea lions born on rookeries from California north through Southeast Alaska; the western DPS includes those animals born on rookeries from Prince William Sound westward. The regulatory division between DPSs is Cape Suckling (144° west longitude) in the northeast Gulf of Alaska. However, frequent movement is seen across this boundary by animals from both populations, particularly juvenile animals (NMFS 2008, p. I-3). Due to persistent decline, the western DPS was reclassified as threatened, found at <http://www.nmfs.noaa.gov/pr/pdfs/recovery/stellersealion.pdf>.

The Western Alaska DPS (distinct population segment) does not occur in within the Petersburg Outfitter and Guide Management Plan Project area and will not be discussed further in this Biological Evaluation.

Steller sea lion habitat includes marine and terrestrial areas. Adult Steller sea lions congregate at rookeries; a site where breeding occurs and sea lions may haulout during the non-breeding period. Rookeries are generally located on relatively remote islands, often in exposed areas that are not easily accessed by humans or other mammals. The breeding season generally extends from late May to early July (NMFS 2008, p. I-2). During fall and winter many sea lions disperse from rookeries and congregate at “haulout” areas. Rookery and haulout locations are specific and use of these sites changes little from year to year. Rocks, reefs, beaches, breakwaters, navigational aids, floating docks and sea ice may also be used as haulouts. Life history and population information is contained in the Recovery Plan (NMFS 2008) and is incorporated by reference.

Critical habitat for Steller sea lions was designated by NMFS in 1993 (50 CFR 226). Three rookeries and 11 haulouts were designated as critical habitat in Southeast Alaska. Since this designation, two additional sites, Graves Rocks and Bialy Rocks, appear to have developed into rookeries (NMFS 2008, p. I-14). Steller sea lion critical habitat includes a 20 nautical mile buffer and three large offshore foraging areas (see <http://alaskafisheries.noaa.gov/protectedresources/stellers/habitat.htm>). A known sea lion activity area occurs on the Sukoi Islands off Kupreanof Island near the Five-mile Creek drainage and Horn Cliffs near Petersburg, AK. They also occur on small islands at the mouth of Keku Strait and on small islands to the north of the project. These areas will not be affected by this project.

Specific Forest Plan direction for Steller sea lion is given on pages 4-93 and 4-98 to 4-99 (USDA 2008a).

### **Direct and Indirect Effects**

Southeast Alaska populations have not declined as much as other populations. Harassment or displacement of sea lions from preferred habitats by human activities such as boating, recreation,

aircraft, log transfer facilities, log raft towing, etc. is a concern with regard to long term conservation of the sea lion in Southeast Alaska. Forest-wide S&Gs direct the Forest Service to prevent and/or reduce potential harassment of sea lions and other marine mammals due to activities carried out by or under the jurisdiction of the Forest Service.

Steller sea lions may inhabit shallow coastal areas where they are increasingly exposed to human activity. Recovery plans for Steller sea lion (NMFS 2008) identified potential human induced factors that could affect individual reproductive success, alter survival, and/or limit the availability of habitat for these species. National Forest management activities that could have an effect on habitats or populations of this species generally fall into the categories of direct disturbance, acoustic disturbance, and habitat degradation (including effects to prey species). The proposed action should have no direct, indirect or cumulative effects to the Steller sea lion. Increasing the allocation of permits is not anticipated to result in an increase in boating activity or alter habitat that could affect streams or the marine environment. It is anticipated that increased use will cause permittees to use larger, slower boats causing no net increase in existing disturbance. A known haul-out occurs on the Sukoi Islands off Kupreanof Island near the Five-mile Creek drainage near Petersburg, Alaska. They also occur on small islands at the mouth of Keku Strait and on small islands to the north of Kupreanof Island, and at Horn Cliffs. These areas are expected to have no effects from this project.

Permit-holders are required to ensure that activities conducted are in a manner consistent with Marine Mammal Protection Act and Endangered Species Act, and to ensure that guidelines for approaching seals and sea lions from the NMFS are adhered to. “Taking” of sea lions is prohibited; “taking” includes but is not limited to: harassing or pursuing, or attempting any such activity, as per 4-99 of the Forest Plan. Because permitted individuals are required to comply with all prohibitions and regulations protecting marine mammals, there is “no effect” expected to these species.

### **Cumulative Effects**

No cumulative effects are expected to the Steller sea lions as a result of this project. Permittees are required to adhere to regulations and prohibitions governing the “taking” of protected marine mammals, therefore no direct, indirect or cumulative effects are expected from such activities. These regulations will also protect haulout sites, should Steller sea lions be present.

### **YELLOW-BILLED LOON**

The yellow-billed loon is the largest of the loon species. They nest near freshwater lakes in the arctic tundra of Alaska on the Arctic Coastal Plain, northwestern Alaska and Saint Lawrence Island, and in portions of Canada and Russia. Winter range includes the coastal waters of southern Alaska from the Aleutian Islands to Puget Sounds and portions of Asia, Norway and potentially Great Britain (USDI FWS 2009).

Yellow-billed loons nest exclusively in coastal and inland low-lying tundra associated with permanent lakes. Lakes are generally larger in size (33 acres), greater than six feet deep, are often connected to streams and must be fish-bearing. Important lake features include clear water, dependable water levels, and shoreline vegetation. Nests are constructed of mud or peat and are located on islands, hummocks, peninsulas or along low shorelines within three feet (one meter) of the water (USDI FWS 2009).

The FWS developed a conservation agreement to protect yellow-loons in 2006. The yellow-billed

loon was designated as a candidate species throughout its range and petitioned for listing as a threatened or endangered species in March 2009 (Federal Register 2009).

Although yellow-billed loon nest areas have not been identified on the Tongass NF, loons may be observed along the Pacific coast while migrating to winter habitat. General Forest Plan direction for seabirds and shorebird habitats apply to this species (USDA FS 2008a, pp. 4-93 to 94) and direction for the protection of beach, estuary and riparian habitats maintain some habitat for this species.

### **Direct and Indirect Effects**

Yellow-billed loon would be affected most by activities that occur along the shoreline and in coastal habitats. Direct effects can result from disturbances that adversely affect individuals or their young. Indirect and cumulative effects can result if activities alter potential nesting or foraging habitat or reduce limiting habitats or long term productivity. Factors that could affect yellow-billed loons include subsistence harvest, oil and gas development and other contaminants, climate changes, fishing by-catch, and marine pollution in wintering habitat. Because permitted individuals are required to comply with all prohibitions and regulations protecting marine mammals, there is “no effect” expected to these species.

### **Cumulative Effects**

No cumulative effects are expected to the yellow-billed loon as a result of this project. Permittees are required to comply with all Forest-wide Standards and Guidelines. Proportioned allocations will only be between 10-15% during times when this species may occur.

### **Determinations**

A determination was made to assess the effects of the project on threatened, endangered, and proposed species or their critical habitat (50 CFR 402.14, FSM 2671.44). Based on the physical and biological requirements of the humpback whale and Steller sea lion and considering the potential effects from implementing the proposed action, it is my opinion that the proposed action will have “no effect” the listed species or their habitats. Proposed action is limited to the land-based permitting system and would not affect stream or marine environments. No critical habitat for these species has been designated on the PRD. Recovery plans for the humpback whale (NMFS 1991, p. 25) and the Steller sea lion (NMFS 2008) identified potential human induced factors that could affect individual reproductive success, alter survival, and/or limit the availability of habitat for these species. National Forest management activities that could have an effect on habitats or populations of these species generally fall into the categories of direct disturbance, acoustic disturbance and habitat degradation (including effects to prey species). These effects are generally associated with the development and use of marine access facilities, increased marine activities, and activities that alter stream habitats that flow into marine environments. Marine transits between the islands and mainland will occur. However, neither the humpback whale nor the Steller sea lion are known to congregate in any known marine transit areas where outfitters/guides may be operating with a Forest Service permit. In addition, the increase in RVDs to be allocated in the proposed action is not expected to result in increased marine transits between islands where permitted activity occurs. Increasing the allocation of permits is not anticipated to result in an increase in boating activity or alter habitat that could affect streams or the marine environment. It is likely that increased use may cause permittees to use larger, slower boats or float planes which would cause minimal net increase in existing disturbance. The number of RVDs has increased as a result of the formula now used for calculating carrying capacity and not due to an increase in demand for permitted activity. Existing permitted levels have not exceeded allowable RVDs.

The yellow-billed loon and Kittlitz's murrelet (addressed later) would be affected most by activities that occur along the shoreline and in coastal habitats. Direct effects can result from disturbances that adversely affect individuals or their young. Indirect and cumulative effects can result if activities alter potential nesting or foraging habitat or reduce limiting habitats or long term productivity. Factors that are suspected to negatively affect Kittlitz's murrelet populations include cyclic changes in the oceanic environment and glacial retreat that may contribute to a reduction in prey or foraging habitat. Other factors include predation, oil pollution, disturbance by commercial and recreational boaters and flight seeing operations (USDI FWS 2006c). Factors that could affect yellow-billed loons include subsistence harvest, oil and gas development and other contaminants, climate changes, fishing by-catch, and marine pollution in wintering habitat (USDI FWS 2009).

I therefore request, that a "no effect" determination be rendered in regard to the humpback whale, Steller sea lion, yellow-billed loon, and Kittlitz murrelet for this project. The activity proposed would have the possibility of an incidental occurrence by any species in the marine habitat adjacent to the project area, but this expected to have no effect on the species viability or critical habitat. All project activities would be conducted in a manner consistent with the ESA and regulations. Special use permit requests will be considered upon consultation with district wildlife biologists to ensure any new information is reflected in the decision prior to issuing any permits.

**Table 4.** TES effects to species that occur or are likely to occur on the Tongass National Forest or in waters adjacent to the forest.

Species/Issue	Presence		Direct, indirect and Cumulative Effects	
	Species Present in Analysis Area	Species Habitat Present in Analysis Area	Determination <sup>1</sup>	Reason for Determination/ Level of Influence
<b>Threatened, Endangered or Proposed</b>				
Humpback Whale	Yes	Yes	No Effect	Proposed land-based allocations would not increase marine disturbance or alter habitat that could affect streams or the marine environment. Guides don't currently use their total allocated days and increasing the allocation will not automatically result in an increase in boating activity.
Steller Sea Lion	Yes	Yes	No Effect	Proposed land-based allocations would not increase marine disturbance or alter habitat that could affect streams or the marine environment. Guides don't currently use their total allocated days and increasing the allocation will not automatically result in an increase in boating activity.
Yellow-billed loon	Yes	Yes	No Effect	Proposed land-based allocations would not increase marine disturbance or alter habitat that could affect streams or the marine environment. Guides don't currently use their total allocated days and increasing the allocation will not automatically result in an increase in boating activity. Additionally, this species would only likely occur in winter where the allocation would be proportioned from 10-15%.

1 - Possible determinations for T&E species and Designated Critical Habitat: “no effect”, “not likely to adversely affect”, or “likely to adversely affect”. Possible determinations for Proposed Species and Proposed Critical Habitat: “no effect”, “not likely to jeopardize proposed species, or adversely modify proposed critical habitat”, or “likely to jeopardize proposed species, or adversely modify proposed critical habitat”.

#### **IV. SENSITIVE SPECIES**

Sensitive species are those plant and animal species identified by the Regional Forester for which population viability is a concern on NFS lands within the region. This is evidenced by a significant current or predicted downward trend in population numbers, density, or habitat capability that will reduce a species’ existing distribution (FSM 2670.5). The Forest Service Manual states that viable populations and habitat of these species will be maintained and distributed throughout their geographic range on NFS lands (FSM 2670.22). As part of the NEPA process, Forest Service impacts to these species will be minimized or avoided (FSM 2670.32). The BE should identify all sensitive species known or suspected to occur in the analysis area or all sensitive species that the project potentially effects (FSM 2672.42).

The Alaska Region Sensitive Species List was last updated in 2009 (**Table 5**) (FSM 2600 Supplement No.: R-10 2600-2009-1). The Regional Sensitive Species List continues to be revised as new information dictates (USDA 2009).

**Table 5.** Alaska Region (R10) listed sensitive species.

<b>Common Name</b>	<b>Scientific Name</b>
Kittlitz’s murrelet	<i>Brachyramphus brevirostris</i>
Queen Charlotte goshawk	<i>Accipiter gentilis laingi</i>
Aleutian Tern	<i>Sterna aleutica</i>
Black oystercatcher	<i>Haematopus bachmani</i>
Dusky Canada Goose	<i>Branta Canadensis occidentalis</i>

\* Based on our Alaska Region and National Forest System policy, USFWS and NMFS Candidate species are considered and treated as FS Sensitive, analyzed as such per Regional Forester letter to Forest Supervisors, February 2, 2009 (USDA 2009).

This project was analyzed to assess the direct, indirect, and cumulative effects of the proposed project activities on sensitive species and/or their critical habitats (50 CFR 402.14, GSM 2671.44). The Alaska Region (R10) listed sensitive species that may occur near or within the project area are: Kittlitz’s murrelet (*Brachyramphus brevirostris*), Queen Charlotte goshawk (*Accipiter gentilis laingi*), Aleutian tern (*Sterna aleutica*), and the Black oystercatcher (*Haematopus bachmani*). This Biological Evaluation will address these four species in further detail. The Dusky Canada Goose does not occur outside of the Yakutat Ranger District on the Tongass National Forest and will not be addressed further.

#### **KITTLITZ’S MURRELET**

On May 9, 2001, the Secretary of the Interior was petitioned to list the Kittlitz’s murrelet as endangered with concurrent designation of critical habitat under the ESA. Petitioners cited dramatic reductions in population size over the past decade and declining habitat quality as reasons for the requested listing. The species was officially designated a candidate species (warranted, but

precluded) on May 4, 2004. A candidate species is a species for which the FWS has sufficient information to support a proposal to list as endangered or threatened, but for which preparation and publication of a proposal is precluded by higher priority listing actions. The Kittlitz's murrelet has been designated as a sensitive species, added to the R10 sensitive species list. Current Forest Plan direction for sensitive species applies (USDA 2009).

In March of 2009, the Commissioner of the ADFG was petitioned to list the Kittlitz's murrelet. Petitioners cited concerns with rapidly declining global population size and highly restricted distribution that make this species vulnerable to extinction from land and sea-based threats including global warming, oil spills, mortality in the gillnet fishery, and disturbance from vessel traffic (Center for Biological Diversity 2009, p. 1).

Kittlitz's murrelet is a small diving seabird that is closely associated with glacial habitats along the Alaska mainland coast. The only North American population occurs in Alaskan waters from Point Lay south to the northern portions of Southeast Alaska (Endicott and Tracey Arm). The largest breeding populations are believed to be in Glacier Bay National Park and Preserve, Prince William Sound, Kenai Fjords, and Icy Bay (Kendall and Agler 1998). The Kittlitz's murrelet population has shown a significant decline in Prince William Sound, Glacier Bay and in the Malaspina Forelands (USDI 2006c). The Prince William Sound population has shown an 18 percent per year decline and an 84 percent decline from 1989 to 2000. The Glacier Bay population declined approximately 80 percent between 1991 and 2000. In the Malaspina Forelands the population has declined at least 38 percent (5 percent per year) but possibly up to 75 percent between 1992 and 2002 (USDI 2002).

Major threats to this species are global warming, which is correlated with a loss of suitable habitat (glacial melt) and reduction in prey availability due to warming sea temperatures. Human activity in the marine environment, particularly vessel traffic and fishing operations, are additional threats. Speculated causes for Kittlitz's murrelet decline include: glacial recession, oil pollution, gillnet mortality, and availability of preferred forage fish (Kuletz et al. 2003; Piatt and Anderson 1996). Increased disturbance from helicopter tours and cruise ships may also be a factor.

They have been seen as far south as Frederick Sound, Snow Passage and Sea Otter Sound (Day et al. 1999). During the breeding season they congregate near tidewater glaciers and offshore of remnant high-elevation glaciers. Breeding sites are usually chosen in the vicinity of glaciers and cirques in high elevation alpine areas with little or no vegetative cover (Van Vilet 1993). When present, vegetation is primarily composed of lichens and mosses (Day et al. 1983). The species generally nests within 0.2 to 47 miles inland and a short distance below peaks or ridges on coastal cliffs, and on barren ground, rock ledges, or talus above timberline (Day et al. 1983). During winter and spring, the marine distribution of Kittlitz's murrelet is farther offshore in the Alaska coastal Current and mid-shelf region (USDI 2006c).

Kittlitz's murrelets congregate near tidewater glaciers and offshore of remnant high-elevation glaciers during the breeding season. Breeding sites are usually chosen in the vicinity of glaciers and cirques in high elevation alpine areas with little or no vegetative cover (van Vilet 1993). Nesting habitat in Alaska is believed to be unvegetated scree-fields, coastal cliffs, barren ground, rock ledges, and talus above timberline in coastal mountains, generally in the vicinity of glaciers, cirques near glaciers, or recently glaciated areas. During winter and spring, the marine distribution of Kittlitz's murrelet is farther offshore (USDI 2007).

Prey consists of fish (Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea pallasii*),

capelin (*Mallotus villosus*), Pacific sandfish (*Trichodon trichodon*), euphausiids, amphipods and small crustacean (Day et al. 1999). They forage extensively near outflow from glaciers, both tidewater and retreated glaciers with turbid glacial streams, primarily within 656 ft (200m) from shore (Day et al. 1999).

Kittlitz's murrelet is known to occur on the oceanic glaciers that occur on the Petersburg Ranger District. These glacial outwashes are within landscapes that fall outside normal land disturbance projects and we do not expect Forest Service activities to affect these areas. This habitat is found on the mainland portions of the Petersburg Ranger District. It is made up of active glacial terrains and boundary range icefields (Nowacki et al. 2001). The majority of these ecological subsection areas are managed as natural settings, within wilderness or national monuments. The main areas are the Le Conte, Patterson and Baird Glaciers.

### **Direct, Indirect, and Cumulative Effects**

The Kittlitz's murrelet prefers an association with glacial habitat, not abundant on the Petersburg Ranger District, except in some areas of the mainland, such as the areas near Le Conte, Patterson, and Baird Glaciers. These areas are unlikely to be selected for Outfitter and Guide Management Plan activities. General Forest Plan direction for sensitive species applies (USDA 2008a, p. 4-99 through 4-100). Because of this there are no direct, indirect or cumulative impacts expected to the species. The determination as a candidate species is no effect.

### **NORTHERN/QUEEN CHARLOTTE GOSHAWK**

The northern goshawk is identified as a species of concern throughout its range and is identified as a sensitive species by the Alaska Region of the USFS. In an effort to evaluate the status, population, and habitat ecology of the northern goshawk on the Tongass National Forest, the Alaska Department of Fish and Game (ADF&G) and the Forest Service (FS) conducted a goshawk study from 1991 to 1999. A total of 63 nesting sites in Southeast Alaska were documented as a result of this study. A "nest site" is defined as the portion of a goshawk pair's home range that contains all active and inactive nests. Of 47 nest trees (trees that include a nest), 53 percent were in Sitka spruce, 43 percent were in western hemlock, and 4 percent were in yellow cedar (ADGF 2006).

Productive old growth (POG) forest is an important component of goshawk habitat in southeast Alaska. POG forest is characterized as an old growth forest type that generally includes older and/or larger trees with a dense canopy and a diverse understory. The goshawk is a wide-ranging forest raptor that occupies old-growth forest habitat in Southeast Alaska. Goshawks select POG forest types at all scales (nest tree, nest site, post-fledging areas). However, non-productive forest types and second-growth stands are also used by goshawks for movement and foraging (ADFG 2006). Suitable nest site habitat consists of large trees with a dense canopy and generally an open under-story averaging 12 to 37 acres in size (Flatten et al. 2001). Although goshawks prefer to place their nests in mature to old growth forest types, they will nest in younger forest or in smaller patches of trees, and forage in young forest as well as along edges and in openings (Boyce et al. 2006). Although there is some documented use of second growth in southeast Alaska, for the most part goshawks are associated with older forests. Goshawk nest sites generally occur far from openings, in stands more than 600 feet wide, on slopes of less than 60 percent, and near the toe of a slope or on a bench. On average, nest trees occur at 423 feet elevation but generally do not occur above 1,100 feet (USDA 2008b pp. D-22 through D-25; Titus et al. 1994, p. 5). Continuous disturbances likely to result in nest abandonment within the surrounding 600 feet of the nest are not permitted from March 15 to



August 15, as per General Forest Plan direction.

Foraging areas comprise the largest percentage of the goshawk's home range. Foraging habitat is characterized by forested stands with a greater diversity of age classes and structural characteristics (e.g., snags, woody debris) than nesting areas (Reynolds et al. 1992, p. 16). Breeding season home range size is strongly dependent upon the quality of foraging habitat and prey availability. In Southeast Alaska, prey remains were dominated by a few key species including Steller's jays (*Cyanocitta stelleri*), grouse (*Dendragapus* spp.), varied thrush (*Ixoreus naevius*), red squirrel (*Tamiasciurus hudsonicus*), ptarmigan (*Lagopus* spp.), and woodpeckers (Picidae) (Titus et al. 1994, p. 6, Lewis et al 2006).

The FWS completed a review and determined that the subspecies' populations in British Columbia (B.C.) and Alaska each constitute distinct population segments (DPS) of the Queen Charlotte goshawk. Based on difference in forest management with substantially greater existing and anticipated habitat loss in B.C. than in Alaska, the FWS determined that the B.C. DPS would be listed as threatened or endangered but the Alaska DPS would not be listed (Federal Register 2007).

The General Forest Plan direction includes a conservation strategy for goshawks that includes a system of reserves (Old Growth Habitat Reserves and other non-development LUD) and direction for managing the matrix between reserves (USDA 2008a, pp. 4-99 and 4-100). Forest Plan provides standards and guidelines to maintain nesting habitat for the Queen Charlotte and northern goshawk. An area of not less than 100 acres of POG, if it exists, generally centered over the nest tree or probable nest tree will be maintained. Continuous disturbances likely to result in nest abandonment within the surrounding 600 feet of the nest are not permitted from March 15 to August 15 (USDA 2008a, pp. 4-99 to 100).

Eighty-one percent of the confirmed and probable nest sites in Southeast Alaska are south of Frederick Sound. The Regional Forester added this species to the Sensitive Species List in 1994, and the 2009 revision reflects the same listing (USDA 2009).

### **Direct and Indirect Effects**

This project does not propose to change alter any habitat, therefore there will not be a decrease POG habitat. Queen Charlotte/northern goshawks are known to occur within the project area but disturbances from this project area not expected to disturb goshawks especially during nesting season. If a disturbance occurs it is expected to be infrequent and very short in duration, therefore no impacts are expected for the species as a result of the activities associated with the project.

### **Cumulative Effects**

The proposed project would have negligible direct, indirect or cumulative effect to goshawks because the project would not affect productive old-growth forest habitat, "no impact" on goshawk or its habitat is expected because of this project.

### **ALEUTIAN TERN**

The Aleutian Tern (*Sterna aleutica*) is a coastal, colonial nesting seabird of Alaska and eastern Siberia. Discovered in 1868 on Kodiak Island, this species has been little studied to date. The terns range is coastal areas of southern and western Alaska. Breeding colonies often shift year to year,

especially in the Northern Bering and Chukchi seas. Breeding colonies have been located along coast of Chukchi Sea as far north as Kasegaluk Lagoon, on Seward Peninsula, Yukon-Kuskokwim River Delta, along Alaska Peninsula, in scattered locations in the Aleutian Islands, on the Kodiak Archipelago, on Kenai Peninsula, Copper River delta, and along the Gulf of Alaska as far east as Dry Bay. Aleutian terns may breed farther south and east at Lituya Bay and Glacier Bay (North 1997).

On its breeding grounds, this tern frequently associates with Arctic Terns (*Sterna paradisaea*) in North America. Its distribution, abundance, breeding phenology, and habitat use are fairly well known, but its behaviors are not well described (North 1997).

Colonies in North America are generally located between 51°20'N and 69°50'N latitude. Colonies are coastal in North America, up to 3.2 km inland in sub-Arctic and boreal regions. Colonies are usually located on flat vegetated islands, dwarf-shrub tundra, grass and sedge meadows, sandy spits and islands (usually on inner side of barrier islands, in lagoon systems, or river estuaries), and freshwater marshes (North 1997).

Usually forages in shallow water, including tidal “rips”, along rivers, and over inshore marine waters, but not in freshwater lakes along outer Alaska Peninsula. The Aleutian tern forages in near-shore marine waters, up to 11 km offshore from Seward Peninsula, and pelagic waters >50 km offshore from other colonies, but, the species reportedly forages nearly exclusively over bays and fjords. One flock observed foraging in Prince William Sound where the muddy Copper River water and clear marine water meet (North 1997).

Some causes for Aleutian tern mortality include: [scarcely] shooting and trapping, [historically] pesticides and other contaminants; ingestion of plastics, lead, and other toxins, degradation of habitat, disturbance at nest and roost sites, and occasionally human research impacts at roost sites (North 1997). Data from studies of the Aleutian Tern Working Group recently reviewed the species status, natural history, uses, and threats and concluded that data suggests suspected causes of natural and human-induced population decline causes (FSM 2600 Supplement No.: R-10 2600-2009-1).

Population viability concerns have been raised due to reduced size or disappearance of colonies in Kodiak, Prince William Sound, Yakutat, and Icy Bay. The largest colonies on record exist or existed on the Cordova and Yakutat Ranger Districts. An estimated population in the Cordova area of greater than 2,400 individuals in 1980 may be less than 400 now. Whereas some of the colonies are in remote sites, others exist in areas where Forest Service permitting can cause or relieve site perturbations (FSM 2600 Supplement No.: R-10 2600-2009-1).

The direction from the Regional Forester on a new “Alaska Region Sensitive Species List,” was distributed on February 2, 2009; therefore, this direction is not specifically reflected in the 2008 Forest Plan; however general direction for sensitive species applies.

General Forest Plan direction for sensitive species and Seabird Rookeries and Shorebirds can be found on pages 4-92 through 4-100.

### **Direct, Indirect and Cumulative Effects**

This species is not known to occur on the Tongass National Forest outside of the Yakutat area. The proposed action would not affect the Aleutian Tern or its habitat.

## BLACK OYSTERCATCHER

The Black Oystercatcher (*Haematopus bachmani*) is an eye-catching, with orange bill and coal black plumage, a member of the rocky inter-tidal communities along the west coast of North America. Completely dependent on marine shorelines for its food and nesting, this is a monogamous, long-lived bird (Andres, B. A. and G. A. Falxa, 1995). In Prince William Sound, AK, nesting pairs distributed along shorelines as follows: exposed rocky shores 10%, exposed wave-cut platforms 21%, mixed sand and gravel beaches 21%, gravel beaches 30%, sheltered rocky shores 15%, and sheltered tidal flats 3%. Pairs distributed fairly equitably between rocky (45%) and gravelly (55%) shorelines (Andres, B. A. and G. A. Falxa, 1995).

Breeding pairs establish well-defined feeding and nesting territories and generally occupy the same areas year after year, usually along low-sloping gravel or rocky shorelines where inter-tidal prey species are abundant. Pairs nest just above the high-tide line and use the inter-tidal zone to feed themselves and their chicks and their reproductive rates are slow. Rocky shores exposed to surf action and on sheltered gravel, cobble, or sandy shores and mudflats of bays and sounds are extremely important to microhabitat foraging. Access to foraging habitat is almost exclusively dependent on tides changes and surf action, with most feeding done during low tide. They feed on inter-tidal marine invertebrates, including molluscs (bivalves, limpets, whelks, and chitons—generally numerous in areas of rocky substrates); but also crabs, sea urchins, isopods, and barnacles. Sea mussels are taken as prey in Southeast Alaska. Oysters, contrary to the name of the bird, are not typically a part of the diet (Andres, B. A. and G. A. Falxa, 1995). Black Oystercatchers have been known to congregate in the winter months in Prince William Sound where mussel beds are dense; prey does not however vary greatly with seasonal changes.

Black Oystercatchers have a small global population (estimates of 8,500 – 11,000 individuals) with distribution from the Aleutian Islands down the Pacific Coast to Baja California. Over half, (65%) of the population of Black oystercatchers breeds in Alaska. Populations were affected by the 1989 Exxon Valdez oil spill in Prince William Sound, recovery has been slow, and oil still lingers in nesting areas. Aggregations usually number <100 birds, but have been known to reach 350 birds on Kodiak Island and 600 birds in the Glacier Bay area. The highest recorded breeding densities in Alaska (and British Columbia and Washington) occur on non-forested islands dominated by shell or gravel beaches. Nesting densities in Glacier Bay were 10 times higher on sparsely vegetated islands than on heavily vegetated islands (Andres, B. A. and G. A. Falxa, 1995).

Chick survival is low due to several natural and human-induced factors; including snow conditions, timing, prey availability, nest predation, and human use. Data indicates extensive overlap between nesting territories and remote shoreline campsites. Viability of this species remains a concern and populations in some areas have dramatically declined, due to unknown causes (from 48 pairs to 2 pairs in Sitka Sound), and there is high overlap between nest sites and areas permitted for recreational use (e.g., Prince William Sound) (FSM 2600 Supplement No.: R-10 2600-2009-1). Retreat of glaciers, which expose gravel moraines, and uplifting events of earthquakes create new nesting habitat in Alaska (Andres, B. A. and G. A. Falxa, 1995).

The direction from the Regional Forester on a new “Alaska Region Sensitive Species List,” was distributed on February 2, 2009; therefore, this direction is not specifically reflected in the 2008 Forest Plan; however general direction for sensitive species applies.

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General Forest Plan direction for sensitive species and Seabird Rookeries and Shorebirds can be found on pages 4-92 through 4-100.

### Direct, Indirect, and Cumulative Effects

There have been no surveys to document or assess the occurrence of the Black oystercatcher on the Petersburg Ranger district, as it is a new addition as of February 2009 to the Region 10 Sensitive Species list. The Black oystercatcher forages in rocky inter-tidal habitats that do occur on the Petersburg Ranger District, so it is likely that the species may occur within our district boundaries and therefore, may also occur within the project area. Because activities associated with the project are not expected to take place in rocky inter-tidal habitats that may be occupied by Black oystercatchers, we expect the project to have “no impact” to the Black Oystercatcher or its habitat.

### Determinations

**Table 6** displays a summary of determinations for fish and wildlife species listed as sensitive in Region 10. Determinations were based on current forest direction (Bosch 2004). It is my determination that the proposed project should have “no impacts” on the Queen Charlotte goshawk, Kittlitz’s Murrelet, Aleutian Tern, Black Oystercatcher, or Dusky Canada Goose or cause any detrimental effect on suitable habitat for these species

**Table 6.** Summary of determinations for sensitive species for the Petersburg Outfitter and Guide Management Plan.

Species/Issue	Presence		Direct, indirect and Cumulative Effects	
	Species Present in Analysis Area	Species Habitat Present in Analysis Area	Level of Influence/ Determination <sup>1</sup>	Reason for Determination/ Level of Influence
<b>Sensitive</b>				
Goshawk	Yes	Yes	Negligible/ No Impacts	Proposed allocations would not reduce or affect productive old growth habitat.
Kittlitz’s Murrelet	No	No	Negligible/ No Impacts	Proposed allocations would not reduce or affect recently de-glaciated areas or scree-slopes.
Aleutian Tern	No	No	Negligible/ No Impacts	This species does not occur on the Tongass National Forest outside of the Yakutat area.
Black Oystercatcher	No	No	Negligible/ No Impacts	Proposed allocations would not affect rocky shorelines.
Dusky Canada Goose	No	No	Negligible/ No Impacts	Species does not occur in the analysis area.

**1** – Potential determinations for Sensitive Species: "no impacts", "beneficial impacts", "may impact individuals but not likely to cause a trend to federal listing or a loss of viability", or "likely to result in a trend to federal listing or a loss of viability" (Bosch 2004).

### Additional Management Measures

If any previously undiscovered endangered, threatened or sensitive species are encountered at any point in time prior to or during the implementation of this project, a District Biologist would be consulted and appropriate measures would be enacted.

The Forest Plan contains a comprehensive conservation strategy, using a system of Old Growth

LUDs designed to provide old growth habitats in combination with other non-development LUDs to maintain viable populations of native and desired non-native fish and wildlife species and subspecies that may be associated with old growth forests (USDA 2008b, p. 3-174 through 3-175). This strategy, in addition to the implementation of Forest Plan standards and guidelines, was developed to maintain species viability. The application of the Forest Plan standards and guidelines is integral to protecting and providing habitat to maintain viable fish and wildlife populations.

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**Appendix I.** This table represents a list of the Tongass National Forest Neotropical migratory bird species of concern as developed by the Regional Office in 2002. This list was derived from Boreal Partners in Flight (1999) and U.S. Fish and Wildlife Service Bird Species of Concern Lists (2002). Information on abundance and habitats was adapted from Isleib and Kessel (1973).

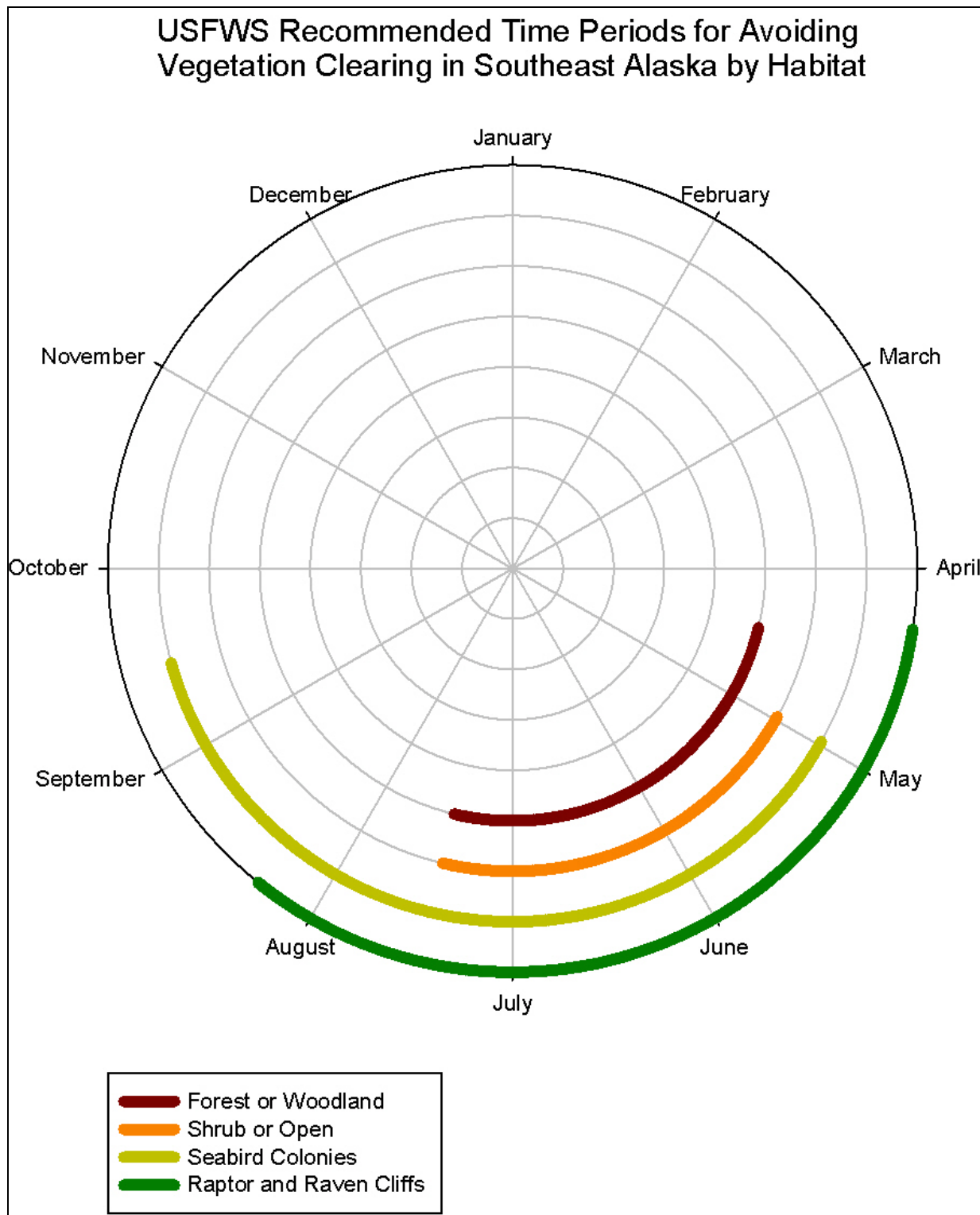
Common Name	Scientific Name	Occurrence <sup>1</sup>	Abundance	Habitat <sup>2</sup>										Rocky Shores & Reefs	Inshore waters	Offshore Waters
				Tundra	Shrub Thickets	Hemlock/Sitka Spruce/Cedar Forest	Muskeg	Mixed Deciduous/Spruce Woodlands	Marsh	Lacustrine Waters	Fluvial Waters	Cliffs Bluffs & Screens	Moraines, Alluvia & Barrier Islands	Beaches & Tidal Flats		
Aleutian Tern	<i>Sterna aleutica</i>								xx+				X	X	XX	X
American Dipper	<i>Cinclus mexicanus</i>	B	Fairly common							X	XX	xx*	X			
Arctic Tern	<i>Sterna paradisaea</i>	B	Fairly common				X		xx*	X	X	xx*	xx*	XX	XX	XX
Black Oystercatcher	<i>Haematopus bachmani</i>	B, W	Uncommon									xx*	X	X		
Black Swift	<i>Cypseloides niger</i>	B	Rare													
Black Turnstone	<i>Arenaria melanocephala</i>	W, M	Fairly common									X+				
Black-footed Albatross	<i>Phoebastria nigripes</i>	B, M	Common										X	X		
Blackpoll Warbler	<i>Dendroica striata</i>	M	Rare 1		X	xx+									X	XX
Blue Grouse	<i>Dendragapus obscurus</i>	B, W	Common		X	xx*		xx*								
Caspian Tern	<i>Sterna caspia</i>		Casual												X	
Chestnut-backed Chickadee	<i>Poecile rufescens</i>	B, W	Abundant		X	xx*										
Golden-crowned Kinglet	<i>Regulus satrapa</i>	B, W	Common		X	xx#		xx+								
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	M, B	Fairly common		xx#	X	X	X	X							
Gray-cheeked Thrush	<i>Catharus minimus</i>	B	Rare		X	X		xx*								
Hammond's Flycatcher	<i>Empidonax hammondi</i>	B	Uncommon			X		X+								
Kittlitz's Murrelet	<i>Brachyramphus brevirostris</i>	B, W	Common									x#	x*		XX	XX
Long-billed Curlew	<i>Numenius americanus</i>		Accidental													
MacGillivray's Warbler	<i>Oporornis tolmiei</i>	B	Uncommon		xx*	X		X								
Marbled Godwit	<i>Limosa fedoa beringiae</i>	M	Rare 1											X		
Marbled Murrelet	<i>Brachyramphus</i>	B, W	Common			xx*									XX	XX

Common Name	Scientific Name	Occurrence <sup>1</sup>	Abundance	Habitat <sup>2</sup>										Rocky Shores & Reefs	Inshore waters	Offshore Waters
				Tundra	Shrub Thickets	Hemlock/ Sitka Spruce/ Cedar Forest	Muskeg	Mixed Deciduous/ Spruce Woodlands	Marsh	Lacustrine Waters	Fluvial Waters	Cliffs Bluffs & Screens	Moraines, Alluvia & Barrier Islands	Beaches & Tidal Flats		
	<i>marmoratus</i>															
Northern Goshawk	<i>Accipiter gentilis laingi</i>	B, W	Uncommon		x	xx*		xx*	x					x		
Northern Shrike	<i>Lanius excubitor</i>	W	Uncommon	x	xx	x		xx	xx							
Northwestern Crow	<i>Corvus caurinus</i>	B, W	Abundant			xx*		x	x			x	xx	xx	x	
Olive-sided Flycatcher	<i>Contopus cooperi</i>	B	Uncommon		x	x		xx*								
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	B	Common			xx*		xx*								
Peregrine Falcon	<i>Falco peregrinus pealei</i>	B, W, M	Uncommon						x			xx*	x		x	
Red Knot	<i>Calidris canutus</i>	M	Rare 1											xx		
Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>	B	Abundant			xx*	x	x								
Rock Sandpiper	<i>Calidris pilocnemis</i>	W	Uncommon											x	xx	
Rufous Hummingbird	<i>Selasphorus rufus</i>	M, B	Common	x		xx*		x								
Short-billed Dowitcher	<i>Limnodromus griseus</i>	B, M	Locally common						xx*				x	xx	x	
Steller's Jay	<i>Cyanocitta stelleri</i>	B, W	Abundant		x	xx*		x						x		
Surfbird	<i>Aphriza virgata</i>	W, M	Uncommon											x	xx	
Townsend's Warbler	<i>Dendroica townsendi</i>	B	Common		x	xx*		xx*								
Varied Thrush	<i>Ixoreus naevius</i>	M, B, W	Abundant	x	xx*	xx*	x	xx*	x			x	x	x		
Vaux's Swift	<i>Chaetura vauxi</i>	M, B*	Uncommon			x#										
Western Screech-Owl	<i>Otus kennicottii</i>	B, W	Uncommon			xx#										
Western Wood-pewee	<i>Contopus sordidulus</i>	B	Uncommon		x	x		xx*								
Whimbrel	<i>Numenius phaeopus</i>	M	Rare 1						x				x	xx	x	
Yellow-billed Loon	<i>Gavia adamsii</i>	W	Uncommon												x	x

<sup>1</sup> Occurrence: 1 = Migration Only, B=Breeding, W=Winter, M=Migration, and \* =no record, but thought to breed in the area

<sup>2</sup> Habitats are described as preference: xx = primary; x = secondary; \* = breeding; # = probable breeding. Minor habitat preferences are not included.

**Appendix II.** U.S. Fish and Wildlife Service recommended time periods for avoiding vegetation clearing to minimize impacts to birds in Southeast Alaska (USDI 2006).



**Appendix III.** Study area comparisons of average actual use (2005-2008), by RVD, for outfitter and guides on the Petersburg Ranger District for all seasons.

<b>STUDY AREA</b>	<b>Average Recreation Visitor Days Used</b>				
	Spring	Summer	Fall	Winter	Total Annual
	(April 1- May 31)	(June 1- August 31)	(Sept 1- Oct. 31)	(Nov 1- March 31)	
<b>1</b> Mitkof Island	22	391	16	0	<b>429</b>
<b>2</b> Duncan Canal – West Side	4	60	2	0	<b>66</b>
<b>4</b> Duncan Canal – East Side	0	0	0	0	<b>0</b>
<b>5</b> Wrangell Narrows/Woewodski Island	0	27	4	0	<b>31</b>
<b>6</b> Kupreanof Island – North Shore	6	349	8	0	<b>363</b>
<b>7</b> Petersburg Creek/Duncan Salt Chuck	35	179	14	0	<b>228</b>
<b>8</b> North Lindenberg Peninsula	11	151	37	8	<b>207</b>
<b>9</b> Central Kupreanof Island/Road System	0	8	0	0	<b>8</b>
<b>10</b> Southwest Kupreanof Island	17	365	2	0	<b>384</b>
<b>11</b> Rowan Bay/Bay of Pillars	26	89	16	1	<b>132</b>
<b>12A</b> Saginaw/Security/Washington Bays	90	308	94	2	<b>494</b>
<b>12B</b> Kuiu Island Road System	23	66	72	1	<b>162</b>
<b>13</b> Tebenkof Bay/Kuiu Wilderness	54	363	7	2	<b>426</b>
<b>14</b> Keku Strait/Port Camden	45	283	40	3	<b>371</b>
<b>15</b> South Kuiu Island	7	264	0	1	<b>272</b>
<b>16</b> Reid/No Name Bays	6	136	1	0	<b>143</b>
<b>21</b> Muddy River Area	0	134	47	31	<b>212</b>
<b>22</b> Thomas Bay/Point Vandeput	13	239	13	17	<b>282</b>
<b>23</b> Farragut Bay/Cape Fanshaw	1	30	1	0	<b>32</b>
<b>24</b> Baird/Patterson Glaciers	1	8	6	0	<b>15</b>

**Appendix IV.** Study area comparison of proposed RVD allocation for outfitters and guides on the Petersburg Ranger District for all seasons.

<b>STUDY AREA</b>	<b>Recreation Visitor Days Proposed</b>				
	Spring	Summer	Fall	Winter	Total Annual <sup>1</sup>
	10%	65%	15%	10%	100%
<b>1</b> Mitkof Island	1278	8308	1917	1278	<b>12,781</b>
<b>2</b> Duncan Canal – West Side	112	729	168	112	<b>1,122</b>
<b>4</b> Duncan Canal – East Side	50	324	75	50	<b>499</b>
<b>5</b> Wrangell Narrows/Woewodski Island	175	1136	262	175	<b>1,747</b>
<b>6</b> Kupreanof Island – North Shore	45	291	67	45	<b>448</b>
<b>7</b> Petersburg Creek/Duncan Salt Chuck	126	821	189	126	<b>1,263</b>
<b>8</b> North Lindenberg Peninsula	137	892	206	137	<b>1,373</b>
<b>9</b> Central Kupreanof Island/Road System	353	2,293	529	353	<b>3,528</b>
<b>10</b> Southwest Kupreanof Island	147	955	220	147	<b>1,469</b>
<b>11</b> Rowan Bay/Bay of Pillars	96	627	145	96	<b>964</b>
<b>12A</b> Saginaw/Security/Washington Bays	129	839	194	129	<b>1,291</b>
<b>12B</b> Kuiu Island Road System	213	1381	319	213	<b>2125</b>
<b>13</b> Tebenkof Bay/Kuiu Wilderness	289	1880	434	289	<b>2,893</b>
<b>14</b> Keku Strait/Port Camden	156	1015	234	156	<b>1,562</b>
<b>15</b> South Kuiu Island	126	816	188	126	<b>1,255</b>
<b>16</b> Reid/No Name Bays	112	728	168	112	<b>1,120</b>
<b>21</b> Muddy River Area	129	841	194	129	<b>1,294</b>
<b>22</b> Thomas Bay/Point Vandeput	126	820	189	126	<b>1,261</b>
<b>23</b> Farragut Bay/Cape Fanshaw	120	780	180	120	<b>1,200</b>
<b>24</b> Baird/Patterson Glaciers	41	265	61	41	<b>407</b>

<sup>1</sup>Differences in totals are due to rounding.



## **Biological Evaluation for Sensitive Plant Species**

### **Petersburg Outfitter Guide Environmental Assessment**

Petersburg Ranger District

Tongass National Forest

/s/ Mary A. Clemens

Date August 23, 2009

Mary A. Clemens  
Botanist, Petersburg Ranger District





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## Introduction

### Summary:

The past effects on sensitive plants by recreational users on the Petersburg Ranger District are not well quantified. Guided recreational use on the District is likely to affect individual rare and sensitive plants. Effects due to the proposed action are not expected to have significant impacts on sensitive plants. No trend leading to federal listing of sensitive species is expected due to the proposed action.

### Guidance:

Forest-wide goals and objectives, and standards and guidelines for this resource are on pages 2-1, (Viable Populations), 2-4 (Biological Diversity), 2-5 (Plants), 4-41 through 4-42 of the Tongass Land Management Plan (TLMP 2008). Other legal and administrative directions are found in:

- The Endangered Species Act of 1973 governs the protection of listed species and the ecosystems upon which they depend.
- The Forest Service Manual (2672) requires the Regional Forester to identify sensitive species occurring within the region.
- The Forest Service Manual (2672.4) requires that a biological evaluation (BE) be prepared for all Forest Service activities to address impacts to Forest Service sensitive species.

### Proposed Action:

The action proposed by the Forest Service to meet the purpose and need is to authorize outfitter/guide operations through the issuance of special use permits, based on the Petersburg Recreation Use Carrying Capacity Report and the Wilderness Needs Assessments. This alternative would allocate outfitter and guide permits for 10 percent of the study area capacity within an identified home range and 25 percent of the study area capacity outside an identified home range. The proposal would authorize up to approximately 41,100 RVDs across the district for use by outfitters and guides (4,110 RVDs in the spring, 26,716 RVDs in the summer, 6,165 RVDs in the fall and 4,110 RVDs in the winter). The use authorized may be temporary in nature (less than one year) or could be for multiple years. For those operators who have demonstrated satisfactory performance, the District Ranger may issue priority use permits, for a period of up to 10 years, in accordance with FSH 2709.11.

### Pre-field review

No field work was conducted specifically for this project. Review consisted of examining rare plant survey and sighting data in the Tongass GIS library.

## Affected Environment

### Threatened and Endangered Species

The only plant federally listed or proposed by the U.S. Fish and Wildlife Service in Alaska is *Polystichum aleuticum* C. Christensen, listed as endangered. It is only known from Adak Island in the Aleutian Island chain and is not expected to occur in the Petersburg Ranger District.

### Sensitive Species

Seventeen plant species and one lichen are on the Regional Forester's Sensitive Species List.

Table 1. Alaska Region Sensitive Species. Species known or suspected in the planning area are in bold.

<i>Aphragmus eschscholtzianus</i>	<b><i>Ligusticum calderi</i></b> <i>suspected</i>
<i>Botrychium spathulatum</i>	<b><i>Lobaria amplissima</i></b> <i>known</i>
<i>Botrychium tunux</i>	<i>Papaver alboroseum</i>
<i>Botrychium yaaxudakeit</i>	<b><i>Piperia unalascensis</i></b> <i>suspected</i>
<b><i>Cirsium edule</i> var. <i>macounii</i></b> <i>suspected</i>	<b><i>Platanthera orbiculata</i></b> <i>suspected</i>
<i>Cochlearia sessilifolia</i>	<b><i>Polystichum kruckebergii</i></b> <i>suspected</i>
<i>Cypripedium guttatum</i>	<b><i>Romanzoffia unalaschcensis</i></b> <i>suspected</i>
<b><i>Cypripedium montanum</i></b> <i>suspected</i>	<b><i>Sidalcea hendersonii</i></b> <i>suspected</i>
<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i>

### Direct and Indirect Effects

Plants or their habitats can be negatively affected by recreational activities. Effects can include crushed or buried plants or habitat. Direct effects occur immediately or soon after the implementation of the action (such as habitat loss, crushing or burying actual plants, sediment accumulation etc.).

Indirect effects are those effects that are “reasonably likely” to occur at a later point in time after project implementation. Indirect effects include changes in hydrology or solar radiation intensities.

### Cumulative Effects

The National Environmental Policy Act requires that planners consider effects of accumulating effects on a resource within the planning area (in this case the Wrangell

Ranger District) by actions in the past, present and foreseeable future in order to prevent long-term degradation of the resource.

Since the overall impacts of guided recreational use on all types of vegetation (sensitive, rare, or otherwise) are minimal on a daily basis but can be expected to accumulate over time, effects on botanical resources are best evaluated for the proposed action as cumulative effects. The cumulative effects of both commercial and private use should be considered for sites used by commercial outfitter guides that are also used by private recreational parties. Any monitoring of impacts to sites will be unable to distinguish effects of private versus commercial use.

Recreational use harms plants and vegetation by crushing plants under foot and tents, construction of fire rings, movement of natural materials such as rocks and logs and construction of semi-permanent structures such as tarpaulin frames. (Bell 1973, Cole 1992, Monz 2000, Roovers 2004). No systematic analysis has been conducted to determine the effects of recreational use to botanical resources on the Wrangell Ranger District.

A process of developing carrying capacity for each study area determined the number of recreation visitor days the recreation places could accommodate without adverse environmental impact. One hundred and fifty-eight sites (recreation places) are being allocated use by outfitter guides. Only minimal surveys have been conducted for sensitive or rare species on the sites.

Backcountry recreational use in the Tongass National Forest by private parties is not managed. No permitting or allocation process for undeveloped recreation sites, such as primitive campsites, is in place. Use is on a first-come basis. Use of cabins and developed campgrounds is allocated through an online reservation process.

Compared to National Forests in other parts of the United States, recreational use of the Tongass is light and widespread. Although some sites may experience high levels of impact due to proximity to population centers or unique natural features that are a draw for the recreating public, most sites will experience only minor impacts to vegetation. Commercial group size is limited to twelve persons. Impacts on all types of vegetation are mitigated by an informal process of evaluation of sites by district recreation staff that have a basic understanding of impacts to vegetation by recreational users, following the principles of “leave no trace” best practices. This can be expected to limit harm to vegetation to a reasonable degree. But this may not prevent all harm to sensitive or rare species.

## Summary of affected environment, effects, risk assessment and determination by species.

### *Aphragmus eschscholtzianus* Eschscholtz's little nightmare.

Affected environment: This species' range in the National Forests in the Alaska region is believed to be restricted to the Chugach National Forest or the very northern part of the Tongass National Forest and will not be evaluated further.

### *Botrychium spathulatum* Spathulate moonwort

Affected environment: Habitats include upper beach meadows and alpine areas. This species has been found in a very few places on Kruzof and Chichagof Islands on the Sitka and Hoonah Ranger Districts. It is not suspected to occur on the Petersburg District and it will not be evaluated further.

### *Botrychium tunux* (Moosewort Fern) and *Botrychium yaaxudakeit* (No common name)

These species are known on the Tongass National Forest only from the Yakutat forelands area and will not be evaluated further.

### *Cirsium edule* var. *macounii* Edible Thistle

Affected environment: This species is known only from the Misty Fiords National Monument Wilderness. Habitats include Forest edge, streamside riverbank, dry meadow, and landslide talus. There is some chance that this species exists in the mainland portions of the district.

Direct and indirect effects: This species could be affected by disturbance due to camping and foot travel. One threat that has been cited is due to its resemblance to invasive thistles it may be targeted by enthusiastic weed pullers. It often grows in disturbed habitat so additional disturbance may favor or disfavor this plant because plants could be killed by a disturbance but overall increased habitat could be created by the same disturbance event.

Risk Assessment: Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on population. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

Determination: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Cochlearia sessilifolia* Sessileleaf scurvygrass**

This species' range in the National Forests in the Alaska region is believed to be restricted to the Chugach National Forest and will not be evaluated further.

***Cypripedium guttatum* Spotted lady's slipper**

This species' range in the National Forests in the Alaska region is believed to be restricted to the Chugach National Forest and will not be evaluated further.

***Cypripedium montanum* Mountain lady's slipper**

Affected environment: Habitats include open forest, beach meadows, and peatlands. It is suspected to occur on the Petersburg Ranger District.

Direct and indirect effects: This plant has strikingly attractive flowers. One threat that has been cited to this species in the Alaska Region is that people might pick the flowers or attempt to transplant them to a home garden or elsewhere.

Risk Assessment: Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on population. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

Determination: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Cypripedium parviflorum* var. *pubescens* Yellow lady's slipper**

Affected environment: Habitat is peatlands. This plant is not suspected to occur on the Petersburg Ranger District and will not be evaluated further.

***Ligusticum calderi***

Affected environment: Habitats for this species include subalpine meadows in glacial refugia. It is suspected to exist on the Petersburg Ranger District.

Direct and indirect effects: Because meadows are likely to be used by recreationists, individuals could be affected by trampling effects from hikers and campers.

Risk Assessment: Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on population. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

Determination: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Lobaria amplissima***

Affected environment: Habitat includes tree trunks and limbs on old-growth beach fringe edges that are exposed to large bodies of ocean. It has been found in approximately 20 locations on the Tongass, including the Petersburg Ranger District where it has been found on the Sukoi Islets, southern Mitkof Island, and some outer islands in Tebenkof Bay on Kuiu Island.

Direct and indirect effects: Hikers and campers following leave no trace principles are unlikely to affect this plant. Persons who cut down standing live or dead trees for firewood or shelter materials could conceivably affect individuals of this species.

Risk Assessment: Consequences are a questionable adverse effect on habitat or populations. No cumulative effects expected. Likelihood of adverse effects is low.

Determination: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Papaver alboroseum***

This species' range in the National Forests in the Alaska region is believed to be restricted to the Chugach National Forest and it will not be evaluated further.

***Piperia unalascensis***

Affected environment: Habitat includes dry open sites, tall shrubs in riparian zones, mesic meadows, and dry coniferous forests from low elevation to subalpine.

Direct and indirect effects: Individuals could be trampled by hikers and campers.

Risk Assessment: Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on population. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

Determination: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Platanthera orbiculata***

Affected environment: Habitat includes low-elevation forests and scrub. This species is known to occur in four locations on the Wrangell Ranger District but has not yet been found on the Petersburg Ranger District. This species is more common and widespread than other sensitive species, particularly to the south of Wrangell Ranger District.

Direct and indirect effects: Individuals could be trampled by hikers and campers.

**Risk Assessment:** This species was listed as sensitive due to concerns about the effects of logging and road building due to economics leading to targeting of specific timber species that are closely associated with it throughout much of its known habitat and distribution on the Tongass. Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on population. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

**Determination:** May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Polystichum kruckebergii***

**Affected environment:** Habitat is sheltered cracks in dunite rock of ultramafic outcrops. It is known from two locations on the Forest, one on Baranof Island and one on the Cleveland Peninsula. It is suspected to occur on the Petersburg Ranger District.

**Direct and indirect effects:** No effects from recreational activities are believed to be likely.

**Risk Assessment:** Likelihood of effects is none; activity will not affect habitat or population.

**Determination:** No effect.

***Romanzoffia unalaschcensis***

**Affected environment:** Habitat includes gravelly areas along streams, and on ledges and crevices in rock outcrops, often along the coast. It is suspected to occur on the Petersburg District.

**Direct and indirect effects:** Individuals could be trampled by hikers and campers.

**Risk Assessment:** Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on populations. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

**Determination:** May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.



***Sidalcea hendersonii***

Affected environment: Habitat includes estuarine meadows at forest edge. It is known from only one location on the Tongass. It is suspected to occur on the Petersburg Ranger District.

Direct and indirect effects: Individuals could be trampled by hikers and campers.

Risk Assessment: Because recreational activities are likely to occur in its habitats that could disturb individuals of this species, consequences of effects are moderate due to possible adverse effects in habitat or on populations. Cumulative effects are possible. Likelihood of effects is moderate because recreational activity is not completely controllable or intense administration of recreation would be needed to prevent adverse effects on habitat or population. Adverse effects may occur.

Determination: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

***Tanacetum bipinnatum* subsp. *huronense***

Habitat includes coastal sand dunes. It is known from only one location on the Tongass. It is not suspected to occur on the Petersburg Ranger District and it will not be evaluated further.

**Table 2. Summary of Risk Assessments and Determinations for Sensitive Plant Species**

Scientific Name	Likelihood of Negative Effects	Consequence of Negative Effects	Determination
<i>Aphragmus eschscholtzianus</i>	None		No Effect
<i>Botrychium spathulatum</i>	None		No Effect
<i>Botrychium tunux</i>	None		No Effect
<i>Botrychium yaaxudakeit</i>	None		No Effect
<i>Cirsium edule</i> var. <i>macounii</i>	Moderate	Moderate	May adversely impact*
<i>Cochlearia sessilifolia</i>	None		No Effect
<i>Cypripedium guttatum</i>	None		No Effect
<i>Cypripedium montanum</i>	Moderate	Moderate	May adversely impact*
<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	None		No Effect
<i>Ligusticum calderi</i>	Moderate	Moderate	May adversely impact*
<i>Lobaria amplissima</i>	Low	Low	May adversely impact*
<i>Papaver alboroseum</i>	None		No Effect
<i>Piperia unalascensis</i>	Moderate	Moderate	May adversely impact*
<i>Platanthera orbiculata</i>	Moderate	Moderate	May adversely impact*
<i>Polystichum kruckebergii</i>	None		No Effect
<i>Romanzoffia unalaschcensis</i>	Moderate		May adversely impact*
<i>Sidalcea hendersonii</i>	Moderate	Moderate	May adversely impact*
<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i>	None		No Effect

\* Full Text: May adversely impact individuals, but not likely to result in a loss of viability in the planning area or cause a trend to federal listing.

## **Appendix A: Criteria for Risk Assessment**

### **Factor 1. Consequence of Adverse Effect from a Particular Activity**

LOW: None, or questionable adverse effect on habitat or population. No cumulative effects expected.

MODERATE: Possible adverse effects in habitat or on population. Cumulative effects are possible.

HIGH: Obvious adverse effects on habitat or population. Cumulative effects are probable.

### **Factor 2. Likelihood of Adverse Effect from a Particular Activity**

NONE: Activity will not affect habitat or population. (No further risk assessment needed).

LOW: Activity controllable by seasonal or spatial restrictions and is not likely to affect habitat or populations.

MODERATE: Activity not completely controllable or intense administration of project needed to prevent adverse effects on habitat or population. Adverse effects may occur.

HIGH: Activity not controllable and adverse effects on habitat or populations likely to occur.

