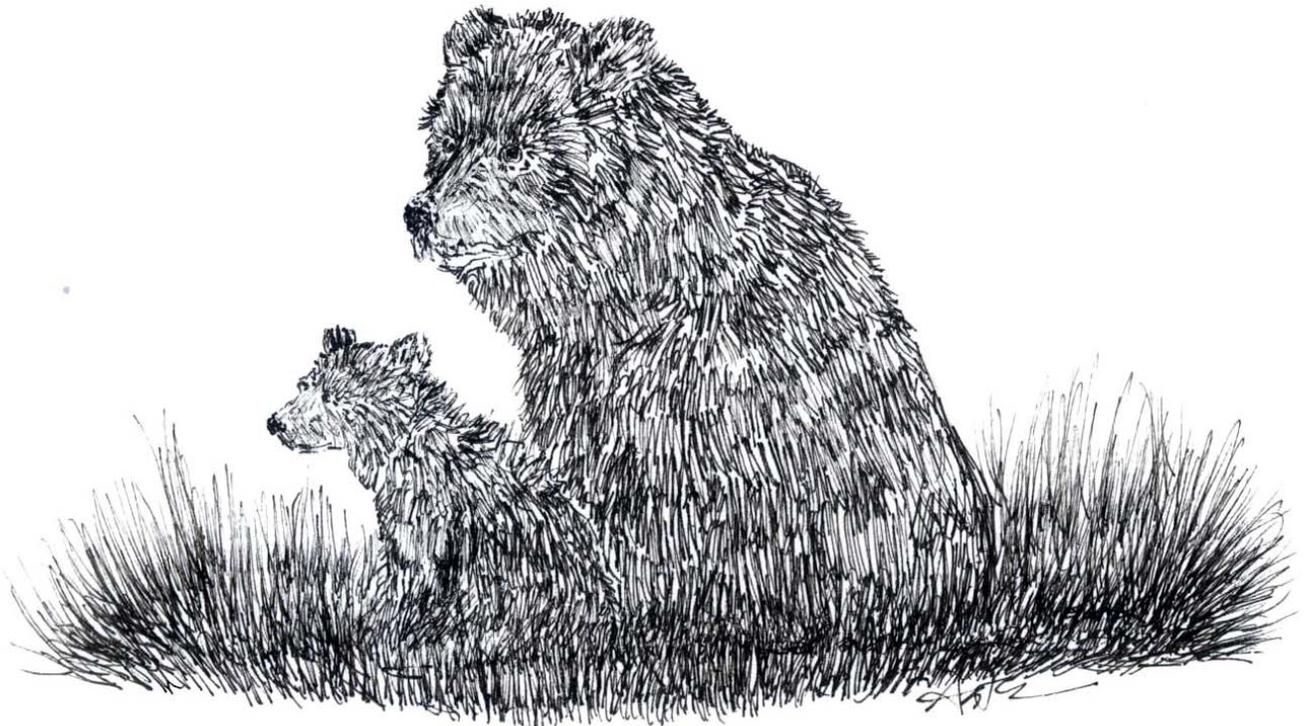




United States
Department of
Agriculture
Tongass
National Forest
R10-MB-700
June 2009



Wrangell Outfitter and Guide Management Plan Environmental Assessment



Abbreviations and Common Acronyms

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



United States
Department of
Agriculture

Forest
Service

Alaska Region
Tongass National Forest
Wrangell Ranger District

P.O. Box 51
Wrangell, AK 99929-0051
Phone: (907) 874-2323
Fax: (907) 874-7595

File Code: 1950-1

Date: June 17, 2009

Dear Planning Participant:

Enclosed is your copy of the Environmental Assessment (EA) for the Outfitter and Guide Management Plan on the Wrangell Ranger District, Tongass National Forest. This document describes the no-action alternative, and two action alternatives. Alternative 3 is the preferred alternative; however, please review all alternatives since any 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 June 2008, the Proposed Action has been further developed to consider whether any of the study areas are approaching or have crossed a threshold that may lead to potential conflicts between resources or recreation users. The interdisciplinary team (IDT) identified one possible future concern – a diminished recreation experience for guided steelhead fishing in the Bradfield Canal and on Anan Creek. To address this concern and preserve the current recreation experience in these areas, it is proposed that 44 Recreation Visitor Days (RVDs) in the Bradfield Canal and 22 RVDs on Anan Creek are specifically allocated to commercial users for guided steelhead fishing.

As 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.

Comments on this EA 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 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 project. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative or judicial review.

The 30-day comment period on the EA will begin on the date the Notice of Availability is published in the *Ketchikan Daily News*, the newspaper of record. A public notice will also be placed in the *Petersburg Pilot* and the *Wrangell Sentinel*, the weekly newspapers in Petersburg and Wrangell, Alaska.

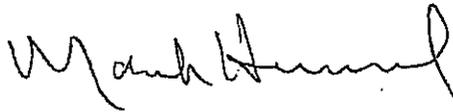
Please send written comments to the Wrangell District Ranger, or Diane O'Brien, Special Use Administrator, Attn. Wrangell Outfitter and Guide Management Plan, U.S. Forest Service, PO Box 51, Wrangell, AK, 99929-0051. Comments may also be e-mailed to comments-alaska-



tongass-wrangell@fs.fed.us, with Wrangell 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 Wrangell Ranger District at (907) 874-2323. 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 "Mark Hummel". The signature is written in a cursive, flowing style.

MARK HUMMEL
District Ranger

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Camping in the Stikine-LeConte Wilderness. Photograph by Karen Dillman.

CHAPTER 1 – PURPOSE AND NEED FOR THE PROPOSED ACTION

Document Structure

The Wrangell 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 and references.
- Appendices. These provide more detailed information to support the analyses presented in the EA.

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

Background

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 less than one year. Priority special use permits may be issued for up to ten years (FSH 2709.11, Chapter 40).

This 2009 EA replaces the Wrangell Ranger District portion of the 1997 Stikine Area Outfitter and Guide EA. It will not address or authorize assigned sites¹, ground disturbing

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

1 Purpose and Need

activities, and other forms of development. These activities will require a site specific analysis.

This NEPA analysis will help the WRD 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 WRD by the outfitter and guide industry has continued to increase (see Table 3.2). To examine the district's ability to accommodate growth, a carrying capacity study (the Wrangell Recreation Use Carrying Capacity Report) was completed in June 2009. These capacity numbers estimated how many people could use a given area annually and the results were used to help formulate alternatives responsive to the issues identified in scoping (see Chapter 2 for alternatives).

The 2009 Wrangell Recreation Use Carrying Capacity Report showed that despite an increase in commercial use of Forest Service lands, the use has not exceeded capacity and there is room for additional growth of the outfitter and guide industry in some areas.

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 update². Other changes incorporated into this EA include:

- The Anan Wildlife Observatory is included in this analysis. It was previously analyzed in the 1996 Anan Management Standards EA but not in the 1996 Carrying Capacity Report.
- There is now direction from the Forest Supervisor to conduct district level determinations of need for commercial services within Wilderness Areas on the Tongass National Forest prior to issuing outfitter and guide permits in Wilderness (Wilderness Act, FSH 2709.11 41.53e, USDA 2007).
- Some of the study area boundaries changed as a result of new information and use data from the last four years.
- There were boundary changes made to the recreation places which fall within and make up the larger study areas. These changes were due to land status changes, a re-evaluation of recreation attractors, new information, and recent historical use data. As a result, there are 33,400 fewer recreation place acres today than when the 2004 update was completed.

² These changes are listed in Table D of the 2009 Recreation Use Carrying Capacity Report for Wrangell Ranger District.

- There are 135,799 more net RVDs available today than when the 2004 update was completed. Table D in Appendix A and Appendix D provide explanations for RVD changes by study area.

Purpose and Need for Action ---

The purpose of this initiative is to:

- Respond to special use permit applications;
- Allocate appropriate outfitter and guide use in the Stikine-LeConte and South Etolin Wilderness Areas while protecting wilderness character (based on individual Determination of Need for Commercial Services); and
- Allocate outfitter and guide recreation use on the Wrangell 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 WRD 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.

If there is a demonstrated need for commercial service(s) and these services are deemed appropriate for the Wilderness area proposed, 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). In 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. The WRD has written two Wilderness Needs Assessments: one specific to the Stikine-LeConte Wilderness (SLW) and one for the South Etolin Wilderness (SEW). Both assessments are located in the project record.

The proposed action will enhance the ability of the FS to review and process outfitter and guide requests more efficiently.

Project Area Description ---

The project area consists of the National Forest System lands encompassing the Wrangell Ranger District of the Tongass National Forest (TNF), totaling approximately 1.7 million acres in central Southeast Alaska. Located within the Alexander Archipelago, the project area extends westward from the Canadian border to Zarembo Island and ranges to just north of LeConte Bay to the southern end of Etolin Island. A map displaying the project

1 Purpose and Need

area is presented in Figure 1. For the purpose of this project, the district is divided into study areas³.

Proposed Action

The action proposed by the FS to meet the purpose and need is to allocate visitor use (guided and non-guided) based on the 2009 Wrangell Recreation Use Carrying Capacity Report and the SLW and SEW Determinations of Need for Commercial Services. Study area use will be evaluated to determine any conflicts or potential future conflicts between resources or recreation users.

This proposed action authorizes the issuance of commercial outfitter/guide permits for the WRD. The proposed action would allocate outfitter and guides up to 10 percent of a study area's capacity within an identified home range, and up to 25 percent of a study area's capacity outside of an identified home range. Overall, the proposal would allocate up to approximately 37,009 Recreation Visitor Days (RVDs) for outfitter and guide use on the WRD.

All outfitted and guided operations will be subject to area-wide and site-specific mitigation measures to protect natural and historic resources of the TNF and balance allocated use between guided and non-guided users.

For those operators who have demonstrated satisfactory performance, the District Ranger may issue priority permits based on the allocation, for a period of up to 10 years, in accordance with FSH 2709.11, Chapter 40.

There are four exceptions to the 10 percent and 25 percent proposed action:

- The 1996 Anan Management Standards Environmental Assessment (EA) evaluated the Anan Wildlife Observatory, and therefore was not part of the 1997 Outfitter and Guide EA or the update in 2004. However, the 2009 Wrangell CCR calculations include Anan's shoulder season (before and after the high use season of July 5 through August 25). No changes to the existing high use visitor season, which allows 64 visitors a day during the 52-day peak season, are proposed.
- In the South Etolin Wilderness area, the commercial sector will be allocated 10 percent, rather than 25 percent, of the net RVDs. The Wilderness area is outside the home range of Wrangell, but due to high historical use, site impacts, and the desire to maintain Wilderness character, less commercial use will be allocated.
- Ten recreation places⁴, due to high acreages, resulted in high RVD allocation to the commercial sector. In these recreation places, up to ten percent of the

³ *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.

⁴ These include recreation places 22092.04, 22092.07, 22094.08 in study area 80; recreation places 22043.00, 22043.02, 22043.03, 22043.04, 22043.05 and 22043.12 in study area 90; and recreation place 22089.01 in study area 140.

available commercial use RVDs may be allocated to outfitters and guides⁵. This will not result in any allocations below the level of historical use.

- In recreation places 22002.00, 22005.00 and 22017.00 (study area 50, Bradfield Canal) and recreation place 22012.00 (study area 60, Anan) use allocated to commercial steelhead fishing guides will be 44 RVDs in the Bradfield Canal and 22 RVDs on Anan Creek. This is an effort to preserve the current recreation experience in these areas.

Decision Framework

The Wrangell 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 balance between guided and unguided use, the District Ranger will also decide what level of guided use will trigger additional review by study area. Recreation use for any given recreation place⁶ 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 WRD for the next five to ten years;
- The extent, type, amount, and location of commercial use to allocate within the Stikine-LeConte and South Etolin Wilderness Areas;
- How best to manage outfitter and guide use on the WRD 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 development⁷ received through the application process 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 and after the administration of Special Use permits and as part of program monitoring.

⁵ In addition to ten aforementioned recreation places, there are four more adjusted to ten percent of the available commercial use RVDs to take into account a sensitive ecosystem (22094.06 in study area 80) or to maintain the prescribed recreation experience (22026.32 in study area 10; 22054.03 in study area 130; and 22088.01 in study area 140).

⁶ *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.

⁷ *Development* would include construction of resorts, cabins, tent platforms, or any other structure or facility.

1 Purpose and Need

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, permits will be allocated among qualified outfitter/guides through a competitive process.

Scoping

Schedule of Proposed Activities

The Wrangell Outfitter and Guide Environmental Assessment was listed on the Schedule of Proposed Actions (SOPA) in 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 hosted in Kake on July 8, 2008. A draft of Petersburg and Wrangell's study area maps were posted for viewing at both locations. WRD received no written comments.

Government-to-Government consultation

In June 2008, Forest Service personnel attended a Wrangell Cooperative Association (WCA) meeting to consult with the tribe on this project and distributed the scoping letter. The district received no comments regarding this project from the WCA.

Scoping Letter

In June 2008, WRD mailed approximately 360 scoping letters requesting comments on the proposed action.

Response to Scoping

WRD received four responses from the public; however, no significant issues were identified. The responses regarded these general subjects:

- Remove restrictions on the guided and unguided group size in Wilderness Areas;
- At Anan, allow guiding companies' group size restriction to be equivalent to the area's group size restriction;
- Additional information and project clarification requests

Issues

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 WRD identified three topics. These issues include:

- *Issue 1: The proposed action may not adequately provide for the demand of recreation opportunities of the guided and unguided forest users.*
 - **Measurement.** Comparison of alternatives will include the percentage of total RVDs available to guided users for each study area.
- *Issue 2: The proposed action may not provide stable business opportunities for the outfitter and guide industry.*
 - **Measurement.** Comparison of alternatives will include the ability to issue priority use permits to qualified operators to provide an opportunity for reasonable growth in the industry.
- *Issue 3: The proposed action may not adequately protect potentially affected forest resources.*
 - **Measurement.** Comparison of alternatives will include an estimation of the relative, potential impacts to forest resources, with mitigation, if applicable.

Meetings and Consultation with Other Agencies

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.

1 Purpose and Need

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)

SHPO reviews compliance with Section 106 of the National Historic Preservation Act, a process to determine the effects of alternatives on heritage 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.state.ak.us/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>.

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 ditching of campsites is made, with a party size of 12 or fewer, when Leave No Trace⁸ practices are used, and 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 heritage resource stipulations. Outfitters and guides, who are also responsible for the actions of their clients, are prohibited from collecting artifacts or disturbing heritage resources. Outfitters and guides have an affirmative responsibility to report heritage 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)

⁸ Go to: http://www.fs.fed.us/r10/outdoor_ethics/leave_no_trace/intro/lnt_principles_v2.shtml and LNT main website (http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html) for more information about Leave No Trace practices.

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- Executive Order 11593 (cultural resources)
- 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.
- 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 Wrangell Ranger District office in Wrangell, Alaska. Reference documents, such as the Forest Plan, are available for review at public libraries and Forest Service offices throughout Southeast Alaska, including the Wrangell Ranger District. The Forest Plan is available on CD-ROM and on the Internet at <http://www.fs.fed.us/r10/tongass/>.

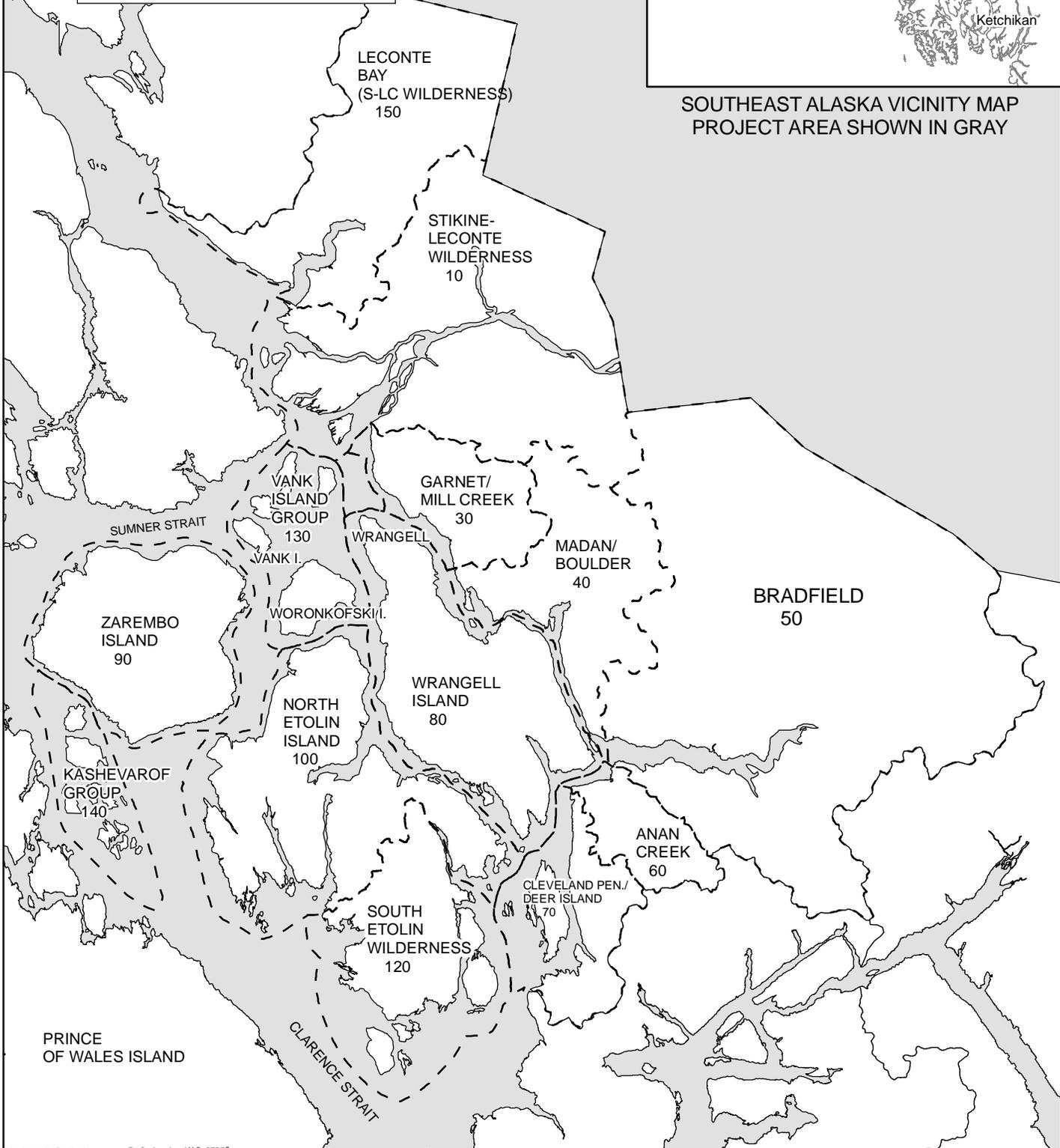
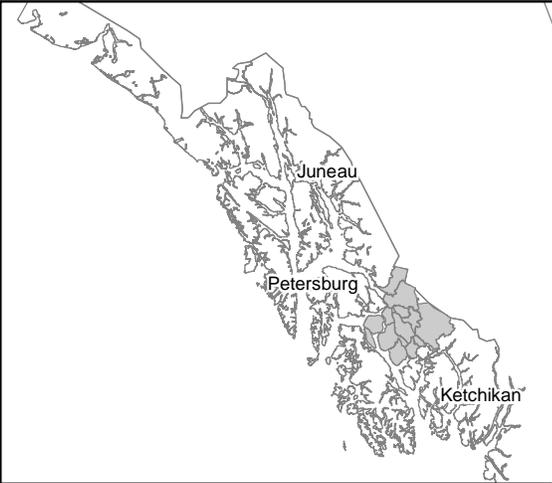


Boreal toad at night near Wrangell, Alaska. Photograph by Susan Wise-Eagle.

1 Purpose and Need

Wrangell Ranger District Study Areas Figure 1

50 Study Area Boundary
Water



CHAPTER 2

Key Terms

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 – Any use of the National Forest for which a fee is charged by an outfitter/guide.

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

Home range – Home range is a recreation area near a community that is especially important to local residents. Generally, a home range on the Wrangell Ranger District is within a fifteen mile radius of the community of Wrangell. 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 WRD is divided into 13 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.

CHAPTER 2 - ALTERNATIVES

Introduction

This chapter summarizes the development of alternatives considered by the Forest Service for the Wrangell Outfitter and Guide Management Plan EA to meet the purpose and need and respond to the significant issues described in Chapter 1. Three alternatives are discussed in detail. The alternatives include No Action, Proposed Action, and one other action alternative (Alternative 3 – Wilderness Allocation).

Alternatives Considered in Detail

Alternative 1 – No Action

The No Action alternative is no change from the current management of the outfitter and guide special uses program, which allocates outfitter and guides up to 10 percent of the study area capacity within, and up to 25 percent outside, of an identified home range. Outfitter and guide special use permits will be allocated based on the 2004 update of the June 1997 Stikine Area Recreation Use Carrying Capacity Report.

This alternative will allocate the issuance of approximately 16,755 recreation visitor days (RVDs) for use by outfitters and guides. Refer to Table 2.2 for a summary of RVDs available to outfitters and guides by alternative.

Thresholds are subject to change, either higher or lower, based on monitored impacts and increased unguided and guided use. If outfitter and guide use in a study area approaches or reaches the use-threshold, the FS will review the threshold and determine if a change is needed.

Response to Issues

Issue 1: Provide for the demand of recreation opportunities of the guided and unguided forest users.

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 carrying capacity. Unguided users will account for the remaining capacity. Outside home ranges, guided visitors are allocated up to 25 percent of the carrying capacity.

This alternative allows for growth of outfitting and guiding, while providing thresholds to track use on the Wrangell Ranger District.

Issue 2: Provide stable business opportunities for the outfitter and guide industry.

Priority use permits issued under this alternative may allow an opportunity for growth in the industry.

Issue 3: Adequately protect potentially affected forest resources.

Compared to Alternatives 2 and 3, this alternative may have the most effect on forest resources, particularly wilderness character.

This alternative provides a framework for the outfitter and guide program while monitoring changes in forest resources and use.

Alternative 2 – Proposed Action

This alternative will allocate outfitter and guide use permits based on the 2009 Wrangell Recreation Use Carrying Capacity Report (2009 CCR). It allocates outfitter and guides up to 10 percent of the study area capacity within, and up to 25 percent outside, an identified home range.

The proposal will allocate approximately 35,347 RVDs for use by outfitters and guides. 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.

There are four exceptions to the 10 and 25 percent proposed action:

- The Anan Wildlife Observatory was evaluated in the 1996 Anan Management Standards EA and was not part of the 1997 Outfitter and Guide Environmental Assessment or the update in 2004. However, the 2009 CCR calculations include Anan’s shoulder season (before and after the high use season of July 25 through August 25). We are not proposing any changes to the existing high use visitor season, which allows 64 visitors a day during the 52-day peak season.
- The commercial sector will be allocated up to 10 percent (rather than up to 25 percent) of the net RVDs for South Etolin Wilderness area. The Wilderness area is outside the home range of Wrangell, but due to high historical use, site impacts, and the desire to maintain Wilderness character, less commercial use will be allocated.
- Ten recreation places⁹, due to high acreages, resulted in high RVD allocation to the commercial sector. In these recreation places, up to ten percent of the available commercial use RVDs may be allocated to outfitters and guides¹⁰. This will not result in any allocations below the level of historical use.
- In recreation places 22002.00, 22005.00 and 22017.00 (study area 50, Bradfield Canal) and recreation place 22012.00 (study area 60, Anan) use allocated to commercial steelhead fishing guides will be 44 RVDs in the Bradfield Canal and 22 RVDs on Anan Creek. This is an effort to preserve the current recreation experience in these areas.

Responses to Issues

Issue 1: Provide for the demand of recreation opportunities of the guided and unguided forest users.

Similar to the No Action alternative, this alternative allocates both guided and unguided recreation use. In home ranges (except for the South Etolin Wilderness

⁹ These include recreation places 22092.04, 22092.07, 22094.08 in study area 80; recreation places 22043.00, 22043.02, 22043.03, 22043.04, 22043.05 and 22043.12 in study area 90; and recreation place 22089.01 in study area 140.

¹⁰ In addition to ten aforementioned recreation places, there are four more adjusted to ten percent of the available commercial use RVDs to take into account a sensitive ecosystem (22094.06 in study area 80) or to maintain the prescribed recreation experience (22026.32 in study area 10; 22054.03 in study area 130; and 22088.01 in study area 140).

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area and those recreation places with high acreages of system roads), outfitters and guides are allocated up to 10 percent of the carrying capacity. Unguided users will account for the remaining capacity. Outside home ranges, guided visitors are allocated up to 25 percent of the carrying capacity.

Similar to the No Action alternative, this alternative allows for growth of outfitting and guiding, while providing thresholds to track use on the WRD.

Issue 2: Provide stable business opportunities for the outfitter and guide industry.

Priority use permits (up to ten years) issued under this alternative may allow for a better opportunity for growth and stability in the industry than the No Action alternative.

Issue 3: Adequately protect potentially affected forest resources.

This alternative is similar in effects to the No Action alternative, with the exception of the South Etolin Wilderness area. For the Wilderness area, this alternative would have less impact to potentially affected forest resources.

This alternative provides a framework for the outfitter and guide program while monitoring changes in forest resources and use.

Alternative 3 – Wilderness Allocation

This alternative will allocate up to 30,783 RVDs to outfitter and guides.

This alternative strives to meet specific objectives of the Wilderness Act, specifically those related to commercial services. Forest Service policy states that permits are to be available to outfitter and guiding operations where outfitters and guides are necessary to help segments of the public use and enjoy Wilderness areas for recreational or other wilderness purposes (FSM 2323.12).

For the Stikine-LeConte Wilderness area (study area 150 and some recreation places in study area 10), this alternative will allocate up to four percent of the capacity within and up to ten percent outside, the identified home range, to outfitter and guide use. For the South Etolin Wilderness Area (study area 120) this alternative will allocate up to ten percent of the capacity (rather than up to twenty-five percent), as explained in Alternative 2.

This alternative will also determine the allocation of commercially guided camping and remote setting nature tours (RSNT) based on the recently conducted *Determination of Need for Commercial Services* within the Stikine-LeConte and South Etolin Wilderness Areas.

For areas outside of designated Wilderness, allocation of RVDs will remain the same as Alternative 2 and include the four exceptions to the 10 and 25 percent proposed action.

Responses to Issues

Issue 1: Provide for the demand of recreation opportunities of the guided and unguided forest users.

For study areas outside of wilderness, this alternative provides the same opportunities to outfitters and guides as Alternatives 1 and 2. However, in

Alternative 3, less guided use would be allocated in both Wilderness areas, regardless of their proximity to a home range.

This alternative allows for growth of outfitting and guiding, while providing thresholds to track use on the WRD.

Issue 2: Provide stable business opportunities for the outfitter and guide industry.

Priority use permits (up to ten years) issued under this alternative may allow for a better opportunity for growth and stability in the industry than the No Action alternative.

Issue 3: Adequately protect potentially affected forest resources.

This alternative may have the least effect on forest resources, compared to the No Action and Proposed Action alternatives, since it establishes the lowest commercial allocation threshold for Wilderness areas.

This alternative provides a framework for the outfitter and guide program while monitoring changes in forest resources and use.

Mitigations

General Mitigation (All Areas)

The following mitigations are required by the Outfitter and Guide Special Use Permit. These standard mitigations are in addition to those listed by study area in Table 1.

- 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.
- Outfitters and guides will incorporate "Leave No Trace" skills¹¹ 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" technique⁵) or in firepans.
- Within designated Wilderness, no more than 12 people (including guides) can occupy a site at one time. "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

¹¹ 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 or the Leave No Trace website: http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html

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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 2.1 lists the mitigation measures by study area. Refer to Figure 1 for study area location.



Black bear with salmon at Anan Wildlife Viewing Area, Tongass NF, Alaska. Photograph by Ashley Atkinson.

Table 2.1. Mitigation measures by study area.

Study area	Location	Recreation Place	Concern	Mitigation
10 Stikine- LeConte Wilderness	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and total party size is limited to 12 persons, unless otherwise specifically authorized in the Special Use Permit.
		All areas that apply within or outside of existing recreation places	Impact on marine mammals	Remain at least 100 yards (length of football field) from whales, dolphins, porpoises; and seals and sea lions that are on land, rock, or ice (Alaska Marine Mammal Viewing Guidelines).
	Areas of bird viewing	All areas that apply within or outside of existing recreation places	Impact on migratory birds	A minimum of 330 feet will be maintained between human activities on the ground and significant areas used by migratory birds.
	Dispersed campsites	All areas that apply within or outside of existing rec. places	Impact on rec. site users	Outfitter/guide campsites must be authorized in advance and located at least one half-mile from recreation cabins and developed recreation sites, unless specifically authorized in the Special Use Permit.
	Shakes Lake Waterfall	22026.09	Impact on ecosystem and public health	All human waste and trash will be removed from the National Forest System lands.
	Twin Lakes	22026.32	Use at developed recreation sites	No commercial overnight use authorized.
	Twin Lakes	22026.32	Impacts on FS recreation cabin renters	Access for commercial users to Twin Lakes is prohibited from the Twin Lakes FS recreation cabin when cabin is occupied or rented.
	Chief Shakes Hot Springs	22026.33	Use at developed recreation sites	No commercial overnight use authorized.
30 Garnet/Mill Creek	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to 12 guided clients unless otherwise specifically authorized in the Special Use Permit.
	Virginia Lake	22024.00	Impacts on local users.	No commercial use will be authorized during moose season.
	Mill Creek Trail	22024.01	Impacts on local users.	Outfitter and guide activity on Mill Creek trail is limited to weekday use only unless specifically authorized in a Special Use Permit.
	Garnet Ledge	22026.22	Unauthorized collection of garnets	Outfitter and guide clients must obtain a garnet permit from the Presbyterian Church.

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Study area	Location	Recreation Place	Concern	Mitigation
40 Madan/ Boulder	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to 12 guided clients unless otherwise specifically authorized in the Special Use Permit.
	Berg Bay/Aaron Creek	22020.00	Impacts on Forest Service recreation cabin renters	Outfitter and guide access to the Aaron Creek trailhead at the Berg Bay recreation cabin is prohibited when the cabin is reserved or occupied. Alternative access is the trailhead at the head of Berg Bay.
	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to 12 guided clients unless specifically authorized otherwise in the Special Use Permit.
	Twin Lakes	Twin Lakes	Use at developed recreation sites	No commercial overnight use authorized.
50 Bradfield	Dispersed alpine sites	All alpine areas	Impact on sensitive species	Outfitters and guides are limited to one visit per year and party size is limited to 12 guided clients unless otherwise specifically authorized in the Special Use Permit.
	Eagle Lake	22002.03	Visual impact of outfitter and guide camps on other users	Outfitter and guide camps will be at least one mile from the recreation cabin and not visible from the lake and cabin when the cabin is occupied or rented.
	Eagle River	22002.00	Impact on steelhead fishing experience	Authorization for steelhead fishing must be specifically identified in outfitter/guide permits. Authorization for freshwater fishing for species other than steelhead may be authorized to take place after June 15 annually.
	Harding River	22005.00	Impact on steelhead fishing experience	Authorization for steelhead fishing must be specifically identified in outfitter/guide permits. Authorization for freshwater fishing for species other than steelhead may be authorized to take place after June 15 annually.
	Lower Marten Creek	22017.00		
	Tom Creek	22009.00		
60 Anan	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to 12 guided clients unless otherwise specifically authorized in the Special Use Permit.
	Anan Creek	22012.00	Impact on steelhead fishing experience	Authorization for steelhead fishing must be specifically identified in outfitter/guide permits.

Study area	Location	Recreation Place	Concern	Mitigation
80 Wrangell Island		All recreation places with recreation sites	Impact of outfitter and guide groups on unguided users.	Overnight use of developed recreation sites on Wrangell Island is not authorized unless specifically noted in their permit. Day use of developed recreation sites on Wrangell Island is limited. Day use must be requested in advance and may be approved by the District Ranger. Commercial users will not displace private users. Weekend use must be specifically authorized.
	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to 12 guided clients unless otherwise specifically authorized in the Special Use Permit.
	Nemo Point Roads and Campsites	22092.03	Impact of outfitter and guide groups on unguided users.	Day use only for commercial tours excluding recreation site use.
100 North Etolin Island	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to twelve guided clients unless otherwise specifically authorized in the Special Use Permit.
	Burnett Hatchery	Not in a recreation place	Special Use Permit Site	Outfitter and guide use of the Burnett Hatchery site area must be coordinated with Alaska Aquaculture, the Special Use Permit Holder.
	Kunk Creek/Lake	22057.00	Impact of outfitter and guide groups on local residents.	No outfitter and guide overnight use of the developed recreation site will be authorized unless specifically authorized in the special use permit.
120 South Etolin Wilderness	Dispersed alpine sites	All alpine areas	Impact on sensitive ecosystems	Outfitters and guides are limited to one visit per year and party size is limited to twelve guided clients unless otherwise specifically authorized in the Special Use Permit.
	Dispersed campsites	As applicable	Impact on ecosystems	Outfitter and guide camps will not be authorized within ½ mile of campsites administratively closed by the Forest Service.
130 Vank Island Group	Vank Island Organizational Camp	22053.01	Special Use Permit Site impact on local residents.	No outfitter or guide use will be authorized by the special use permit system. Use will be coordinated with the camp permit holders and reported by the camp permit holders to the FS.

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Study area	Location	Recreation Place	Concern	Mitigation
150 LeConte Bay (in Stikine- LeConte Wilderness)	Waters of LeConte Bay	All that apply	Impact on marine mammals, particularly harbor seals	Floating glacial ice in LeConte Bay provides particularly attractive haul out areas for harbor seals. Care should be taken to avoid harassment in this area at all times, but is critical during pupping season (May and June) and molting (August). Do not attempt to approach floating ice with seals during these times. Remain at least 100 yards (length of football field) from whales, dolphins, porpoises; and seals and sea lions that are on land, rock, or ice (Alaska Marine Mammal Viewing Guidelines).

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 Trace¹² 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.

Heritage 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 Trace¹² practices and a post-activity site monitoring plan will mitigate potential effects to historic properties.

Karst and Cave Resources

The Wrangell Ranger District has a limited but significant cave¹³ 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 landforms¹⁴ and of these how many are using caves as part of their permit.

¹² 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 or the Leave No Trace website: http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html

¹³ *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.

¹⁴ *Karst landforms* are any irregular limestone regions with sinkholes, collapse channels, underground streams, caves, and caverns.

Wildlife

Non-subsistence use of wildlife is managed by the Alaska Department of Fish and Game, and subsistence use is managed by the Federal Subsistence Board. The Alaska Board of Game establishes regulations for wildlife resource use and protection.

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 1500 feet vertical and horizontal clearance from such areas. 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 _____

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 increase in use by permit holders, the compliance to conditions of the permits, and behavior of forest users on the Wrangell Ranger District. Where observed uses do not conform with 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 _____

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?”

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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.
- 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 reports¹⁵ 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.

Heritage

Forest Service archeologists have determined that the activities this EA addresses will not affect sites eligible to the National Register of Historic Places. To verify affect assumptions, monitoring will ensure that the operation of such activities do not adversely affect heritage resources through soil disturbance, rutting, compaction and erosion. Monitoring also addresses issues of commercial 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.

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

¹⁵ *Actual use reports* A form completed by outfitter and guide permit holders and submitted to the District Office at the end of the holders operating season. The form includes the following information: trip length, client charge, location, and a day by day description of activities.

Summary

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.



Shore pine (*Pinus contorta* var. *contorta*), Tongass NF, Alaska. Photograph by Ashley Atkinson.

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Comparison of Alternatives

Table 2.2. Total Net RVDs and summary of available recreation visitor days available to outfitters and guides for each alternative.

Study Area	Total Net Available RVD	Alt 1 No Action	Alt 2 Proposed Action	Alt 3 Wilderness
10 Stikine-LeConte Wilderness	72,301	6,020	7,014	2,806
30 Garnet/Mill Creek	5,018	83	502	502
40 Madan/Boulder	6,450	504	645	645
50 Bradfield	4,343	701	1,086	1,086
60 Anan	962	97	134	134
70 Cleveland Pen/Deer Island	13,157	591	3,289	3,289
80 Wrangell Island	149,920	1,700	7,583	7,583
90 Zarembo Island	142,826	2,107	4,748	4,748
W100 North Etolin Island	60,023	1,230	7,084	7,084
120 South Etolin Wilderness ¹⁶	20,018	615	2,002	2,002
130 Vank Island Group ¹⁷	4,150	1,675	167	167
140 Kashevarof Group	5,909	-	500	500
150 LeConte Bay (S-LC Wilderness) ¹⁸	5,933	1,432	593	237
Total	491,010	16,755	35,347	30,783

¹⁶ Alternatives 2 and 3 allow for a dramatic (>3x) increase in the capacity allocation in the South Etolin Wilderness Area. The increase reflects the addition of recreational place acres into the study area based on recent use patterns in the South Etolin Wilderness Area. When more acres are utilized for commercial activities, allocation can be increased without affecting the wilderness experience of the users since the use is dispersed throughout the area.

¹⁷ In the no action alternative, this study area includes study area 140 which partially accounts for the reduction in RVDs for Alternatives 2 and 3. Study area 140 was added in 2009. The Kashevarof Group was previously part of study area 130.

¹⁸ Acres in study area 150 decreased in 2009 to reflect the acres that users visit. This contributes to fewer RVDs available for allocation in Alternatives 2 and 3.

Table 2.3. This table briefly outlines each of the alternatives and shows the differences in the alternatives through a comparison of issues and effects.

Issue/Resource Concern	No Action	Proposed Action	Alternative 3
Issue 1. Provide for recreation demand			
Percentage of total RVDs available to outfitters and guides	3	7	6
Issue 2. Provide stable business opportunities			
Able to issue priority use permits?	Yes	Yes, up to 10 yrs	Yes, up to 10 yrs
Able to provide stable business opportunities for outfitter and guides?	Yes	Yes	Yes
Issue 3. Protect forest resources			
Provide added resource protection in Wilderness Areas (WA)?	No	In South Etolin WA only	Yes, in South Etolin and Stikine-LeConte WAs
RVDs allocated to outfitters and guides within Wilderness Areas (study areas 10, 120 and 150)	8,067	9,609	5,045
Effects of outfitter and guide use allocation on Forest resources			
Air Quality	None	None	None
Aquatics – Effect of guided sport fishing on fish habitat	Very little to none	Very little to none	Very little to none
Aquatics – Effect of guided sport fishing on fish populations			
Pink, chum and king salmon	None	None	None
Trout/char, steelhead, sockeye and coho salmon	Little risk	Little risk	Little risk
Aquatics – Effect of guided sport fishing on subsistence or personal use fishing			
Trout/char, steelhead, sockeye and coho salmon	None	None	None
Aquatics – Cumulative effects	Little risk	Little risk	Little risk
Botany – TES Plants	None	None	None
Botany – Sensitive and Rare Plants	May impact individuals but is not likely to lead to a Federal listing		

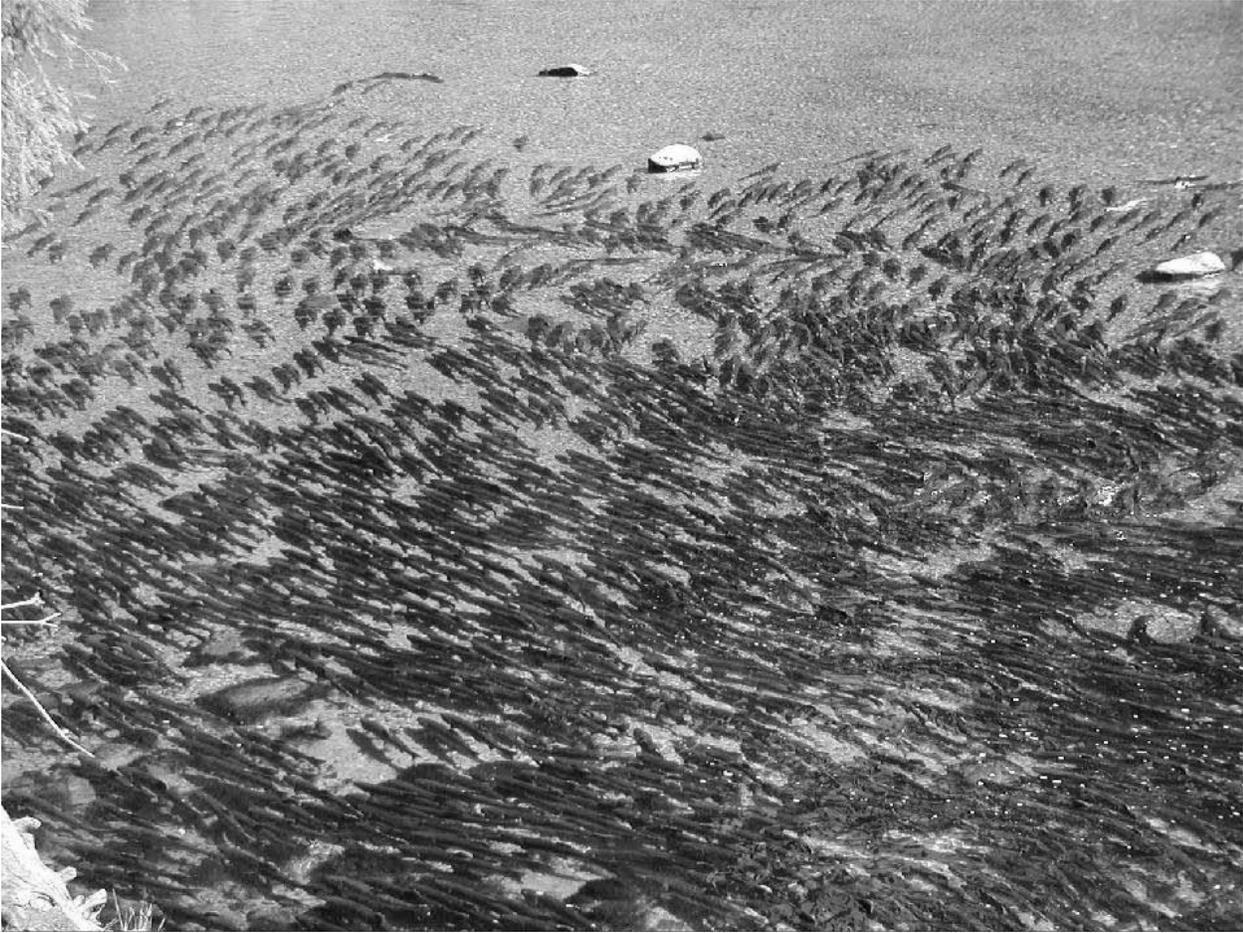
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Issue/Resource Concern	No Action	Proposed Action	Alternative 3
Botany – Cumulative Effects	Minor	Minor	Minor
Forest Health and Productivity	None	None	None
Forest Health and Productivity – Cumulative Effects	None	None	None
Heritage Resources	None	None	None
Heritage Resources – Cumulative Effects	None	None	None
Karst and Cave Resources	None	None	None
Karst and Cave Resources – Cumulative Effects	None	None	None
Recreation and Tourism – Qualitive comparison of effects on recreation experience for all users ¹⁹	Fewest	Greatest	Moderate
Recreation and Tourism – Effect on recreation experience for guided steelhead fishing clients in the Bradfield Canal area and at Anan Creek	Possible negative change in recreation experience	No change in recreation experience	No change in recreation experience
Recreation and Tourism – Cumulative Effects	Not possible to predict	Not possible to predict	Not possible to predict
Socioeconomics – Effect on Commerical Recreation Use (<i>RVDs available for commerical use</i>)	16,755	35,347	30,783
Socioeconomics – Effect on Non-commerical Recreation Use (<i>RVDs available for non-commerical use</i>)	474,255	455,663	460,227
Socioeconomics – Cumulative Effects on Commerical Users (<i>employment and revenue</i>)	Potential to increase	Potential to increase	Potential to increase
Socioeconomics – Cumulative Effects on Non-commerical Users	Minimal	Minimal	Minimal
Soils	None	None	None
Soils – Cumulative Effects	None	None	None

¹⁹ The total capacity allocated to all users across the district far exceeds overall use; therefore there should be very little difference between the fewest and greatest effects to recreation experience.

Issue/Resource Concern	No Action	Proposed Action	Alternative 3
Subsistence – Effects on Distribution and Abundance of Wildlife	None	None	None
Subsistence – Effects on Access to Wildlife	No significant restriction	No significant restriction	No significant restriction
Subsistence – Effects due to competition	Continued use or an increase in non-consumptive guided activities will contribute to competition		
Subsistence – Cumulative Effects	None	None	None
Wetlands	None	None	None
Wetlands – Cumulative Effects	None	None	None
Wilderness Character (<i>RVDs available for commercial use in Wilderness Areas</i>)	8,067	9,609	5,045
Wilderness – Cumulative Effects	None	None	None
Wildlife – Effects to TES, Candidate, Sensitive or Management Indicator Species	None	None	None
Wildlife – Cumulative Effects	None	None	None
Wrangell Carrying Capacity in Recreation Visitor Days for Outfitter and Guide use	16,755	35,347	30,783

2 Alternatives



Pink salmon schooling at Anan Wildlife Viewing Area near Wrangell, Tongass NF, Alaska. Photograph by Anan Forest Service Staff.

CHAPTER 3 – ENVIRONMENTAL CONSIDERATIONS

Introduction

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 information summaries for each study area.

Issue 1 - Provide for the demand of recreation opportunities of the guided and unguided forest users.

Alternative 1 – No 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 carrying capacity. Unguided users will account for the remaining capacity. Outside home ranges, guided visitors are allocated up to 25 percent of the carrying capacity.

This alternative allows for growth of outfitting and guiding, while providing thresholds to track use on the Wrangell Ranger District.

Alternative 2 – Proposed Action

Similar to the No Action alternative, this alternative allocates both guided and unguided recreation use. In home ranges (except for the South Etoilin Wilderness area and those recreation places with high acreages of system roads), outfitters and guides are allocated up to 10 percent of the carrying capacity. Unguided users will account for the remaining capacity. Outside home ranges, guided visitors are allocated up to 25 percent of the carrying capacity.

Similar to the No Action alternative, this alternative allows for growth of outfitting and guiding, while providing thresholds to track use on the WRD.

Alternative 3 – Wilderness Allocation

For study areas outside of wilderness, this alternative provides the same opportunities to outfitters and guides as Alternatives 1 and 2. However, in Alternative 3, less guided use would be allocated in both Wilderness areas, regardless of their proximity to a home range.

This alternative allows for growth of outfitting and guiding, while providing thresholds to track use on the WRD.

Issue 2 – Provide stable business opportunities for the outfitter and guide industry.

Alternative 1 - No Action

Priority use permits issued under this alternative may allow an opportunity for growth in the industry.

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Alternative 2 – Proposed Alternative

Priority use permits (up to ten years) issued under this alternative may allow for a better opportunity for growth and stability in the industry than the No Action alternative.

Alternative 3 – Wilderness Allocation

Priority use permits (up to ten years) issued under this alternative may allow for a better opportunity for growth and stability in the industry than the No Action alternative.

Issue 3 – Adequately protect potentially affected forest resources.

Alternative 1 – No Action

This alternative may have the most effect on forest resources, particularly wilderness character, compared to Alternatives 2 and 3.

This alternative provides a framework for the outfitter and guide program while monitoring changes in forest resources and use.

Alternative 2 – Proposed Action

This alternative is similar in effects to the No Action alternative, with the exception of the South Etolin Wilderness area. For the Wilderness area, this alternative would have less impact to potentially affected forest resources.

Alternative 3 – Wilderness Allocation

This alternative may have the least effect on forest resources, compared to the No Action and Proposed Action alternatives, since it establishes the lowest commercial allocation threshold for Wilderness areas.

This alternative provides a framework for the outfitter and guide program while monitoring changes in forest resources and use.

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Air Quality

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

Aquatic Resources

This section will primarily address Issue 3 (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 Wrangell Ranger District (WRD). 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 WRD contains numerous watersheds of varying scale ranging from simple island drainages to the Stikine River and its tributaries. 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 with possibly the Bradfield River being an exception because past logging occurred in sensitive flood plain habitats before standards and guides were in place to protect these resources. Otherwise, most watersheds across WRD are largely in tact 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

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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 fisheries²⁰. 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), WRD encompasses a multitude of systems that support this species. Some of the largest returns occur in Anan Creek and Eagle Creek in the Bradfield Canal (study areas 60 and 50). Recent data suggest steelhead populations throughout Southeast Alaska were 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 day¹⁸. Steelhead densities appear to have a mixed response to these regulation changes with some populations having very high returns while others remain stable at very low levels (Harding 2008; Harding and Love 2008). The WRD populations are likely stable, but their sizes are mostly unknown.

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 also widely distributed across WRD. 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 WRD 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 rear in these habitats. As such, sockeye have a limited

²⁰ Please refer to current Southeast Alaska sport fishing regulations for specific regulations.

distribution across the area and run sizes usually number a few thousand fish, but can easily surpass 10,000 individuals in some systems during good return years (e.g., Stikine River). 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 in this area. 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 a few systems in this area. A moderately-sized wild run exists in Andrews Creek, which is a tributary to the Stikine River (study area 10). The Bradfield and Harding Rivers (study area 50) also support small wild king salmon runs. Kings are prized sport fish because of their large size and qualities as a food fish. 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 three reported personal use and subsistence harvest areas on WRD. Mill Creek (study area 30), Stikine River (study area 10), and Thoms Creek (study area 80) are the most fished locations in this area. Sockeye salmon are the most harvested personal use and subsistence species in the project area.

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 WRD. 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) on WRD are Eagle River (226.62), Anan Creek (114.70), Andrews Creek (111.66), and Marten Creek (63.17). 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 WRD 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

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to and from the fishing location to help minimize habitat disturbance. These two factors suggest that there are likely very little or no negative effects to aquatic habitats on WRD as a result of outfitted/guided sport fishing. Because the proposed alternatives do not suggest any significant change to the amount of outfitter and guide sport fishing in this area, there should be no significant negative effect to aquatic habitats as a result of this decision.

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 dependant upon the fish population/species, environmental conditions, angling methods, and fishing pressure intensity. Adverse effects to fish species or populations as a result of recreation 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 outfitter and guide sport fishing poses a risk to adversely affecting trout and char populations at high-use locations on WRD. 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. Andrews Creek is a popular WRD fishery and trout and char likely comprise a large part of the catch at this location. Average annual outfitted and guided fishing at this location is 10.15 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 outfitter/guide sport fishing policy in this area, there should be no significant negative effect to trout and char populations as a result of this decision.

Steelhead – Permitted outfitted/guided sport fishing poses a risk to adversely affecting steelhead populations at high-use locations on WRD. 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. Eagle Creek, Anan Creek, and Marten Creek are the most popular steelhead fisheries on WRD. Average annual outfitted/guided fishing use at these locations is 20.60, 10.43, and 5.74 RVDs per year, respectively. There is no evidence to suggest that any of 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 outfitter and guide sport fishing in this area, and because of the protective regulations implemented by ADF&G, there should be no significant negative effect to steelhead as a result of this decision.

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 WRD. 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 WRD 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 WRD with no legal freshwater fisheries in the area. As such, there is no risk to negatively affecting this resource as a result of outfitter and guide sport fishing activities.

Sockeye salmon have a limited distribution across WRD and are only a moderately-popular sport fish in this area – sockeye are considerably more important to commercial and subsistence fisheries. There are three locations on WRD, where sockeye are abundant. These include the Stikine River, Mill Creek/Virginia Lake, and Thoms Creek/Lake. None of these systems receive high outfitter and guide use therefore there is little risk to adversely affecting this resource as a result of outfitter and guide sport fishing.

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 of negatively affecting WRD 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 and guide sport fishing activities. Mill Creek, Stikine River, and Thoms Creek on WRD have the highest reported sockeye harvests (>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 locations are not ‘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 WRD. 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

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species of the fish stock, land management activities, fishing pressure (all types), and, more recently, invasive species.

With respect to aquatic systems on WRD, overall environmental conditions, commercial fishing, and sport fishing likely have the greatest impact. And 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 that necessitate access improvements to decrease environmental damage. 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, WRD freshwater aquatic resources should not be at risk due to the additive cumulative effect of outfitter and guide sportfishing.

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 WRD.

Sensitive Species

Sixteen plant species and one lichen specie are on the Regional Forester’s Sensitive Species List (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
<i>Botrychium spathulatum</i>	spatulate moonwort
<i>Botrychium tunux</i>	moosewort fern
<i>Botrychium yaaxudakeit</i>	moosewort fern, no unique common name
<i>Cirsium edule var. macounii</i>	edible thistle
<i>Cypripedium guttatum</i>	spotted lady’s slipper
<i>Cypripedium montanum</i>	mountain lady’s slipper
<i>Cypripedium parviflorum var. pubescens</i>	large yellow lady’s slipper
<i>Ligusticum calderi</i>	Calder’s loveage
<i>Lobaria amplissima</i>	lichen, no common name
<i>Papaver alboroseum</i>	pale poppy
<i>Piperia unalascensis</i>	Alaska rein orchid
<i>Platanthera orbiculata</i>	lesser round-leaved orchid
<i>Polystichum kruckebergii</i>	Kruckeberg’s swordfern
<i>Romanzoffia unalascensis</i>	Unalaska mist-maid
<i>Sidalcea hendersonii</i>	Henderson’s checkermallow
<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i>	dune tansy

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 WRD, 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 WRD.

Direct and Indirect Effects to Botanical Resources

All three alternatives potentially affect the entire range of plant habitats and vegetation cover types present on the WRD. 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.

Impacts on all types of vegetation are mitigated by an informal process of evaluation of sites by district recreation staff who have a basic understanding of impacts to vegetation by recreational users, following the principles of "leave no trace" best practices²¹. This

²¹ 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 or the Leave No Trace website: http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html

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can be expected to limit harm to vegetation to a reasonable degree, but may not prevent all harm to sensitive or rare species.

Forest Health and Productivity

Affected Environment – Existing Condition of Forest Health and Productivity

Forest Stand Structure

Stand structures on the WRD 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

The WRD 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 the WRD. It occurs in two forms: smallscale 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 windhazard 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. Cankerous 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 WRD 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 Wrangell Ranger District is not expected to effect forest health and productivity in any of the alternatives. Impacts are approximately the same for all the alternatives.

Heritage Resources

Affected Environment – Existing Condition of Heritage Resources

Heritage 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 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 Wrangell Outfitter and Guide analysis area includes the central portion of the Tongass National Forest and crosses the traditional boundaries of several Tlingit Kwaans. The analysis area is in the traditional territory of the Stikine Tlingit. This group has left their mark on the land evidenced by a variety of sites including villages, seasonal campsites, rock art, sacred and religious areas, and subsistence places.

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

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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, human enterprises including fishing, whaling, mining, fur farming, tourism, and timber harvest have developed in the analysis area and left evidence on the land.

A review of our Tongass Sites Database, which tracks all cultural resource work that occurs on the forest, indicates that since 1974, approximately 138 archaeological surveys of varying size and intensity have been conducted within the Wrangell Ranger District boundaries. Total heritage surveys have covered over 13,000 acres and resulted in the documentation of approximately 254 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* 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.

Direct and Indirect Effects to Heritage Resources

Potential effects to heritage 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 heritage 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 sites 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 heritage resources will be mitigated through permit stipulations such as the use of Leave No Trace²² practices, oversight and enforcement of pertinent heritage resource laws and regulations, interpretation, and use restrictions where necessary.

Cumulative Effects to Heritage Resources

Cumulative effects on heritage 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 heritage resources from the commercial recreation proposed in the alternatives

²² 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 or the Leave No Trace website: http://www.geocities.com/yosemite/falls/9200/leave_no_trace.html

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. The cumulative effects of the alternatives are not likely to result in adverse impacts on the heritage resources.

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 Wrangell Ranger District and it has been determined that the district has a limited but significant cave and karst resource. The 2008 Tongass Land and Resource Management Plan recognizes one of these karst areas on the WRD and designates it as a Geological Special Area.

Most caves²³ on the WRD 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 topography²⁴.

Carbonate bedrock is less common on the WRD 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 WRD 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 the Wrangell Ranger District 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.

²³ 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.

²⁴ *Karst topography* is an irregular limestone region with sinkholes, collapse channels, underground streams, caves, and caverns.

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Recreation and Tourism

Affected Environment – Existing Condition

Recreation

The Wrangell Ranger District possesses a remarkable and unique combination of features, including inland waterways, mountains, glaciers, and large or unusual fish and wildlife populations. This unique combination provides opportunities for a wide range of excellent outdoor recreation experiences. 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.

Off the south end of Wrangell Island at the mouth of the Bradfield Canal, is Anan Creek. It is the site of a wildlife observatory frequented by black and brown bear, eagles, otters, and other species that gather to feed on the abundant salmon that return to the creek every summer to spawn.

The protected waters in the area provide excellent sea kayaking and opportunity for a variety of excursions to view glaciers, black and brown bears, eagles, sea lions, harbor seals, whales, salmon and halibut. Over 100 miles of forest road on Wrangell Island offers mountain bikers, hikers, RVers, and other explorers access to remote lakes, rivers, campsites, trails and scenic overlooks. Flightseeing to glaciers, fjords, or cabins on remote lakes, are also options.

The majority of the Wrangell District is undeveloped and is primarily used for dispersed recreation activities. Concentrated use areas and facilities, such as picnic areas and campgrounds, accessible to the communities are the exception. The most popular types of dispersed recreation activities are viewing scenery and wildlife, fishing, beachcombing, hiking and hunting.

While large acres of land are available for recreation use, they are deceiving in the amount of land area that is actually available and useable for outdoor recreation purposes. The difficult and steep terrain, wetlands, icefields, glaciers, and heavy vegetation confine most of the recreation activities to the accessible shorelines, river and stream bottoms, and alpine areas (above tree line). Access to alpine areas is usually by airplane. The State of Alaska also provides opportunities for recreation within the district but most of their lands are undeveloped.

Obstacles to access, both physical and economic, greatly influence the patterns and intensity of use throughout the Forest. The distance traveled to participate in outdoor recreation activities is typically limited either by the available community road system or by the distance capable of being covered by small boats during a day's activities. These "home ranges" were identified as recreation places typically lying within 15 miles of communities or where there is known high community use.

The pattern of use associated with known protected boat anchorages, boat landings, and the limited road systems, make it possible to identify specific "recreation places." Recreation places are those areas that are easy to access and that are used for recreation activities. It is these specific places, and the quality of the setting that are associated with them, that constitute the effective supply of recreation opportunities throughout the district.

The marine setting is the most predominant of the outdoor recreation opportunities. While the Forest Service manages upland areas (above mean high tide), jurisdiction over the intertidal lands and the saltwater fishery is the State's. Families use their boats in the same manner as wheeled recreational vehicles in other places of the contiguous US. The majority of use in marine recreation places originates in local community boat harbors or launching sites accessed by road systems.

The WRD also abounds in freshwater recreation opportunities. Streams and some lakes near communities are accessed by the community road systems or a combination of roads and trails. Away from the community, the freshwater environment quickly becomes remote and accessible only by air, or in some cases, by small boats. The most sought-after settings at freshwater-related recreation places are those that provide opportunities for solitude; enjoying natural and scenic settings; and fishing for a diversity of species.

Land-based recreation is limited primarily by physical features, which make access difficult. Much of the land-based recreation use occurs where access is more available, by either road or trail. Use includes but is not limited to picnicking, fishing, berry picking, camping, and driving for pleasure. Other activities such as the winter use of snow-machines or the use of off-road vehicles and mountain bikes are steadily increasing on the district. The presence of vast undeveloped areas plays a very important role in providing the perceptions of naturalness and remoteness associated with the more defined marine and freshwater recreation places.

Most visitors, who travel long distances to see Alaska, expect to find it wild and "unspoiled," while at the same time seek comfort and convenience, reliable transportation and other features requiring some level of infrastructure and development. Commercial providers of recreation activities base much of their marketing strategy on particular environmental settings and identified recreation places within those settings.

Tourism

The substantial portion of tourism use on the Wrangell Ranger District is associated with the cruise ships and ferries that travel southeast Alaska's inside passage. The majority of tourists experiences the project area from the water, and may only go ashore in towns and communities. Flightseeing operations, small tour boats, and some outfitter and guides depend largely on these cruise ship and ferry visitors for their clientele.

Tourists, or non-resident recreationists, 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 gets off the ferries and planes and engages in a variety of activities. They 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 large group uses the forest primarily as a scenic resource. Although excursions into the Forest are increasing, they are mainly oriented around boat and flightseeing trips.

In the foreseeable future, cruise ships are expected to continue to play a large part in tourism uses on the WRD. Independent markets are also growing. The excursion

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industry, flightseeing, and “ecotourism” (including wildlife viewing) are all expected to expand.

Direct and Indirect Effects to Recreation and Tourism

The effects of this analysis upon the recreation and tourism resources 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.

There are four recreation places on the district that have been identified as potentially having a diminished recreation experience for guided steelhead clients in the future. The recreation places are located within study areas 50²⁵ (Bradfield Canal and River) and 60²⁶ (Anan). In an effort to maintain the current recreation experience, both action alternatives propose to specifically allocate 44 RVDs in the Bradfield Canal and 22 RVDs on Anan Creek to guided steelhead fishing.

The potential to affect the recreation experience of all users is highest in Alternative 2, followed by Alternatives 3 and 1, respectively.

All of the alternatives will allow outfitters and guides to continue to facilitate and accommodate tourists with priority-use permits. Priority-use permits provide a more stable business environment for planning future work with the independent visitor or the package visitor.

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 any of the alternatives. 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.

Recreation activities could also be directly affected by global warming. For example, fewer winter recreation opportunities may be available and for shorter periods of time. Climate change could also affect recreational fishing through changes in biodiversity and water levels, as well as changes in the length of season and user experience (Kelly et al. 2007).

²⁵ Recreation places: Eagle River (22002.00), Harding River (22005.00) and Lower Marten Creek (22017.00)

²⁶ Recreation place: Anan Wildlife Observatory – Shoulder Season (22012.00)

Socioeconomics

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

Community Profile

Wrangell is the largest community in the analysis area (population approximately 2,500) 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 Wrangell Airport. The Port of Wrangell has a variety of marine services such as fuel service, boat ramps, grids and hoist, a newly constructed boat haul out, professional marine repair and shipwright services and engine repair. Wrangell harbors feature a total of 500 berths and can accommodate vessels up to 1,000 feet. The Alaska State ferry system transports people and vehicles between several ports in Southeast Alaska, and Prince Rupert British Columbia, and Bellingham, Washington.

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 Wrangell by cruise ship in 2009 at about 5,500. 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). Wrangell is currently undergoing a transition from a primarily timber resource-based economy to a more diverse economy that includes specialty seafood processing, an emerging visitor industry as well as value added timber products.

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 Wrangell area, outfitter/guide use has

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increased over 2004 actual use by 314 percent in 2005, 363 percent in 2006, 215 percent in 2007, and 112 percent in 2008.

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

Study Area	Actual Use				
	2004	2005	2006	2007	2008
10	300	671	614	308	363
30	29	384	20	12	13
40	30	588	244	162	410
50	85	71	56	62	75
60	41	62	49	67	50
70	263	328	611	315	409
80	347	579	718	472	236
90	7	3	3	12	2
100	202	1,504	902	1,665	670
120	381	2,585	4,900	1,543	205
130	225	33	0	0	2
140	0	0	0	0	0
150	423	519	350	404	178
	2,333	7,327	8,467	5,022	2,613

The majority of clients who utilize Wrangell area outfitters and guides come from cruise/tour ships, are independent travelers, or part of a group such as the at-risk youths and counselors.

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 Wrangell's Socioeconomics

The economic condition generated by outfitting and guiding should prosper equally under both action alternatives. There would be less potential growth in the outfitter and guide industry under the no action alternative since less use to commercial users would be allocated.

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 all three alternatives.

The local economy of Wrangell 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 Wrangell's Socioeconomics

Cumulative effects of the action alternatives in terms of increased employment and revenue on Wrangell's economy would likely be positive. The higher the alternative allocation to commercial users, the more potential each alternative will have for cumulative growth in this sector.

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.

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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 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 2.1.

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.

All 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 2.1. 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 WRD 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 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. Wrangell, the fifth 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).

Competition for the Use of Resources

The Wrangell 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

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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. 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, allotted RVDs have not been fully utilized by guides in most locations, and the increases in allocations in the proposed action and other action alternative would not necessarily result in increased use of any particular areas 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. Mountain goat, black bear, and steelhead are the most likely subsistence resources that could be restricted through competition with guided users.

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 any 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.

Guided steelhead fishing on Wrangell Island is currently very limited, 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 (Appendix A), the area has the capacity to accommodate more users on National Forest System lands. An increase in outfitter and guide use could occur in all 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). None of the alternatives proposes ground disturbing activities and none is 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 brown 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 brown 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

None 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.

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 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 soil resource inventory database, approximately 665,607 acres or 38 percent of the WRD is inventoried as wetlands. The major types of wetlands occurring in the project area include: muskegs, estuaries, freshwater sedge meadows, forested

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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 one Wilderness area on the Wrangell Ranger District (Stikine-LeConte). 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 Wrangell Ranger District, the South Etolin 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 also 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 South Etolin and Stikine-LeConte Wilderness Areas on the district (filed in the project record). Both determinations of need are tiered to the Forest Plan.

Affected Environment – Existing Condition for Wilderness

Stikine-LeConte Wilderness Area

The 449,951 acre Stikine-LeConte Wilderness (SLW) area is east of Petersburg and north of Wrangell, on the mainland. It includes the Stikine River watershed and the LeConte Bay watershed and icefields, from the Canadian boundary to the Pacific Ocean. The Stikine River valley and LeConte Bay receive moderate to high use in the summer. The Stikine River is an 1871 Treaty River for commerce between the United States and Canada. The adjacent icefields remain wild and remote.

Prior to the 1980 designation of Wilderness, one outfitter was under permit to operate in the Stikine-LeConte Wilderness area. With the growth of the visitor industry (primarily cruise ships) in Southeast Alaska the number of permitted operators has steadily increased. For the Stikine-LeConte Wilderness area, study area 10, there were 16 permitted outfitter/guides in 2006, and 14 permitted outfitter/guides in 2007; study area 150 had 11 permitted outfitter/guides in 2006 and 10 in 2007. Permitted use included the following activities: camping, freshwater fishing, remote setting nature tours, deer hunting day-use and camping, mountain goat hunting day-use and camping and day-use black bear hunting.

South Etolin Wilderness Area

The South Etolin Wilderness (SEW) area (83,371 acres) extends from lofty, ice-carved, granite peaks to the rocky coast, including a rim of small protected islands. This wilderness area is on Etolin Island midway between Ketchikan and Wrangell and about 15 miles north of Thorne Bay. It is also on the Alaska Marine Highway route. The area's main attractions are fish and wildlife values for residents of Wrangell. There is moderate use along the shoreline and very low use in the interior of the wilderness. The introduction of elk that inhabit the area affects the natural systems in this wilderness. The lack of unique Alaskan features does not attract the masses and therefore provides exceptional opportunities for complete solitude.

There are a few permit holders authorized to use the SEW. For most of those operators the use is incidental and they rarely, if ever, stop in the wilderness. In the past few years only one permit holder has reported use in SEW and that operator has dramatically increased their use over the years. The existing permit holder conducts parts of multiple overlapping 49-day-long wilderness therapy kayak/backpacking/camping trips with groups of up to nine clients, consisting of at-risk youth and up to three counselors in the SEW. The program operates nearly year-round, although during hunting season, they tend to avoid use in the wilderness to minimize contact with hunters.

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Mitigation Measures

To address concerns due to competition between outfitter and guide groups and other unguided forest users, mitigation measures were developed to reduce conflicts during periods of higher use (weekends) 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 termination of the permit.

Specific Mitigation measures for the Stikine-LeConte Wilderness area:

1. Floating glacial ice in LeConte Bay provides particularly attractive haul out areas for harbor seals. Care should be taken to avoid harassment in this area at all times, but is critical during pupping season (May and June) and molting (August). Do not attempt to approach floating ice with seals during these times.
2. Campsites will be located at least one half-mile from recreation cabins and developed recreation sites, unless specifically authorized in this permit.
3. Commercial overnight use is not authorized for Chief Shakes Hot Springs and Twin Lakes Picnic Site due to developed recreation sites.
4. Remain at least 100 yards (length of football field) from whales, dolphins, porpoises; and seals and sea lions that are on land, rock, or ice (Alaska Marine Mammal Viewing Guidelines).
5. Shakes Lake (Recreation Place 26.02): All human waste and trash will be removed from the National Forest System lands.
6. Use Reports will reflect specific locations of use.
7. Waterfowl and shorebird viewing: a minimum of 330 feet will be maintained between human activities on the ground and significant areas used by migratory birds.

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.

Direct and Indirect Effects on Wilderness

Commercial recreation use in wilderness could affect values such as solitude, sense of isolation, sense of remoteness, self-reliance, challenge, risk, and untrammelled natural character.

Wilderness resources and values are difficult to describe and quantify because of the complexity of the resource and range and variety of personal feelings about wilderness. Factors associated with wilderness use are number of encounters; impact on solitude; dispersal of visitors; displacement of visitors; and resource degradation.

Alternative 1 has the highest potential to affect the wilderness resource followed by Alternatives 2 and 3. Priority use permits allow the Forest Service some management flexibility in accommodating outfitters and guides that help meet the agency's objectives

for wilderness management. Using priority use permits as a management tool by the Forest Service is allowed in all alternatives, including the No Action.

Cumulative Effects on Wilderness

Activities adjacent to these wilderness areas may add to the cumulative effects of the project. Increased boat traffic on marine waters could have an effect on adjacent wilderness. The types of boats passing could affect wilderness users. Larger boats because they could impact the scenery, smaller boats because they can operate closer to shore. Near-shore commercial fisheries may also contribute to the cumulative effects. Over-flights by aircraft for scenic tours and commercial purposes could create a similar effect. All of these activities could contribute to noise, visual impacts, and a diminished feeling of solitude.

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 WRD.

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 only sensitive wildlife species present or whose habitat is present in the analysis area is the Queen Charlotte Northern goshawk. The Kittlitz's murrelet, Aleutian tern, and black oystercatcher or their habitat does not occur within the project area boundary.

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 state rationale.

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Terrestrial MIS species or their habitat found on the WRD 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 effects, pursuing opportunities to restore or enhance habitat, and considering approaches to identify and minimize take.

Direct, Indirect, and Cumulative Effects

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 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/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 because outfitters/guides have not currently exceeded allowed days in all but one study area (Study area 120²⁷ - South Etolin Wilderness area). The number of RVDs has increased from the No Action alternative as a result of the formula now used for calculating carrying capacity and not due to an increase in demand for permitted activity.

Though humpback whales and the eastern DPS 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 WRD. 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 Table 2.1 of the Wrangell Outfitter and Guide Management Plan EA for specific mitigation).

²⁷ In 2005 and 2006, the outfitter/guide far exceeded their authorized use. The WRD has been working closely with this permit holder to correct this overuse

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Sensitive Species

Goshawks are likely affected most by reductions in Productive Old Growth (POG) forest that alter nesting and foraging habitat and disturbances to nest sites. POG forest is an important component of goshawk habitat use patterns and tree removal may result in the conversion of POG forest to young-growth forest.

None of the alternatives (proposed allocations) will impact the habitat of the Queen Charlotte Northern. Direct effects to the goshawk 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. All alternatives include mitigation to minimize disturbance. A determination of ‘no impact’ was made for 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 or foraging habitat or reduce limiting habitats or long term productivity. None of the alternatives (proposed allocations) will have an impact to habitat for these species. None 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 Fish and Wildlife Report – Reference Document to the BA/BE for this project, found in the project record and in Appendix C of this document.

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. POG 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).

Findings and Disclosures

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 Wrangell Outfitter and Guide Management Plan ensures compliance at the project level.

Endangered Species Act

None 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

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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).

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

This decision does 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 Wrangell Outfitter and Guide Management Plan Environmental Assessment satisfies the consultation requirements by providing a description and assessment of EFH in the project area, a description of the Wrangell 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 Wrangell 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 Wrangell 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.

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This EA would authorize a variety of outfitted and guided activities around the Wrangell 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 Wrangell 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.

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 Wrangell 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. It is expected that none of the outfitter and guide activities will affect velocity or location of flows or width and depth of water. Therefore, no measurable short or long-term effects for floodplains are anticipated under any alternative.

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

No alternative will affect rivers eligible for Wild and Scenic River designation.



Stake weir with Chugach ranger boat in the background, Tongass NF, Alaska. Photograph by Martin Stanford.

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Krogh Beach in South Etoin Wilderness, Tongass National Forest. Photograph by Carin Christensen.

CHAPTER 4 – REFERENCES AND LISTS

Glossary

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

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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

Any use of the National Forest for which a fee is charged by an outfitter/guide.

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.

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.

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.

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Heritage Resources

The prehistoric or historical 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.

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 Wrangell Ranger District is within a fifteen mile radius of the community of Wrangell. 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 Wrangell 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).

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

4 References and Lists

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 Wrangell 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.

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.

4 References and Lists

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 WRD is divided into 13 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.

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.

4 References and Lists

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.

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NOAA, Office of Policy and Strategic Planning, NEPA Coordinator

State of Alaska, ANILCA Program, Office of Project Management and Permitting

State of Alaska, Department of Environmental Conservation

State of Alaska, Department of Fish and Game

State of Alaska, Department of Natural Resources, Division of Coastal and Ocean Management

US Advisory Council on Historic Preservation

US Army Corps of Engineers, Juneau Regulatory Field Office

US Army Engineer District

US Army Engineers, Pacific Ocean Division

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USDA Forest Service, Alaska Regional Ecosystem Planning, Appeals Specialist

USDA Forest Service, Alaska Regional Forester

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USDA Forest Service, Tongass Recreation, Heritage, Wilderness Staff

USDA Forest Service, Tongass Recreation, Special Uses, Wilderness Program Manager

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USDA Forest Service, Wrangell Ranger District, Planning Staff

USDI Bureau of Land Management, BLM Alaska State Office

USDI Fish and Wildlife Service

USDI, Office of the Secretary

USDI National Park Service, Alaska Area Region

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City of Wrangell

Mark Begich, United States Senator

Lisa Murkowski, United States Senator

Sarah Palin, Alaska Governor

Bert Stedman, Alaska State Senator

Peggy Wilson, Alaska State Representative

Don Young, United States Congressman

Tribal Governments / Officials

Central Council Tlingit and Haida Tribes of Alaska, President

Kake Tribal Corporation

Klawock Cooperative Association

Organized Village of Kake, President

Wrangell Cooperative Association, President

Media

KFSK Public Radio

KSTK Radio

Wrangell Sentinel

Organizations / Businesses

Alaska on the Home Shore

Alaska Passages, Inc.

Alaska Waters, Inc.

Anchor Excursions, Inc.

Bluewater Adventures, Ltd.

Coastal Helicopters, Inc.

Glacier Guides, Inc.

Green Peace

Maple Leaf Adventures

The Nature Conservancy

Parker Guide Service, Inc.

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 Chamber of Commerce

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

Kettleton 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



Bog blueberry (*Vaccinium uliginosum*), Tongass National Forest. Photograph by Ashley Atkinson.

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Spruce grouse hen on the Tongass National Forest. Photograph by Susan Wise-Eagle.

APPENDIX A

Recreation Use Carrying Capacity Report



Berg Bay Recreation Cabin, Wrangell Ranger District, Tongass National Forest, Alaska. Photograph by Marina Whitacre.



United States
Department of
Agriculture
Tongass
National Forest
June 2009

Recreation Use Carrying Capacity Report Wrangell Ranger District



Prepared by:

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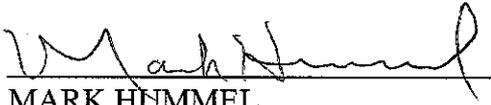
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Slough leading to Shakes Lake, Stikine-LeConte Wilderness, Tongass National Forest.
Photograph by Carin Christensen.

Part I

Calculating Recreation Use Carrying Capacity



Slough north of Chief Shakes hot springs, Stikine-LeConte Wilderness, Tongass National Forest.
Photograph by Carin Christensen.

Introduction

The Wrangell Ranger District (WRD), 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 WRD updated the EA to incorporate those comments.

In 2008, the district reviewed and revised the Recreation Carrying Capacity Report and incorporated changes into this report.

This report includes all National Forest System (NFS) lands managed by the Wrangell Ranger District. It includes the Anan Wildlife Observatory that was previously analyzed in the 1996 Anan Management Standards EA but not in the 1996 Carrying Capacity Report. This report does not include State, Native, or private lands within or adjacent to the National Forest.

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 WRD to manage its recreation use in accordance with the Recreation Opportunity Spectrum (ROS) and Forest Plan Standards and Guidelines. ROS helps identify, quantify, and describe the type of recreation settings the district provides.

Existing Direction and Guidance

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 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 ROS¹ and recreation place² 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. 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 would be 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 WRD. Recreation carrying capacities will continue to be revisited through future carrying capacity reports to determine whether they still represent existing conditions.

B. Recreation 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" (USDA 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 ROS system provides a defensible rationale when combined with other processes such as establishing Limits of Acceptable Change (LAC) standards for monitoring actual use levels. The Wrangell 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.

¹ 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).

² 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.

The method used to calculate recreation carrying capacity is guided by the ROS Book³ (USDA 1986, p. IV-21 and USDA 2008, 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. For example, Study Area 40-Madan/Boulder consists of five recreation places – Berg Bay/Aaron Creek, Madan Bay, Jenkins Cove, Narrow’s Point and Boulder Creek (Part II) – which collectively total 2,039 acres, or less than 2 percent of the total area of Study Area 40. 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 place acres are determined by the actual footprint of the activity and exclude scenic landscape as criteria in boundary location.

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 (USDA 1986, p. 36). Outside of designated Wilderness areas, physical factors were considered but found to not be limiting. 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 Tables A, B, C and D in the Recreation Carrying Capacity Calculations section, for all study area/recreation area calculations.

1) Study Areas

- The WRD is divided into 13 study areas (Table A and Figure 1). Study area boundaries were determined using the Forest Plan, Value Comparison Units (VCUs)⁴, ROS Classes (USDA 2008, Appendix I), and Watershed Analysis Areas. In some instances study area and recreation place boundaries were revised in this analysis to better represent where use is occurring and to group lands according to their location. These changes are documented in Table D.
- A Forest-wide Outfitter and Guide Actual Use Database tracks actual use data submitted by permitted commercial operators. The actual use from 2004-2007 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 recreation visitor

³ 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.

⁴ 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. There are 65 VCUs established on the Wrangell Ranger District to provide a common set of areas for which resource inventories could be conducted and resource value interpretations made.

Appendix A - Part I

day (RVD) allocation and actual use. 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, 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.

3) Acres

- Total acres reported for each study area only include acres that fall within a recreation place. For example, study area 40 consists of 113,240 total acres within its boundary, but the total recreation place acres equals 1,969 (Berg Bay/Aaron Creek = 1,369 acres; Madan Bay = 170 acres; Jenkins Cove = 98 acres; Narrow’s Point = 320 acres; and Boulder Creek = 12 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.

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. 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. Another example includes 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 D.

5) Persons at One Time (PAOT)

- PAOT was calculated by multiplying recreation place acres by the ROS capacity coefficient. For example, Study Area 40, Berg Bay/Aaron Creek recreation place is 1,369 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

$$\text{PAOT} = (1,369 \times 0.008) \text{ or } 10.952 \text{ (rounded to 11.0)}$$

- In other words, the maximum number of forest users allocated to this recreation place would be 11.

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 WRD 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 the Berg Bay/Aaron Creek recreation place = 210).
- In general, we do not calculate winter capacity since there has been no measurable demand for guided winter use. However, if this changes in the future, winter outfitter and guide use requests may be considered. There is considerable growth potential for winter use and associated activities.

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 Berg Bay/Aaron Creek 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 Berg Bay/Aaron Creek day LOS = 8; 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 for non-permitted recreational use.

9) Gross Recreation Visitor Days

- The gross RVD 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.
- **One** RVD is equal to 12 hours of recreation use in one day. To calculate the **gross** RVDs for the proposed action, we used the following equation:

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

Where:

- PAOT = (recreation place acres) x (ROS coefficient)
 - MS = Managed season of use, in days;
 - 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 40, Recreation Place Berg Bay/Aaron Creek:

$$\text{Gross RVDs} = \frac{(11.0) \times (210) \times (0.80) \times (8)}{12}$$

$$\text{Gross RVDs} = 4,908 \text{ (rounding up)}$$

10) Cabin Capacity

- The Forest Service recreation cabins on the Wrangell Ranger District are available for outfitters and guides to use in their operations on a limited basis. Direction given by the District Ranger (filed in the planning record) 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 C 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. Those RVDs were subtracted from the gross RVDs and are not included in the net RVDs (i.e., there are 2,828 Cabin Capacity days not available for commercial use for the Berg Bay/Aaron Creek recreation place).

11) Net Recreation Visitor Days

- The net RVDs are the recreation carrying capacity available for further study. An analysis in the 2009 Wrangell Outfitter/Guide Management Plan EA will determine the allocation of this capacity. Refer to Table B for RVDs by study area and Table C for RVDs by recreation place.

- For the Berg Bay/Aaron Creek recreation place, net RVDs were calculated by subtracting cabin capacity RVDs (2,828) from gross RVDs (4,908). Next, the net RVDs (2,080) were multiplied by 10 percent since the area is within an identified home range⁵. This calculation yields 208 RVDs available for commercial use.

C. Summary

There is opportunity for growth of the recreation and tourism industry in most study areas on the Wrangell 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 Wrangell District will have adequate funding to monitor and administer outfitter and guide activities.

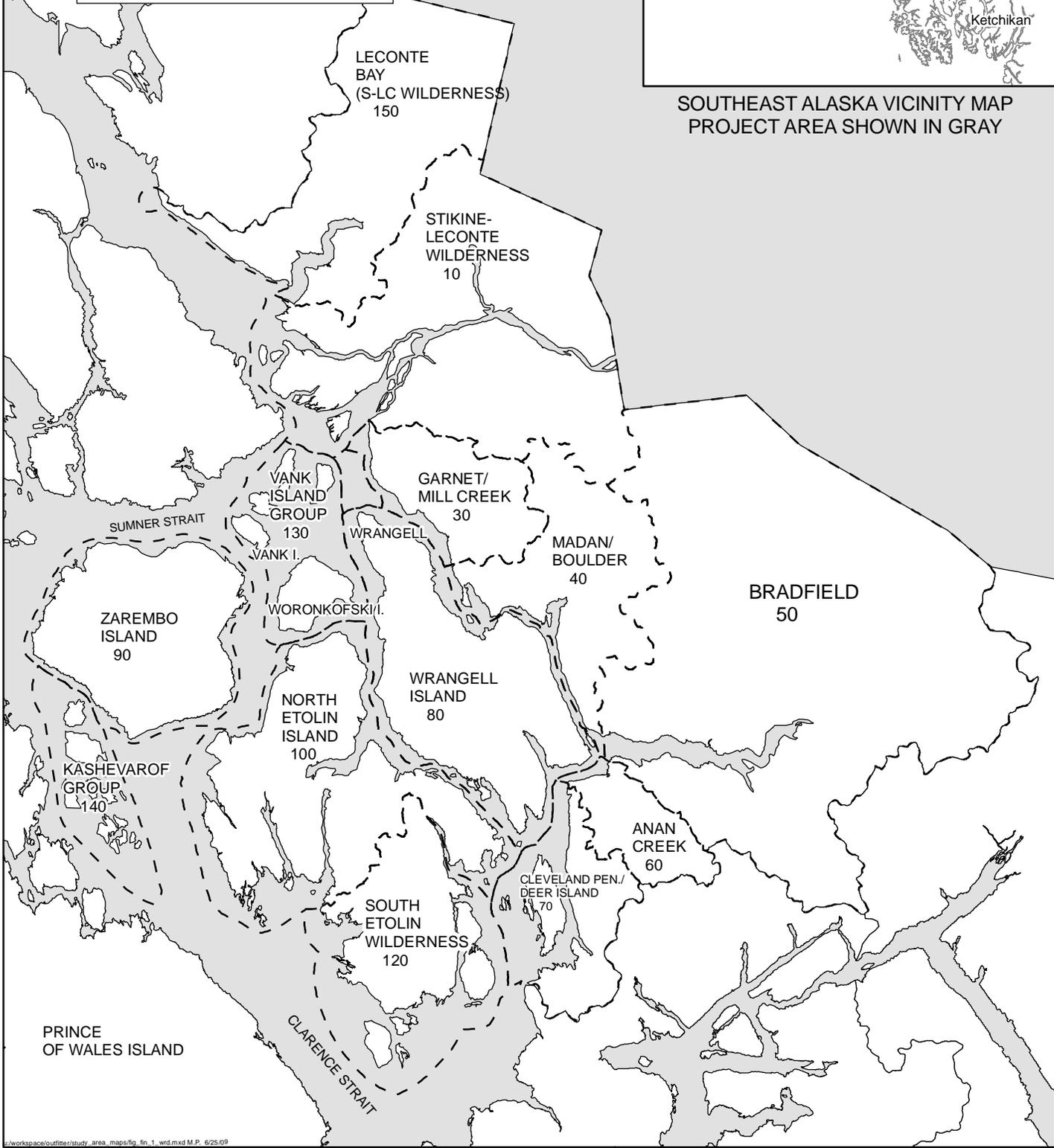
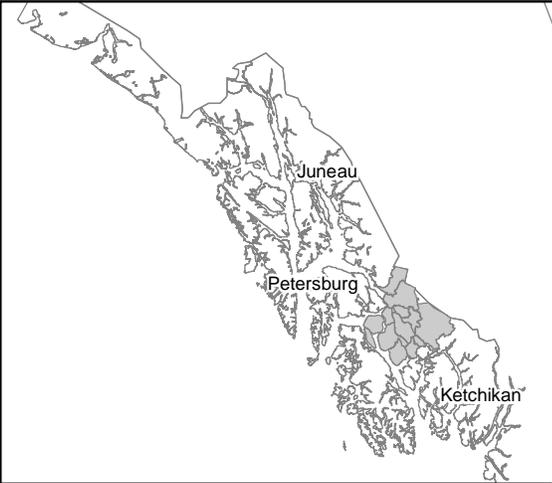
Revisiting these calculations periodically will be necessary to adjust for unforeseen circumstances and changes.

⁵ The district has proposed to allocate outfitter and guides 10 percent of the study area capacity when the recreation place is within an identified home range and 25 percent of the study area capacity when the recreation place is outside of an identified home range

Wrangell Ranger District Study Areas Figure 1

50 Study Area Boundary

Water



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Recreation Use Carrying Capacity Calculations_____

Introduction to Tables

Table A shows the change in recreation place acres by study area from the last Carrying Capacity Report update (2004) to the present (2009). Table B provides a summary of the net Recreation Visitor Days (RVDs) by study area on the Wrangell Ranger District as calculated using direction from the 1986 ROS Book, Chapter 4, pg 23. Table C provides a display of the numbers used for the recreation use carrying capacity calculations. Table D provides an explanation of special circumstances for the recreation use carrying capacity calculations and the adjustments by recreation place that influence a study area's total net RVDs.



Narrow beech fern (*Thelypteris phegopteris*), Tongass National Forest. Photograph by Ashley Atkinson.

Appendix A - Part I

Table A. The change in recreation place acres by study area from the last Carrying Capacity Report update (2004) to the present (2009).

Study Area	2004 Total Recreation Place Acres	2009 Total Recreation Place Acres	Difference from 2004
10 Stikine-LeConte Wilderness	53,591	28,372	-25,219
30 Garnet/Mill Creek	469	480	11
40 Madan/Boulder	4,436	2,695	-1,741
50 Bradfield	8,149	3,478	-4,671
60 Anan	917	1,192	275
70 Cleveland Pen/Deer Island	2,125	3,260 ¹	1,135
80 Wrangell Island	11,218	11,027	-191
90 Zarembo Island	14,771	16,481	1,710
100 North Etolin Island	12,914	14,591	1,677
120 South Etolin Wilderness	5,319	8,815 ²	3,496
130 Vank Island Group	8,714	744 ³	-7,970
140 Kashevarof Group	3,694 ⁴	3,620	-74
150 LeConte Bay (S-LC Wilderness)	2,048	210 ⁵	-1,838
Totals	128,365	94,965	- 33,400

¹ Acres in 70 increased due to boundary changes. Deer Island was taken out of 130 and added to 70.

² Acres in 120 increased due new recreation places being added to capture use in areas that were not previously identified.

³ Acres in 130 decreased due to realignment of boundaries. Some acres moved to 70 and the remaining went into the new study area (140).

⁴ 140 is a new study area that was added in 2008, this entire study area was previously part of study area 130. The 2004 acre calculation is shown for comparison purposes only.

⁵ Acres in 150 decreased to represent the acres that get actual use.

Table B. A summary of the net Recreation Visitor Days (RVDs) by study area on the Wrangell Ranger District as calculated using direction from the 1986 ROS Book (Chapter 4, pg 23).

Study Area	Net Recreation Visitor Days (RVDs) for Managed Season of Use
10 Stikine-LeConte Wilderness	72,301
30 Garnet/Mill Creek	5,018
40 Madan/Boulder	6,450
50 Bradfield	4,343
60 Anan	962
70 Cleveland Pen/Deer Island	13,157
80 Wrangell Island	149,920
90 Zarembo Island	142,826
100 North Etolin Island	60,023
120 South Etolin Wilderness	20,018
130 Vank Island Group	4,150
140 Kashevarof Group	5,909
150 LeConte Bay (S-LC Wilderness)	5,933
Totals	491,010

Table C. Capacity calculations by Recreation Place.

Study Area	Recreation Place	Rec Place Numbers	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)
10	Stikine R - Shakes Lake Outlet	22026.01	22	SPM	0.083	1.8	120	1.00	8	16	438	0	0.25	438
10	Stikine R - South Cottonwood Lk	22026.04	187	SPNIM	0.003	0.6	150	0.80	8	24	146	0	0.10	146
10	Government Lake	22026.07	241	P	0.002	0.5	150	0.80	8	24	154	0	0.10	154
10	Lower Shakes Lake Water Fall	22026.09	25	SPM	0.083	2.1	120	1.00	8	16	498	0	0.25	498
10	Upper Knig Slough	22026.15	626	SPM	0.008	5.0	180	0.80	10		601	0	0.10	601
10	Sergief Island- Flats	22026.17	985	SPM	0.008	7.9	180	0.65	10	24	2612	1216	0.10	1396
10	Stikine River- Mallard Slough	22026.18	1450	SPM	0.008	11.6	180	0.65	8	24	3619	1624	0.10	1995
10	Stikine River- S Side of N Arm	22026.19	888	SPM	0.008	7.1	120	0.65	10		462	0	0.10	462
10	Stikine R-Pt Rthsy/Shks-Hi Use	22026.20	6706	SPM	0.008	53.6	180	0.80	10	24	21888	2860	0.10	19,028
10	Farm Island	22026.21	287	RN	0.083	23.8	180	0.65	8		1858	0	0.10	1858
10	Sergief Island-Upland	22026.23	499	SPM	0.008	4.0	180	0.65	8		311	0	0.10	311
10	Gut & Little Dry Is; Knig, Binkley Slough	22026.24	3252	SPM	0.008	26.0	180	0.65	10	24	8624	2432	0.10	6192
10	Stikine R- South Andrews/Cottonwood Is	22026.25	3405	SPM	0.008	27.2	150	0.65	8	24	7082	1624	0.10	5458
10	Stikine River-Shakes to Border	22026.26	3341	SPM	0.008	26.7	180	0.65	8	24	8339	480	0.25	7859
10	Stikine River- Ketili Cr/ Barnes Lake	22026.27	677	SPM	0.008	5.4	60	0.65	8		141	0	0.25	141
10	Warm Springs Island	22026.28	2383	SPM	0.008	19.1	180	0.65	8		1487	0	0.10	1487

Study Area	Recreation Place	Rec Place Numbers	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)
10	Stikine River- Big Desert	22026.31	121	RN	0.300	36.3	90	0.65	8		1416	0	0.10	1416
10	Stikine River-Twin Lakes	22026.32	125	RN	0.500	62.5	180	0.65	8	24	19500	1624	0.10	17,876
10	Stikine River- Hot Springs High Use Season	22026.33	19	RN	1.000	19.0	90	0.65	12	16	2594	0	0.10	2594
10	Stikine River- Hot Springs Shoulder Season	22026.33	19	RN	0.100	10.0	90	0.65	8	12	975	0	0.10	975
10	Stikine River- North Arm	22026.34	1706	SPM	0.008	13.6	180	0.65	8		1064	0	0.10	1064
10	Stikine River- Goat Lake	22030.00	586	P	0.002	1.2	60	0.80	8	24	150	0	0.25	150
10	Stikine River- Andrews Lake	22030.01	288	P	0.002	0.6	60	0.80	8	24	74	0	0.25	74
10	Stikine River- Border Lake	22038.00	384	P	0.002	0.8	60	0.80	8	24	98	0	0.25	98
10	Stikine River- Shakes Alpine Lake	22038.01	150	P	0.002	0.3	60	0.80	8	16	29	0	0.25	29
Totals			28,372											72,301
30	Virginia Lake	22024.00	372	SPM	0.050	18.6	180	0.65	8	24	5803	2880	0.10	2923
30	Mill Creek Trail	22024.01	20	SPM	1.000	20.1	180	0.65	8		1569	0	0.10	1569
30	Garnet Ledge	22026.22	88	SPM	0.115	10.1	150	0.65	8	24	2625	2100	0.10	525
Totals			480											5,018
40	Berg Bay/ Aaron Creek	22020.00	1369	SPM	0.008	11.0	210	0.80	8	24	4908	2828	0.10	2080

Appendix A - Part I

Study Area	Recreation Place	Rec Place Numbers	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)
40	Berg Mtn - SPNM	22021.01	36	SPNM	0.008	0.3	150	0.80	8	24	92	0	0.10	92
40	Berg Mtn - P	22021.02	300	P	0.002	0.6	150	0.80	8	24	192	0	0.10	192
40	Madan Bay	22022.00	170	SPM	0.016	2.7	210	0.80	8	16	913	0	0.10	913
40	Jenkins Cove	22022.02	98	SPM	0.016	1.6	210	0.80	8	16	527	0	0.10	527
40	Narrow's Point	22022.03	320	SPM	0.016	5.1	210	0.80	8	16	1720	0	0.10	1720
40	Madan Bay Trail - SPM	22022.04	56	SPM	0.008	0.4	210	0.80	8	24	201	0	0.10	201
40	Madan Bay Trail - SPNM	22022.05	92	SPNM	0.008	0.7	150	0.80	8	24	235	0	0.10	235
40	Madan Bay Trail - P	22022.06	241	P	0.002	0.5	150	0.80	8	24	154	0	0.10	154
40	Boulder Creek	22023.00	12	SPM	0.083	1.0	210	0.80	8	16	335	0	0.10	335
Totals			2,695											6,450
50	Bradfield- Head	22001.00	911	SPM	0.008	7.3	180	0.80	8		700	0	0.25	700
50	Bradfield- Eagle River	22002.00	510	SPM	0.008	4.1	150	0.80	8		326	0	0.25	326
50	Bradfield- Eagle Lake	22002.03	872	P	0.005	4.4	150	0.65	8	24	1134	400	0.25	734
50	Bradfield- Harding River	22005.00	222	SPM	0.030	6.7	180	0.80	8	16	1918	1080	0.25	838
50	Bradfield- Toms Creek	22009.00	127	SPM	0.008	1.0	150	0.80	8		81	0	0.25	81
50	Bradfield- Canal Creek	22011.00	95	SPM	0.008	0.8	150	0.80	8		61	0	0.25	61
50	Bradfield- Franks Creek	22013.00	144	SPM	0.008	1.2	150	0.80	8		92	0	0.25	92

Study Area	Recreation Place	Rec Place Numbers	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)
50	Bradfield- Lower Marten Creek	22017.00	90	SPM	0.083	7.5	150	0.80	8		598	0	0.25	598
50	Bradfield- Lower Marten Lake	22018.00	391	SPM	0.008	4.0	150	0.80	8	24	1280	400	0.25	880
50	Bradfield- Upper Marten Lake	22018.01	116	SPNIM	0.002	0.2	90	0.80	8	16	33	0	0.25	33
Totals			3,478											4,343
60	Anan Creek - Shoulder Season	22012.00	51	SPM	0.083	4.2	102	0.80	8	24	921	210	0.10	711
60	Anan/Boulder Lakes	22012.02	631	P	0.003	1.9	150	0.65	8	24	492	400	0.25	92
60	Goat Lakes	22016.00	510	P	0.002	1.0	120	0.65	8	16	159	0	0.25	159
Totals			1,192											962
70	Cleveland - Pt Ward/Cannery Cv	22014.00	66	SPM	0.008	0.5	150	0.80	8		42	0	0.25	42
70	Cleveland - Frosty Bay	22015.00	74	SPM	0.008	6.0	180	0.80	8	24	2304	1080	0.25	1224
70	Cleveland - Santa Anna	22039.00	288	SPM	0.008	2.3	150	0.80	8		184	0	0.25	184
70	Cleveland - Lake Helen	22039.01	143	SPNIM	0.008	1.1	150	0.80	8		92	0	0.25	92
70	Deer Is - So Shores	22040.00	1722	RM	0.008	13.8	270	1.00	8	16	7439	0	0.25	7439
70	Deer Is - NW Side	22040.01	426	SPM	0.008	3.4	270	1.00	8	16	1840	0	0.25	1840
70	Deer Is - North	22041.00	133	SPM	0.008	1.1	270	1.00	8	16	575	0	0.25	575
70	Niblack Islands	22042.00	408	SPM	0.008	3.3	270	1.00	8	16	1761	0	0.25	1761
Totals			3,260											13,157

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Study Area	Recreation Place	Rec Place Numbers	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)
80	Wrg Is - Institute Trail	22092.02	167	SPNM	0.008	5.0	150	0.65	8	16	975	0	0.10	975
80	Wrg Is - Nemo Point Rds and Campsites	22092.03	492	RM	0.083	40.8	240	0.65	12	16	14864	0	0.10	14,864
80	Wrg Is - Pats Valley Rds	22092.04	1366	RM	0.083	113.4	240	0.80	12	16	50793	0	0.10	50,793
80	Wrg Is - Lower Rainbow Falls Tr	22092.05	6	RM	5.000	30.0	240	0.80	12		5760	0	0.10	5760
80	Wrg Is - Upper Rainbow Fall Tr	22092.06	18	SPM	0.400	7.2	210	0.80	12		1210	0	0.10	1210
80	Wrg Is - Thoms Lake Rd	22092.07	1179	RM	0.083	97.9	180	0.65	12		11449	0	0.10	11,449
80	Wrg Is - 6265 Rd Plus	22092.08	1686	RM	0.083	139.9	180	0.65	12		16373	0	0.10	16,373
80	Wrg Is - No Wrg Trail SPM	22092.09	45	SPM	0.083	3.7	150	0.65	8		243	0	0.10	243
80	Wrg Is - No Wrg Tail SPNM	22092.10	186	SPNM	0.008	10.0	150	0.65	8	16	1950	0	0.10	1950
80	Wrg Is - Upper Salamander	22094.01	31	RM	0.083	5.0	180	0.65	12	16	1365	0	0.10	1365
80	Wrg Is - Highbush Lk SPM	22094.02	209	SPM	0.008	1.7	150	0.65	8		109	0	0.10	109
80	Wrg Is - Highbush Rd	22094.03	278	RM	0.083	23.1	150	0.65	8		1500	0	0.10	1500
80	Wrg Is - 6265 Rd and State lands	22094.04	211	RM	0.083	17.5	180	0.65	12		2049	0	0.10	2049
80	Wrg Is - Earl West Rec Site	22094.05	4	RM	0.083	5.0	180	0.65	12	16	1365	0	0.10	1365

Study Area	Recreation Place	Rec Place Numbers	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)
80	Wrg Is - Earl West Marsh	22094.06	237	RM	0.083	19.7	150	0.65	8		1279	0	0.10	1279
80	Wrg Is - Lower Salamander	22094.07	52	RM	0.083	15.0	150	0.65	12	24	4388	0	0.10	4388
80	Wrg Is - 6299/6270 Rds.	22094.08	1936	RM	0.083	160.7	180	0.65	12		18800	0	0.10	18,800
80	Wrg Is - Salamander Ridge Trail	22094.10	84	RM	0.083	7.0	180	0.65	8		544	0	0.10	544
80	Wrg Is - Thoms Creek - Rec Site and State lands	22094.15	45	RN	0.083	5.0	150	0.65	8	16	975	0	0.10	975
80	Wrg Is - End of Rd 6299	22094.16	291	RM	0.083	24.2	150	0.65	8		1570	0	0.10	1570
80	Wrg Is - Long Lake Road	22100.00	196	RM	0.083	16.3	180	0.65	8	16	3807	0	0.10	3807
80	Wrg Is - Long Lake	22100.01	327	SPM	0.008	5.0	180	0.65	8	16	1170	0	0.10	1170
80	Wrg Is - Blake Island Bay	22103.00	80	SPM	0.008	6.0	150	0.65	8	16	1170	0	0.10	1170
80	Wrg Is - Thoms Lk Trail thru State land	22104.01	48	SPM	0.083	4.0	180	0.65	8	16	932	0	0.10	932
80	Wrg Is - Fools Inlet	22105.00	957	SPM	0.008	7.7	150	0.65	8		498	0	0.10	498
80	Wrg Is - Turn Island/Trail	22107.00	183	SPM	0.008	10.0	180	0.65	12	16	2730	0	0.10	2730
80	Wrg Is - SE Cove/Thoms Point	22109.00	713	SPM	0.008	5.7	180	1.00	8	16	2053	0	0.10	2053
Totals			11,027											149,920
90	Zaremba - St Johns	22043.00	872	RM	0.083	72.4	210	0.65	8	16	19759	0	0.25	19,759

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Study Area	Recreation Place	Rec Place Numbers	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)
90	Zaremba - Beach Rd - RM	22043.02	3675	RM	0.083	305.0	210	0.65	8		27757	0	0.10	27,757
90	Zaremba - St Johns State Land ROW	22043.03	71	RM	0.083	5.9	210	0.65	8		533		0.10	533
90	Zaremba - Interiors Rds	22043.04	9034	RM	0.083	749.8	210	0.65	8		68234	0	0.10	68,234
90	Zaremba - Roosevelt/ Deep Bay	22043.05	532	RM	0.083	44.2	210	0.65	8	16	12059	0	0.10	12,059
90	Zaremba - Meter Bight	22043.08	506	SPM	0.008	4.0	150	0.65	8		263	0	0.10	263
90	Zaremba - SE Beach	22043.09	426	SPM	0.008	3.4	150	0.65	8		222	0	0.25	222
90	Zaremba - S Beach/ Snow Pass	22043.10	410	RM	0.083	34.0	150	0.65	8		2211	0	0.25	2211
90	Zaremba - N Snow Pass/ McNamara	22043.11	615	RM	0.083	51.0	150	0.65	8	16	9953	0	0.25	9953
90	Zaremba - McNamara/ St.Johns	22043.12	340	RM	0.083	28.2	150	0.65	8		1834	0	0.25	1834
Totals			16,481											142,826
100	N Etolin - Honeymoon Cr.	22055.00	37	RM	0.083	3.1	150	0.65	8	16	599	0	0.10	599
100	N Etolin - King George Roads	22055.01	775	RM	0.083	64.3	150	0.65	8		4181	0	0.10	4181
100	N Etolin - King George	22056.00	407	SPM	0.008	3.3	150	0.65	8		212	0	0.10	212
100	N Etolin - Kunk Creek & Lake	22057.00	495	SPM	0.008	5.0	150	0.65	8	24	1300	0	0.10	1300

Study Area	Recreation Place	Rec Place Numbers	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)
100	N Etolin - Dog Salmon	22058.00	112	SPM	0.008	0.9	150	0.65	8	16	175	0	0.10	175
100	N Etolin - Honker Hole	22058.01	67	SPM	0.008	0.5	150	0.65	8	16	105	0	0.10	105
100	N Etolin - Virginia Peak	22058.02	255	P	0.002	0.5	150	1.00	8	16	153	0	0.10	153
100	N Etolin - Snake Lake	22058.03	117	P	0.002	0.2	150	1.00	8	16	70	0	0.10	70
100	N Etolin - Second Growth Shoreline	22058.04	312	RM	0.083	25.9	210	1.00	8	16	10876	0	0.10	10876
100	N Etolin - Head of Anita Bay	22060.00	352	SPM	0.008	2.8	180	0.65	8		220	0	0.10	220
100	N Etolin - Starfish Cove	22061.00	155	RM	0.083	12.9	150	0.65	8	16	2509	0	0.10	2509
100	N Etolin - Head of Burnett Inlet	22062.00	160	SPM	0.025	4.0	150	0.65	8	16	780	0	0.10	780
100	N Etolin - Head of Burnett Inlet Rds.	22062.01	223	RM	0.083	18.5	150	0.65	8	16	3609	0	0.10	3609
100	N Etolin - Cannery Cove	22064.00	145	SPM	0.008	1.2	150	0.80	8	16	278	0	0.25	278
100	N Etolin - Navy Creek	22065.00	262	SPM	0.008	2.1	150	0.80	8	16	503	0	0.25	503
100	N Etolin - Mosman Inlet	22066.00	690	SPM	0.008	5.5	150	0.65	8	16	1076	0	0.25	1076
100	N Etolin - Cooney Cove	22067.00	650	SPM	0.008	5.2	150	0.80	8	16	1248	0	0.25	1248
100	N Etolin - Olive Cove	22068.00	138	RM	0.083	11.5	150	0.65	8		745	0	0.10	745

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Study Area	Recreation Place	Rec Place Numbers	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)
100	N Etolin - Quiet Harbor	22070.00	114	SPM	0.008	0.9	150	0.65	8		59	0	0.25	59
100	N Etolin - Steamer Bay	22071.00	1016	SPM	0.009	9.1	150	0.65	8	24	2377	2100	0.25	277
100	N Etolin - Rocky Bay	22072.00	1312	SPM	0.008	10.5	150	0.80	8		840	0	0.25	840
100	N Etolin - Streets Creek	22073.00	265	SPM	0.008	2.1	150	0.80	8		170	0	0.25	170
100	N Etolin - Streets Lake	22073.01	408	SPNIM	0.008	3.3	150	0.80	8		261	0	0.25	261
100	N Etolin - Whaletail Cove	22075.00	478	SPM	0.04	19.1	150	0.65	8	16	3728	0	0.10	3728
100	N Etolin- Levine's Cove	22077.00	358	SPM	0.008	2.9	150	1.00	8	16	859	0	0.10	859
100	N Etolin - Southwest Cove	22078.00	191	SPM	0.008	1.5	150	1.00	8	16	458	0	0.25	458
100	N Etolin - Menefee Inlet East	22079.00	428	SPM	0.008	3.4	150	1.00	8	16	1027	0	0.25	1027
100	N Etolin - Kindergarten Bay	22086.00	257	SPM	0.008	2.1	150	1.00	8	16	617	0	0.25	617
100	N Etolin - Johnson Cove	22087.00	206	SPM	0.008	1.6	150	0.80	8	16	396	0	0.25	396
100	N Etolin - Anita Bay Rd System	22088.00	4206	RM	0.083	349.1	150	0.65	8		22691	0	0.10	22,691
Totals			14,591											60,023
120	SEW - McHenry Inlet	22074.00	1004	SPM	0.008	8.0	150	1.00	8	16	2410	0	0.25	2410
120	SEW - Hatchery Lake	22074.01	272	SPNIM	0.008	2.2	150	0.80	8		174	0	0.25	174

Study Area	Recreation Place	Rec Place Numbers	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)
120	SEW - Menefee Inlet West	22079.01	275	SPM	0.008	2.2	150	1.00	8	16	660	0	0.25	660
120	SEW - N. Bronson-Fisherman Chuck	22081.00	866	SPM	0.008	6.9	180	1.00	8	16	2494	0	0.25	2494
120	SEW - Bronson Is - Salt Chuck	22081.01	477	SPM	0.008	3.8	180	1.00	8	16	1374	0	0.25	1374
120	SEW - Bronson Is - South	22081.02	137	SPM	0.008	1.1	180	1.00	8	16	395	0	0.25	395
120	SEW - SW Bronson Is	22081.03	204	SPM	0.008	1.6	180	1.00	8	16	588	0	0.25	588
120	SEW - Stone Hbr	22082.00	144	SPM	0.008	1.2	180	1.00	8	16	415	0	0.25	415
120	SEW - Krough Creek	22082.02	159	SPM	0.008	1.3	180	1.00	8	16	458	0	0.25	458
120	SEW - Krough Lake	22082.03	129	SPNIM	0.008	1.0	180	1.00	8	16	124	0	0.25	124
120	SEW - Onslow, Carlton, Eagle, Stone Islands	22083.00	1432	SPM	0.008	11.5	180	1.00	8	16	4124	0	0.25	4124
120	SEW - "J" Lake	22084.00	955	P	0.002	1.9	120	0.80	8	24	489	0	0.25	489
120	SEW - lower "J" Lake	22084.01	731	SPNIM	0.008	5.8	120	1.00	8	24	1871	0	0.25	1871
120	SEW Brown Lake	22085.00	320	P	0.002	0.6	120	0.65	8	24	133	0	0.25	133
120	SEW - Elk Lake	22089.00	102	SPNIM	0.008	0.8	120	0.65	8	24	170	0	0.25	170
120	SEW - Kunday Bay	22090.00	163	SPM	0.008	1.3	180	1.00	8	24	626	0	0.25	626
120	SEW - Mount Shakes Trail - South	22090.01	323	SPNIM	0.008	2.6	180	1.00	8	24	1240	0	0.25	1240
120	SEW - Mount Shakes Trail - Middle	22090.02	630	P	0.002	1.3	180	1.00	8	24	605	0	0.25	605
120	SEW - Mount Shakes Trail - North	22090.03	183	SPNIM	0.008	1.5	180	1.00	8	24	703	0	0.25	703

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Study Area	Recreation Place	Rec Place Numbers	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)
120	SEW - Mount Shakes Trail - North/Beach	22090.04	80	SPM	0.008	0.6	180	1.00	8	24	307	0	0.25	307
120	SEW - S Canoe Pass	22090.05	229	SPM	0.008	1.8	180	1.00	8	16	660	0	0.25	660
Totals			8,815											20,018
130	Sokolof Is - McDonald Bay	22052.01	36	RM	0.083	3.0	210	0.65	8		272	0	0.10	272
130	Vank Is - Organizational Camp	22053.01	208	RM	0.083	17.3	210	0.65	8		1571	0	0.10	1571
130	Vank Is - Mud Bay	22053.05	91	RM	0.083	7.6	210	0.65	8		687	0	0.10	687
130	Woronkofski Is - Sunrise	22054.00	16	RM	0.083	1.3	210	0.65	8		121	0	0.10	121
130	Woronkofski Is - Sandy Beach	22054.01	31	RM	0.083	2.6	210	0.65	8		234	0	0.10	234
130	Woronkofski Is - E Circle Bay	22054.02	134	RM	0.083	11.1	210	0.65	8		1012	0	0.10	1012
130	Woronkofski Is - W Circle Bay	22054.03	84	SPM	0.008	0.7	210	0.65	8		61	0	0.10	61
130	Woronkofski Is - Paradise Cove	22054.05	39	SPM	0.008	0.3	210	0.65	8		28	0	0.10	28
130	Woronkofski Is - Sunrise Lk	22054.06	105	SPM	0.008	0.8	150	0.65	8	16	163	0	0.10	163
Totals			744											4,150
140	Bushy Is - SW Bushy	22088.01	186	RM	0.083	15.4	150	0.65	8		1003	0	0.25	1003
140	Bushy Is - NE Bushy	22088.02	222	SPM	0.008	1.8	150	0.65	8		115	0	0.25	115
140	Shrubby Island	22089.01	826	RM	0.083	68.6	150	0.65	8		4456	0	0.25	4456

Study Area	Recreation Place	Rec Place Numbers	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)
140	Kashevarof Islands	22090.06	2572	SPM	0.008	20.6	150	0.65	8		1337	0	0.25	1337
Totals			3,620											5,909
150	LeConte Bay - Indian Point	22026.05	66	SPM	0.083	12.0	150	1.00	8	16	3600	0	0.10	3600
150	LeConte Bay - Bussy Creek	22026.06	42	SPM	0.083	3.5	150	0.65	8	16	680	0	0.10	680
150	LeConte Bay - Cabin Cr	22026.08	65	SPM	0.083	5.4	150	0.65	8	16	1055	0	0.10	1055
150	LeConte Bay - Jap Creek	22026.10	23	SPM	0.083	1.9	150	0.65	8	16	372	0	0.10	372
150	LeConte Bay - Moonshine Cr	22026.11	14	SPM	0.083	1.2	150	0.65	8	16	227	0	0.10	227
Totals			210											5,933

Table D. Notes providing an explanation of special circumstances for the recreation use carrying capacity calculations in Table C and the adjustments by recreation place that influence a study area's total net RVD.

Study Area	Recreation Place Location	Rec Place Number	Notes
10	Stikine River - Shakes Lake Outlet	22026.01	Factor for overnight use was added to recognize tent platform and dispersed use; 2009 Rec Place; ROS coeff 0.083 is upper end of SPM to allow some commercial use after review of historical use; Outside HR
10	Stikine River - So Cottonwood Lake	22026.04	Use of alpine camp sites are limited to one visit per year and party size is limited to four guided clients. Factor for overnight use was added; flight seeing acres eliminated; ROS coefficient reduced due to the primitive character of the setting; HR
10	Stikine River - Government Lake	22026.07	HR
10	Lower Shakes Lake Waterfall	22026.09	2009 Rec Place; ROS coeff 0.083 is upper end of SPM to allow commercial use; Outside HR
10	Upper Knig Slough	22026.15	2009 Rec Place; HR
10	Sergief Island - Flats	22026.17	Sergief and Koknuk FS rec cabins and one permitted cabin; HR
10	Stikine River - Mallard Slough	22026.18	Mallard Slough FS rec cabin; 2009: Added overnight LOS 24 to allow commercial use of cabin; HR
10	Stikine River - S Side of N Arm	22026.19	2009: Acres from 915 to 888; HR
10	Stikine R-Pt Rothsay/Shakes - High Use	22026.20	Shakes 1 & 2 FS rec cabins; 2009: Day LOS from 8 to 10; HR
10	Farm Island	22026.21	2009: Acres from 303 to 287; ROS coeff 0.83 due to influence of private lands; Day LOS from 4 to 8; HR
10	Sergief Island- Upland	22026.23	2009: Acres from 566 to 499; Day LOS from 4 to 8; Overnight LOS changed from 24 to 0 to reflect actual use; cabin; HR
10	Gut & Little Dry Is; Knig & Binkley Sloughs	22026.24	Gut 1 & 2, Little Dry Is, Binkley Slough FS rec cabins and one permitted cabin in area; HR
10	Stikine R- So Andrews/Cottonwood Is	22026.25	Mt. Rynnda FS rec cabin in area; 2009: LOS from 6 to 8; Overnight LOS from 0 to 24 due to commercial availability of FS cabin; HR
10	Stikine R- Shakes to Border	22026.26	Mt. Flemer FS rec cabin in area; 2009: Acres from 6283 to 3341; Day LOS from 6 to 8; Overnight LOS from 0 to 24 due to commercial availability of FS cabin; Outside HR

Study Area	Recreation Place Location	Rec Place Number	Notes
10	Stikine R- Ketili Creek/ Barnes Lake	22026.27	2009: Acres from 4760 to 677 w/out alpine; MSU from 90 to 60 - access limited to high water; Outside HR
10	Stikine River- Warm Springs Island	22026.28	2009: Day LOS from 6 to 8; HR
10	Stikine River- Big Desert	22026.31	ROS coefficient high to reflect actual use at the site; 2009: Day LOS from 4 to 8; HR
10	Stikine River - Twin Lakes	22026.32	Coefficient increased due to high use during the summer months; 2009: Acres from 124 to 125; Net RVDs high due to RN ROS; Commercial access to Twin Lakes from the FS cabin is prohibited when cabin is occupied and/or rented; Twin Lakes receives a lot of seasonal use by the unguided public when the water level is just right, resulting in a higher number of RVDs than the prescribed experience. There is no exception for large guided groups in Wilderness in the Forest Plan, therefore commercial allocation is ten percent of O/G available RVDs ; HR
10	Stikine R- Hot Springs High Use Season	22026.33	2009: ROS coeff from 2 to 1 to lower PAOT; MSU from 120 to 90; Day LOS from 2 to 12; Overnight LOS from 0 to 16; HR
10	Stikine River- Hot Springs Shoulder Season	22026.33	2009: PAOT of 10 to meet design capacity of facility; MSU from 60 to 90, Day LOS from 0 to 8; HR
10	Stikine River- North Arm	22026.34	2009: Acres from 1596 to 1706; Day LOS from 0 to 8; HR
10	Stikine River- Goat Lake	22030.00	Use of alpine camp sites are limited to one visit per year and party size is limited to four guided clients; 2009: Overnight LOS from 16 to 24; Outside HR
10	Stikine River- Andrews Lake	22030.01	2009: Overnight LOS from 16 to 24; Outside HR
10	Stikine River- Border Lake	22038.00	Use of alpine camp sites are limited to one visit per year and party size is limited to four guided clients; 2009: MSU from 90 to 60; Day LOS from 0 to 8; Outside HR
10	Stikine River - Shakes Alpine Lake	22038.01	2009: MSU from 90 to 60; Day LOS from 0 to 8; Outside HR
30	Virginia Lake	22024.00	Virginia Lake FS rec cabin; O/G use prohibited during moose season due to high local use; ROS coefficient increased to allow O/G use greater than cabin capacity; 2009: ROS coefficient raised to 0.05 due to the access from both ends of the lake; Day LOS from 6 to 8; Overnight LOS from 0 to 24; HR

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Study Area	Recreation Place Location	Rec Place Number	Notes
30	Mill Creek Trail	22024.01	FS maintains right-of-way on State lands. O/G use of this trail is authorized for week day use only. Low number RVDs result from short length of stay and narrow trail right-of-way. The RVDs may be increased with monitoring; HR
30	Garnet Ledge	22026.22	Garnet Ledge FS rec cabin; Area used for access to Garnet Ledge private property. ROS coefficient increased to allow O/G use greater than cabin capacity; 2009: Day LOS from 4 to 8; HR
40	Berg Bay/ Aaron Creek	22020.00	Berg Bay FS rec cabin; Commercial access to Aaron Creek trailhead at the Berg Bay cabin is prohibited when FS cabin is occupied. Requests for commercial guided moose hunts will be considered on a case-by-case basis; 2009: Acres from 1905 to 1369, Day LOS from 4 to 8; HR
40	Berg Mtn - SPNM	22021.01	2009: Rec Place added due to existing uses; HR
40	Berg Mtn - P	22021.02	2009: Rec Place added due to existing uses; HR
40	Madan Bay	22022.00	ROS coefficient was increased to provide additional RVDs for O/G use; 2009: Day LOS from 0 to 8, Overnight LOS from 0 to 16 due to existing camping use; HR
40	Jenkins Cove	22022.02	2009: Rec Place added due to existing uses; HR
40	Narrow's Point	22022.03	2009: Rec Place added due to existing uses; HR
40	Madan Bay Trail - SPM	22022.04	2009: Rec Place added due to existing uses; HR
40	Madan Bay Trail - SPNM	22022.05	2009: Rec Place added due to existing uses; HR
40	Madan Bay Trail - P	22022.06	2009: Rec Place added due to existing uses; HR
40	Boulder Creek	22023.00	2009: Rec Place added due to existing uses; HR
50	Bradfield- Head	22001.00	2009: Day LOS increased from 6 to 8; HR
50	Bradfield - Eagle River	22002.00	2009: Day LOS increased from 4 to 8; Outside HR
50	Bradfield - Eagle Lake	22002.03	Eagle Lake FS rec cabin; O/G camps on Eagle Lake will be at least 1 mile from the cabin and must not be visible from the cabin and/or lake; Outside HR
50	Bradfield - Harding River	22005.00	Harding Lake FS Rec cabin; 2009: Day LOS increased from 4 to 8; Outside HR
50	Bradfield - Toms Creek	22009.00	2009: Day LOS increased from 2 to 8; Outside HR

Study Area	Recreation Place Location	Rec Place Number	Notes
50	Bradfield - Canal Creek	22011.00	2009: Day LOS increased from 2 to 8; Outside HR
50	Bradfield - Franks Creek	22013.00	2009: Day LOS increased from 2 to 8; Outside HR
50	Bradfield - Lower Marten Creek	22017.00	ROS coeff was increased to provide additional RVDs for O/G use; 2009: Day LOS increased from 2 and 4 to 8; Combined Lower and Upper Marten Cr rec places; Outside HR
50	Bradfield - Lower Marten Lake	22018.00	Marten Lake FS rec cabin; 2009: PAOT increased to meet cabin capacity; Outside HR
50	Bradfield - Upper Marten Lake	22018.01	Use of alpine camps is limited to one visit per year and group size is limited to four guided clients; Outside HR
60	Anan Wildlife Observatory - Shoulder Season	22012.00	2009 New Rec Place (originally in Anan EA); Some commercial cabin use is available; HR
60	Anan/Boulder Lakes	22012.02	2009: Day LOS from 6 to 8; Use of alpine camps is limited to one visit per year and party size is limited to four guided clients; Outside HR
60	Goat Lakes	22016.00	Use of alpine camps is limited to one visit per year and party size is limited to two guided clients; 2009: Day LOS from 6 to 8; Outside HR
70	Cleve. Pen. - Pt Ward/Cannery Cove	22014.00	2009: Day LOS from 2 to 8; Outside HR
70	Cleve. Pen. - Frosty Bay	22015.00	2009: Acres from 330 to 74; ROS Coefficient was 0.022 and is now 0.008 to reflect the prescribed experience, PAOT increased to 6 to reflect the design capacity of the cabin; Day LOS from 3 to 8; Outside HR
70	Cleve. Pen. - Santa Anna Inlet	22039.00	2009: Acres from 1321 to 288 due to Sunny Bay State Lands conveyance; Day LOS from 3 to 8; Overnight LOS from 16 to 0; Outside HR
70	Cleve. Pen. - Lake Helen	22039.01	2009: Acres from 402 to 143; Day LOS from 4 to 8; Outside of HR
70	Deer Island - Southern Shores	22040.00	There are no roads, Roded Modified (RM) class refers to evidence of past helicopter logging; 2009: Rec Place from Study Area 130 to Study Area 70 to group like uses and adjacent areas of use; Acres from 1294 to 1722; ROS Coeff from 0.008 to 0.083 to reflect RM; MSU from 150 to 270; Day LOS from 6 to 8; Overnight LOS from 0 to 16; Outside HR
70	Deer Island - NW Side	22040.01	2009: Rec Place from Study Area 130 to Study Area 70 to group like uses and adjacent areas of use; MSU from 150 to 270; Day LOS from 6 to 8; Overnight LOS from 0 to 16; Outside HR

Study Area	Recreation Place Location	Rec Place Number	Notes
70	Deer Island - North	22041.00	2009: Rec Place from Study Area 130 to Study Area 70 to group like uses and adjacent areas of use; MSU from 150 to 270; Overnight LOS from 0 to 16; Outside HR
70	Niblack Islands	22042.00	2009: Rec Place from Study Area 130 to Study Area 70 to group like uses and adjacent areas of use; MSU from 150 to 270; Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
FOR STUDY AREA 80: NO USE OF DEVELOPED RECREATION SITES UNLESS SPECIFICALLY IDENTIFIED IN PERMIT			
80	Wrg Is - Institute Trail	22092.02	Includes Institute Creek shelter; 2009: Forced 5 PAOT to reflect design capacity of shelter; Day LOS from 6 to 8; overnight LOS from 24 to 16; HR
80	Wrg Is - Nemo Point Roads and Campsites	22092.03	HR
80	Wrg Is - Pats Valley Roads	22092.04	Allocation is ten percent of O/G available RVDs due to high number generated from large acreage of rec place; 2009: Acres from 897 to 1366 with addition of Donut Timber Sale roads; Day LOS from 3 to 12; Overnight LOS from 24 to 16; HR
80	Wrg Is - Lower Rainbow Falls Trail	22092.05	Low RVDs were generated due to the narrow trail right-of-way through City, State and private lands; 2009: ROS coeff from 10 to 5, HR
80	Wrg Is - Upper Rainbow Fall Trail	22092.06	Low RVDs were generated due to the narrow trail ROW through City and State lands. ROS coefficient was increased to provide additional O/G use; HR
80	Wrg Is - Thoms Lake Rd	22092.07	Allocation is ten percent of O/G available RVDs, due to high number generated from large acreage of rec place; 2009: HR
80	Wrg Is - 6265 Rd Plus	22092.08	2009: Rec Place is from Wrg West State boundary including Garnet, Basin, Salamander to Earl West State Lands boundary; acres from 1558 to 1686; Day LOS from 2 to 12; HR
80	Wrg Is - No Wrg Trail SPM	22092.09	2009: Day LOS from 1 to 8; HR
80	Wrg Is - No Wrg Trail SPNM	22092.10	2009: Includes 2 shelters; Forced PAOT of 10 due to facility design; Day LOS from 4 to 8; Overnight LOS from 24 to 16; HR
80	Wrg Is - Upper Salamander	22094.01	Authorization for week day use only with no O/G overnight use due to existing high use; 2009: Day LOS from 4 to 12; Overnight LOS from 0 to 16; Forced PAOT of 5 due to facility design; HR

Study Area	Recreation Place Location	Rec Place Number	Notes
80	Wrg Is - Highbush Lk SPM	22094.02	2009: Acres from 156 to 209; Day LOS from 4 to 8; HR
80	Wrg Is - Highbush Rd	22094.03	2009: Now includes previous Rec Place 22094.20; HR
80	Wrg Is - 6265 Rd and State Lands	22094.04	EA Review decreased rec place acres due to State lands at Earl West Cove. The Rec Place is only the road system with a 200-foot total ROW; HR
80	Wrg Is - Earl West Rec Site	22094.05	2009: Day LOS from 6 to 12; Overnight LOS from 0 to 16; HR
80	Wrg Is - Earl West Marsh	22094.06	Allocation is ten percent of O/G available RVDs due to resource concerns of the sensitive ecosystem, 2009; Day LOS from 4 to 8, HR
80	Wrg Is - Lower Salamander	22094.07	Net RVDs eliminated from Study Area for guide use as no guided overnight use is allowed as this is a developed recreation site; 2009: Forced PAOT of 15 due to facility design; Day LOS from 4 to 12; Overnight LOS from 0 to 24; HR
80	Wrg Is - 6299/6270 Rds	22094.08	Allocation is ten percent of O/G available RVDs due to high number generated from large rec place acreage; 2009: Acres from 1795 to 1936; Day LOS from 4 to 12; HR
80	Wrg Is - Salamander Ridge Trail	22094.10	HR
80	Wrg Is - Thoms Creek Rec Site and State Lands	22094.15	Net RVDs for rec place eliminated from Study Area as no guided overnight use is allowed; 2009: Forced PAOT of 5 due to facility design; Day LOS from 2 to 8; Overnight LOS from 24 to 16; HR
80	Wrg Is - End of Rd 6299	22094.16	State Selected Lands; Day LOS from 2 to 8; HR
80	Wrg Is - Long Lake Road	22100.00	2009: Day LOS from 4 to 8; Overnight LOS from 0 to 16; HR
80	Wrg Is - Long Lake	22100.01	Net RVDs for rec place eliminated from Study Area as no guided overnight use is allowed; 2009: Forced PAOT of 5 due to facility design; Day LOS from 6 to 8; Overnight LOS from 24 to 16; HR
80	Wrg Is - Blake Island Bay	22103.00	HR
80	Wrg Is - Thoms Lake Trail Through State Lands	22104.01	2009: Acres from 39 to 48 as the trail to lake was included; ROS Coeff from 0.083 for a realistic PAOT of 5; Day LOS from 6 to 8; Overnight LOS from 24 to 16; HR
80	Wrangell- Fools Inlet	22105.00	2009: Day LOS from 6 to 8; HR
80	Wrg Is - Turn Island and Trail	22107.00	2009: Acres from 39 to 183 as the trail to beach was included; Forced PAOT of 10 to capture site designed capacity; Changed MSU from 150 to 180 due to close proximity to town and easy access; Day LOS from 2 to 12; Overnight LOS from 0 to 16; HR

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Study Area	Recreation Place Location	Rec Place Number	Notes
80	Wrg Is - SE Cove/Thoms Point	22109.00	2009: Acres from 608 to 713 to include Thoms Point; MSU from 150 to 180; POU from 0.65 to 1; Day LOS from 6 to 8; Overnight LOS from 0 to 16; HR
90	Zaremo - St Johns	22043.00	Allocation is ten percent of O/G available RVDs due to high number generated from large acreage; 2009: Day LOS 8; Overnight LOS 16; Outside HR
90	Zaremo - Beach Rd - RM	22043.02	Allocation is ten percent of O/G available RVDs due to high number generated from large acreage; 2009: Acres from 3387 to 3675 to include Little Baht Harbor; HR
90	Zaremo - St Johns State Land ROW	22043.03	2009 New Rec Place; Allocation is ten percent of O/G available RVDs due to high number generated from large acreage; Rec Place constrained to FS ROW; HR
90	Zaremo - Interior Roads	22043.04	Allocation is ten percent of O/G available RVDs due to high number generated from large acreage; HR
90	Zaremo - Roosevelt/ Deep Bay	22043.05	Allocation is ten percent of O/G available RVDs due to high number generated from large acreage; Day LOS from 2 to 8; HR
90	Zaremo - Meter Bight	22043.08	2009: Day LOS from 4 to 8; HR
90	Zaremo - SE Beach	22043.09	2009: Day LOS from 5 to 8; HR
90	Zaremo - S Beach/ Snow Pass	22043.10	2009: Day LOS from 5 to 8; HR
90	Z - N Snow Pass/ McNamara	22043.11	2009: Day LOS from 5 to 8; HR
90	Zaremo - McNamara/ St.Johns	22043.12	Allocation is ten percent of O/G available RVDs due to high number generated from large acreage; 2009: Day LOS from 5 to 8; HR
100	N Etolin - Honeymoon Creek	22055.00	2009: Day LOS from 4 to 8; HR
100	N Etolin - King George Roads	22055.01	2009: New Rec Place; HR
100	N Etolin - King George	22056.00	HR
100	N Etolin - Kunk Creek, Lake	22057.00	Use of this recreation place is authorized for week day use only due to existing weekend use by the unguided public; HR
100	N Etolin - Dog Salmon	22058.00	2009: Day LOS from 3 to 8; Overnight LOS from 18 to 16; HR

Study Area	Recreation Place Location	Rec Place Number	Notes
100	N Etolin - Honker Hole	22058.01	2009: Day LOS from 2 to 8; HR
100	N Etolin - Virginia Peak	22058.02	2009 New Rec Place; HR
100	N Etolin - Snake Lake	22058.03	2009 New Rec Place; HR
100	N Etolin - Second Growth Shoreline	22058.04	2009 New Rec Place; HR
100	N Etolin - Head of Anita Bay	22060.00	ROS coefficient was raised to provide additional RVDs for outfitter/guide use; 2009: Day LOS from 3 to 8; HR
100	N Etolin - Starfish Cove	22061.00	2009: Day LOS from 2 to 8; Overnight LOS from 0 to 16; HR
100	N Etolin - Head of Burnett Inlet	22062.00	ROS coefficient was raised to provide additional RVDs for outfitter/guide use; 2009: Day LOS from 6 to 8; Overnight LOS from 0 to 16; HR
100	N Etolin- Head of Burnett Roads	22062.01	The recreation place was created in anticipation of road construction associated with the Burnett Inlet hatchery; 2009: Day LOS from 4 to 8; Overnight LOS from 0 to 16; HR
100	N Etolin - Cannery Cove	22064.00	ROS coefficient was raised due to provide additional RVDs for outfitter/guide use; 2009: Acres from 67 to 145; Day LOS from 2 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Navy Creek	22065.00	2009: Acres from 127 to 262; Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Mosman Inlet	22066.00	2009: Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Cooney Cove	22067.00	2009: Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Olive Cove	22068.00	2009: Day LOS from 6 to 8; Outside HR
100	N Etolin - Quiet Harbor	22070.00	2009: Day LOS from 6 to 8; Outside HR
100	N Etolin - Steamer Bay	22071.00	Steamer Bay FS rec cabin; ROS coefficient was raised to allow O/G use greater than cabin capacity; 2009: Day LOS from 6 to 8; Outside HR
100	N Etolin - Rocky Bay	22072.00	2009: Day LOS from 6 to 8; Outside HR
100	N Etolin - Streets Creek	22073.00	2009: Day LOS from 6 to 8; Outside HR
100	N Etolin - Streets Lake	22073.01	2009: Day LOS from 6 to 8; Outside HR

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Study Area	Recreation Place Location	Rec Place Number	Notes
100	N Etolin - Whaletail Cove	22075.00	2009: POU from 0.65 to 1; Day LOS from 2 to 8; Overnight LOS from 0 to 16; ROS Class from RN to SPM; ROS Coeff from 0.083 to 0.04; HR
100	N Etolin - Levine Cove	22077.00	2009: POU from 0.65 to 1; Day LOS from 2 to 8; Overnight LOS from 0 to 16; POU from 0.65 to 1; HR
100	N Etolin - Southwest Cove	22078.00	2009: POU from 0.65 to 1; Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Menefee Inlet East	22079.00	2009: POU from 0.65 to 1; Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Kindergarten Bay	22086.00	2009: POU from 0.65 to 1; Day LOS from 2 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Johnson Cove	22087.00	2009: POU from 0.8 to 1; Day LOS from 4 to 8; Overnight LOS from 0 to 16; Outside HR
100	N Etolin - Anita Bay Rd System	22088.00	EA Review added this new rec place because of the increased use of the road system for recreation purposes; HR
120	SEW - McHenry Inlet	22074.00	Outside HR
120	SEW - Hatchery Lake	22074.01	Outside HR
120	SEW - Menefee Inlet West	22079.01	2009: Day LOS from 4 to 8; Overnight LOS from 0 to 16; POU from 0.65 to 1; Acres increased from 114 to 275; Outside HR
120	SEW - N. Bronson - Fisherman Chuck	22081.00	2009: MSU from 150 to 180 days; Day LOS from 6 to 8; Overnight LOS from 0 to 16; POU from 0.65 to 1; Acres increased from 634 to 866; Outside HR
120	SEW - Bronson Is Salt Chuck	22081.01	2009: MSU from 150 to 180 days; Day LOS from 4 to 8; Overnight LOS from 0 to 16; POU from 0.65 to 1; Outside HR
120	SEW - Bronson Is S	22081.02	2009: MSU from 150 to 180 days; Day LOS from 2 to 8; POU from 0.65 to 1; Outside HR
120	SEW - SW Bronson Is	22081.03	2009: New Rec Place; Outside HR
120	SEW - Etolin - Stone Hbr	22082.00	2009: MSU from 150 to 180 days; Day LOS from 2 to 8; POU from 0.8 to 1; Outside HR
120	SEW - Etolin - Krough Cr	22082.02	2009: Acres from 83 to 159; MSU from 150 to 180 days; Day LOS from 2 to 8; Overnight LOS from 0 to 16; POU from 0.8 to 1; Outside HR
120	SEW - Etolin - Krough Lk	22082.03	2009: MSU from 150 to 180 days; Day LOS from 4 to 8; POU from 0.8 to 1; Outside HR

Study Area	Recreation Place Location	Rec Place Number	Notes
120	SEW - Onslow, Carlton, Eagle, Stone Islands	22083.00	2009: MSU from 150 to 180 days; Day LOS from 6 to 8; Overnight LOS from 0 to 16; POU from 0.8 to 1; Outside HR
120	SEW - "J" Lake	22084.00	2009: Changed from Arsenic Lake; Acres from 544 to 955; POU from 0.65 to 0.8; Overnight LOS from 16 to 24; Outside HR
120	SEW - Lower "J" Lake	22084.01	2009 New Rec Place; Outside HR
120	SEW - Brown Lake	22085.00	2009 New Rec Place; Outside HR
120	SEW - Elk Lake	22089.00	2009 New Rec Place; Outside HR
120	SEW - Kunday Bay	22090.00	2009 New Rec Place; Outside HR
120	SEW - Mount Shakes Trail - South	22090.01	2009 New Rec Place; Outside HR
120	SEW - Mount Shakes Trail - Middle	22090.02	2009 New Rec Place; Outside HR
120	SEW - Mount Shakes Trail - North	22090.03	2009 New Rec Place; Outside HR
120	SEW - Mount Shakes Trail - North and Beach	22090.04	2009 New Rec Place; Outside HR
120	SEW - South Canoe Pass	22090.05	2009 New Rec Place; Outside HR
130	Sokolof Is - McDonald Bay	22052.01	2009: Day LOS from 2 to 8; HR
130	Vank Is - Organizational Camp	22053.01	Net RVDs eliminated from Study Area for guide use as this camp is under special use permit; however, this does not prohibit use by commercial guides at the organizational camp; the organizational camp permit holder manages the amount of use by commercial operators and the use is reported on the camp's annual report, not on guides use reports; HR
130	Vank Is - Mud Bay	22053.05	2009: Day LOS from 4 to 8; HR
130	Woronkofski Is - Sunrise	22054.00	2009: Acres from 214 to 16; Week day use only; HR
130	Woronkofski Is - Sandy Beach	22054.01	Week day use only; 2009: Acres from 28 to 31; Day LOS from 4 to 8; HR

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Study Area	Recreation Place Location	Rec Place Number	Notes
130	Woronkofski Is - E Circle Bay	22054.02	2009: Day LOS from 4 to 8; Acreage coupled with ROS coefficient for Roaded Modified results in a higher number of RVDs than the prescribed experience, therefore allocation is ten percent of O/G available RVDs; HR
130	Woronkofski Is - W Circle Bay	22054.03	2009: Day LOS from 4 to 8; HR
130	Woronkofski Is - Paradise Cove	22054.05	Week day use only, 2009: Day LOS from 4 to 8; Overnight LOS from 16 to 0; HR
130	Woronkofski Is - Sunrise Lk	22054.06	2009: Day LOS from 4 to 8; HR
140	Bushy Is - SW Bushy Island	22088.01	2009: Rec Place from Study Area 130 to Study Area 140 to group adjacent islands and similar use acres; Acreage is high due to the presence of unmaintained roads; Net RVDs are a product of the acreage and the Roaded Modified ROS coefficient; Allocated RVDs is ten percent of O/G available RVDs to maintain the prescribed experience along the beach where most of the use occurs; Acres from 223 to 222; Outside HR
140	Bushy Is - NE Bushy Island	22088.02	2009: Rec Place from Study Area 130 to New Rec Place 140 to group adjacent islands and similar use acres; Day LOS from 4 to 8; Outside HR
140	Shrubby Island	22089.01	2009: Rec Place from Study Area 130 to New Rec Place 140 to group adjacent islands and similar use; Allocation is ten percent of O/G available RVDs due to high number of RVDs generated from large acreage; Outside HR
140	Kashevarof Island Group	22090.06	2009: Rec Place from Study Area 130 to New Rec Place 140 to group adjacent islands and similar use acres; POU from 0.8 to 0.65 to match other islands in this group; Outside HR
150	LeConte Bay - Indian Point	22026.05	2009 New Rec Place, Includes Commercial Assigned Site for 12-person groups; Forced PAOT of 12; HR
150	LeConte Bay - Bussy Creek	22026.06	2009 New Rec Place; HR
150	LeConte Bay - Cabin Creek	22026.08	2009 New Rec Place; HR
150	LeConte Bay - Jap Creek	22026.10	Acreage was reduced to reflect actual use of the area. Flight seeing acres were removed from the capacity calculations; 2009: Acres from 1174 to 23; ROS Coeff from 0.008 to 0.083; HR
150	LeConte Bay - Moonshine Creek	22026.11	2009 New Rec Place; HR

References

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USDA Forest Service. 1997. *Stikine Area Outfitter and Guide Environmental Assessment*.
USDA Forest Service, Tongass National Forest, Management Bulletin R10-MB-346,
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Forest. R10-MB-603b. USDA Forest Service, Alaska Region, Juneau.



Chicken in the woods, Tongass National Forest. Photograph by Ashley Atkinson.



Brownson Salt Chuck on Brownson Island in the South Etoilin Wilderness, Tongass National Forest.
Photograph by Carin Christensen.

Part II

Existing Condition Narratives and Study Area Maps



Stikine Flats, Stikine-LeConte Wilderness, Tongass National Forest. Photograph by Emil Tucker.

Existing Conditions
Study Area 10
Stikine-LeConte Wilderness

Description

The Stikine-LeConte Wilderness includes the Stikine River, North America's fastest, free flowing navigable river. Glaciers have sculpted the granite bedrock into the U-shaped valley. The thick forest and side sloughs of the Stikine River valley provide a Wilderness playground for boaters. There are opportunities for tranquil paddling and speedy motorboat rides. The Wilderness includes the River's estuary with extensive grasslands and mudflats of the delta, as it reaches the Pacific Ocean. The Stikine-LeConte Wilderness includes: Kate's Needle at 10,002' - the highest peak on the Tongass National Forest; the Stikine Ice fields - the largest ice field on the Tongass National Forest; the world's largest spring concentration of bald eagles (up to 1,500); and a major stopover on the Western Flyway with shorebird migration averaging 350,000 birds a day. The delta has been included in the Copper River International Migratory Bird Initiative (CRIMBI).

The river delta is highly braided with three main navigable channels. Two warm and one hot springs are found along the river. Much of the area, particularly the Stikine River drainage, is recognized as an important fish and wildlife area. A variety of fish, including king and other species of salmon, are found in the waters. Moose, mountain goats, brown bear and black bear, deer, and wolves inhabit the area.

There are 12 Forest Service public use recreation cabins and two bathing structures at Chief Shakes Hot Springs.

Communities None

Non-National Forest System Lands

Several private land in-holdings

Recreation Use

Recreation Places **Fifteen of 25 recreation places are within Wrangell's home range. One recreation place is within Petersburg's home range (22026.18).**

22026.01 Stikine River - Shakes Lake Outlet	22 acres. ROS Class: SPM. New recreation place in 2008. Includes dispersed camp site at south end of Shake Lake. Outside home range.
22026.04 Stikine River - South Cottonwood Lake	187 acres. ROS Class: SPM. Includes unnamed drainage and small lake SW of Cottonwood Islands. Home range.
22026.07 Government Lake	241 acres. ROS Class: P. Includes area around the lake in the Government Creek drainage, locally known as Government Lake ¹ . Wrangell home range.
22026.09 Lower Shakes Lake Water Fall	25 acres. ROS Class: SPM. New recreation place in 2008. Includes dispersed day use/camp site at north end of Shakes Lake. Outside home range.
22026.15 Upper Knig Slough	626 acres. ROS Class: SPM. New recreation place in 2008. Includes shoreline of Dry and Farm Islands along north end of Knig Slough. Wrangell home range.
22026.17 Sergief Island- Flats	985 acres. ROS Class: SPM. Includes shoreline and tidal flats of Sergief Island. Sergief and Koknuk recreation cabins and one special use permitted cabin. Wrangell home range.

¹ Area names referred to as "locally known" are not named on USGS maps.

Existing Conditions
Study Area 10
Stikine-LeConte Wilderness

Recreation Places (continued)	
22026.18 Stikine River – Mallard Slough	1,450 acres. ROS Class: SPM. Includes shoreline and grass flats from Mallard Slough to locally known as Cheliped Bay, Mallard Slough recreation cabin and associated Mallard Slough/LeConte trail. Petersburg home range.
22026.19 Stikine River - South Side of North Arm	888 acres. ROS Class: SPM. Includes shoreline and grass flats on north side of Dry Island. Wrangell home range.
22026.20 Stikine River – Point Rothsay/Shakes-High Use	6,706 acres. ROS Class: SPM. Includes both shorelines and islands (including Limb, Cottonwood, Andrew) in Stikine River from Point Rothsay to locally known Warm Springs Slough. Shakes 1 and 2 recreation cabins, FS administration cabin, one special use cabin, two State of Alaska cabins, USGS cabin/gauge. Wrangell home range.
22026.21 Farm Island	287 acres. ROS Class: RN. Includes area on south side of Farm Island around private land along Stikine River. Wrangell home range.
22026.23 Sergief Island - Upland	499 acres. ROS Class: SPM. Includes area on north end of Sergief Island around and in between private parcels along Stikine River. Wrangell home range.
22026.24 Gut and Little Dry Island; Knig, Binkley Slough	3,252 acres. ROS Class: SPM. Includes shoreline and tidal flats of Farm and Dry Islands; shoreline Knig Slough; Gut Island 1 and 2, Little Dry Island, and Binkley Slough recreation cabins and 2 special use permitted cabins located on Farm Island; permitted tent platform on Dry Island; excluding private land on Farm island. Wrangell home range.
22026.25 Stikine River - South Andrews/Cottonwood Island	3,405 acres. ROS Class: SPM. Includes lands on Cottonwood and Andrew Islands; shoreline of Andrew Creek, Andrew Slough, locally known as Cottonwood Slough and Mt Rynda recreation cabin; two special use permitted cabins. Andrew Creek has one of the highest outfitted/guided sport fishing use on the Wrangell Ranger District (10 RVDs/year). Wrangell home range.
22026.26 Stikine River- Shakes to Border	3,341 acres. ROS Class: SPM. Includes both shorelines and unnamed islands in Stikine River from just above Shakes Slough to Canadian border and shoreline of upper Ketili River and Guerin Slough; Mt Flemer recreation cabin, two special use permitted cabins. Outside home range.
22026.27 Stikine River - Ketili Creek/Barnes Lake	677 acres. ROS Class: SPM. Includes banks of Ketili Creek (locally known as Paradise Slough) and Barnes Lake; one tent platform. Outside home range.
22026.28 Warm Springs Island	2,383 acres. ROS Class: SPM. Includes interior lands of locally known as Warm Springs (or aka Ketili) Island (minus shoreline which is in Recreation Places 22026.26 and 22026.27). Wrangell home range.
22026.31 Stikine River - Big Desert	121 acres. ROS Class: RN. Includes area of sand dunes on Andrew Island, locally known as The Desert. Wrangell home range.
22026.32 Stikine River -Twin Lakes	125 acres. ROS Class: RN. Includes area around Figure Eight Lakes (aka Twin Lakes), picnic area, and Twin Lakes recreation cabin. Wrangell home range.
22026.33 Stikine River - Hot Springs High Use Season	19 acres. ROS Class: RN. Includes area around hot springs - one indoor, one outdoor tub and associated facilities. Wrangell home range.

Existing Conditions
Study Area 10
Stikine-LeConte Wilderness

Recreation Places (continued)	
22026.33 Stikine River - Hot Springs Shoulder Season	19 acres. ROS Class: RN. Includes area around hot springs - one indoor, one outdoor tub and facilities. Wrangell home range.
22026.34 Stikine River - North Arm	1,706 acres. ROS Class: SPM. Includes shoreline on Farm and Dry Islands, unnamed islands and Mainland, both sides of North Arm of Stikine River except 26.19; two special use permitted cabins and two special use permitted tent platforms. Wrangell home range.
22030.00 Stikine River - Goat Lake	586 acres. ROS Class: P. Includes locally known as Goat Lake and area surrounding lake. Outside home range.
22030.01 Stikine River - Andrew Lake	288 acres. ROS Class: P. Includes area locally known as Andrew Lake and area surrounding lake. Outside home range.
22038.00 Stikine River - Border Lake	384 acres. ROS Class: P. Includes alpine area around locally known as Border Lake near Canada/U.S. border. Outside home range.
22038.01 Stikine River - Shakes Alpine Lake	150 acres. ROS Class: P. Includes alpine area around locally known as Alpine Lake. Outside home range.
Commercial Use	Transporting; guided big game hunting (black/brown bear, mountain goat); freshwater fishing, hot tubs, camping, shorebird and waterfowl viewing, RSNT
Non-commercial Use	Hunting, fishing, hot tubs, camping, rock/ice climbing; private and recreation cabin camping, shorebird and waterfowl viewing, sightseeing, water play, picnic, snow machining, skiing, trapping
Use Patterns	Generally, all of the study area is within home range except: the alpine (fly-in) lakes (Goat, Andrews, Border, Alpine); Shakes Lake, and south side Stikine River - Shakes Slough to Border.
Concerns	Crowding; commercial users versus non-commercial users; unauthorized float houses; adjudication of ordinary high water mark along Stikine River
<u>Management/Resource Considerations</u>	
Subsistence	The Stikine River is a subsistence harvest area for sockeye and coho salmon, steelhead and Dolly Varden.
Wildlife	
Fisheries	The Stikine River is a personal use harvest area for sockeye and coho salmon, steelhead and Dolly Varden. It has a sockeye run that can easily surpass 10,000 individuals during good return years. It also has one of the highest reported sockeye harvests on the Wrangell Ranger District (>1000 fish total from 2001-2007). A moderately-sized wild salmon run exists in Andrews Creek, a tributary to the Stikine River. Trout/char comprise a large part of the catch at Andrews Creek.
Botany/Invasive Plants	
Cultural Heritage	Five historic properties have been documented within the study area.

Existing Conditions
Study Area 10
Stikine-LeConte Wilderness

Recreation Visitor Days (RVDs) Allocation and Actual Use

2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
6,020	300	671	614	308	363

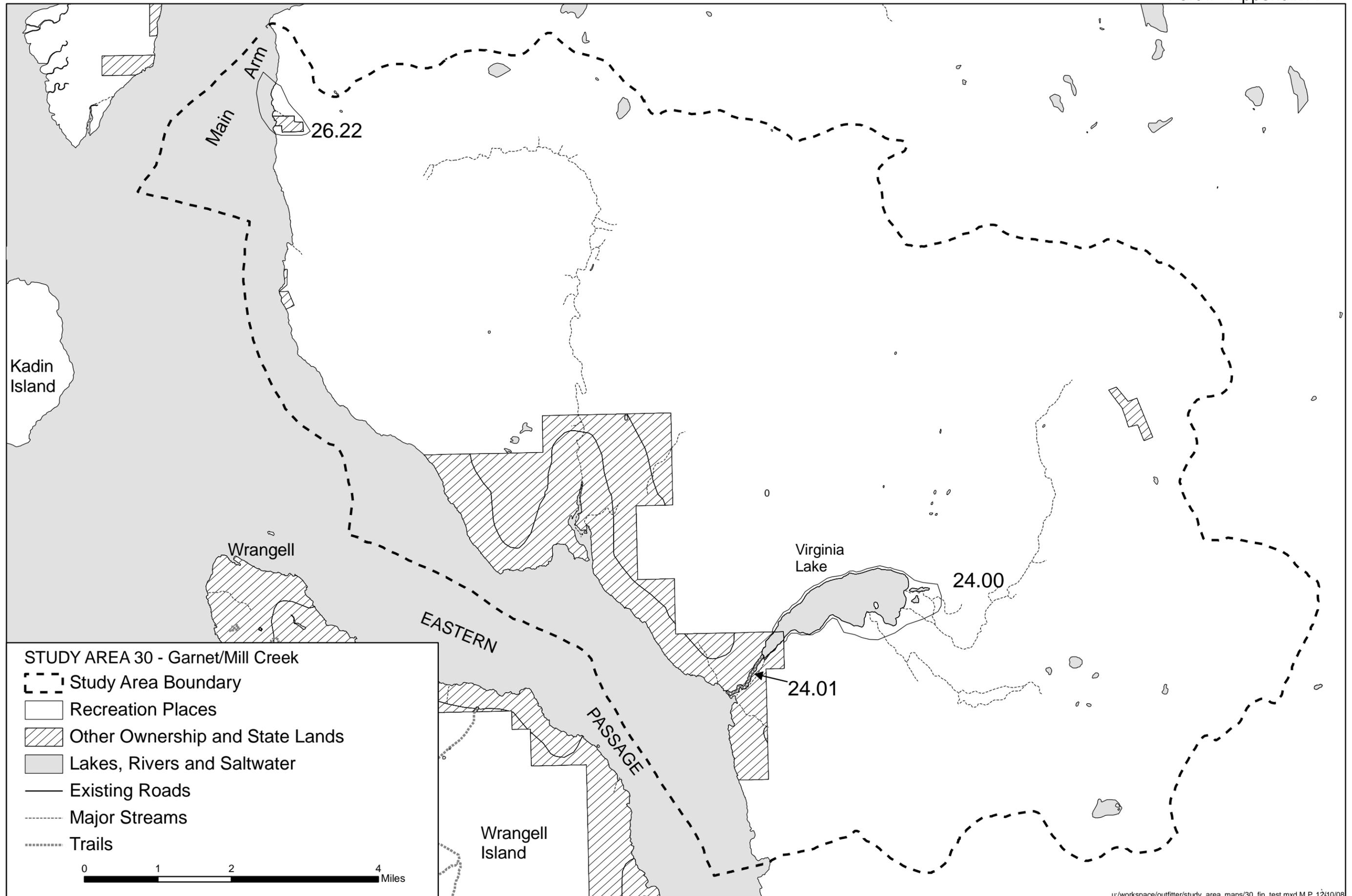
Refer to the following USGS maps for reference: Petersburg C1, C2, D1; Bradfield C6.

Existing Conditions
Study Area 30
Garnet/Mill Creek

<u>Description</u>	
The Garnet/Mill Creek study area is located on the mainland, east of Wrangell Island, with the Stikine-LeConte Wilderness boundary to the north, eastern Passage to the west and Study Area 40 along the south and east boundaries. The three recreation places are the main features of this study area. All of the recreation places are within the Semi-primitive Motorized (SPM) Recreation Opportunity Spectrum (ROS).	
Communities	None
<u>Non-National Forest System Lands</u>	
Mill Creek Trail (State land), Garnet Ledge (private land), Green Point (private lands)	
<u>Recreation Use</u>	
Recreation Places	All recreation places are within Wrangell's home range.
22024.00 Virginia Lake	372 acres. ROS Class: SPM. Includes Virginia Lake shoreline and Virginia Lake FS recreation cabin (lake is greater than 100 acres, so it is not included in the recreation place acres). This cabin is the closest FS recreation cabin to the City of Wrangell. Accessed by floatplane or by hiking the Mill Creek trail from saltwater. Popular for moose hunting and trout fishing.
22024.01 Mill Creek Trail	20 acres. ROS Class SPM. Located on State lands. The Forest Service retained right-of-way (ROW) for the trail.
22026.22 Garnet Ledge	88 acres. ROS Class SPM. Includes Garnet Ledge FS recreation cabin. The recreation place includes a rail to Garnet Ledge, which is located on private property.
Commercial Use	Transporting; guided freshwater fishing, RSNT, camping, hunting
Non-commercial Use	Fly-in visits/camping at Virginia Lake Cabin, fishing, moose hunting
Use Patterns	This area receives use from Wrangell residents. The entire study area is within Wrangell's home range. Of all fly-in recreation cabins, Virginia Lake cabin is shortest air mile distance from Wrangell's airport. Lake can also be accessed from saltwater via the Mill Creek trail. Popular trout fishing and moose hunting area for locals.
Concerns	None.
<u>Management/Resource Considerations</u>	
Subsistence	Mill Creek is a subsistence harvest area for sockeye salmon.
Wildlife	
Fisheries	Mill Creek is a personal use harvest area for sockeye salmon and has had one of the highest reported sockeye harvests on the Wrangell Ranger District (>1000 fish total from 2001-2007). Sockeye salmon are abundant in Mill Creek/Virginia Lake.
Botany/Invasive Plants	
Cultural Heritage	Six historic properties have been documented within the study area.

Existing Conditions
 Study Area 30
 Garnet/Mill Creek

<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
4,447	29	384	20	12	13
Refer to the following USGS maps for reference: Petersburg C1, C2, B1.					



Existing Conditions
Study Area 40
Madan/Boulder

<u>Description</u>	
This study area contains the mainland to the east of Wrangell Island. It includes the Aaron Creek watershed and estuary. Other than the Berg Bay recreation cabin and Aaron Creek trail, the rest of the study area remains a remote experience. All of the recreation places are within the Semi-primitive motorized (SPM) Recreation Opportunity Spectrum (ROS).	
Communities	None
<u>Non-National Forest System Lands</u>	
None.	
<u>Recreation Use</u>	
Recreation Places	All of the recreation places are within Wrangell’s home range.
22020.00 Berg Bay/Aaron Creek	1,369 acres. ROS CLASS: SPM. Includes shoreline around Berg Bay, Aaron Creek estuary and delta; the Berg Bay recreation cabin and Aaron’s Creek trail.
22021.01 Berg Mtn - SPNM	36 acres. ROS Class: SPNM. Recreation place created in 2009. Includes SPNM lower portion of Berg Mtn trail.
22021.02 Berg Mtn - P	300 acres. ROS Class: P. Recreation place created in 2009. Includes P upper portion of Berg Mtn trail.
22022.0 Madan Bay	170 acres. ROS Class: SPM. Includes area at north end of Madan Bay.
22022.02 Jenkins Cove	168 acres. ROS Class: SPM. Includes area at south end of locally known Jenkins Cove.
22022.03 Narrow’s Point	320 acres. ROS Class: SPM. Includes shoreline on north side of “The Narrows”.
22022.04 Madan Bay Trail - SPM	56 acres. ROS Class: SPM. Recreation place created in 2009. Includes SPM portion of trail leading from Madan Bay.
22022.05 Madan Bay Trail - SPNM	92 acres. ROS Class: SPNM. Recreation place created in 2009. Includes SPNM portion of trail being utilized by permitted outfitter/guide.
22022.06 Madan Bay Trail - P	241 acres. ROS Class: P. Recreation place created in 2009. Includes P portion of trail leading to alpine, being utilized by permitted outfitter/guide.
22023.00 Boulder Creek	12 acres. ROS Class: SPM. Recreation place created in 2009. Includes area at mouth of locally known Boulder Creek and campsite currently utilized by permitted outfitter/guide.

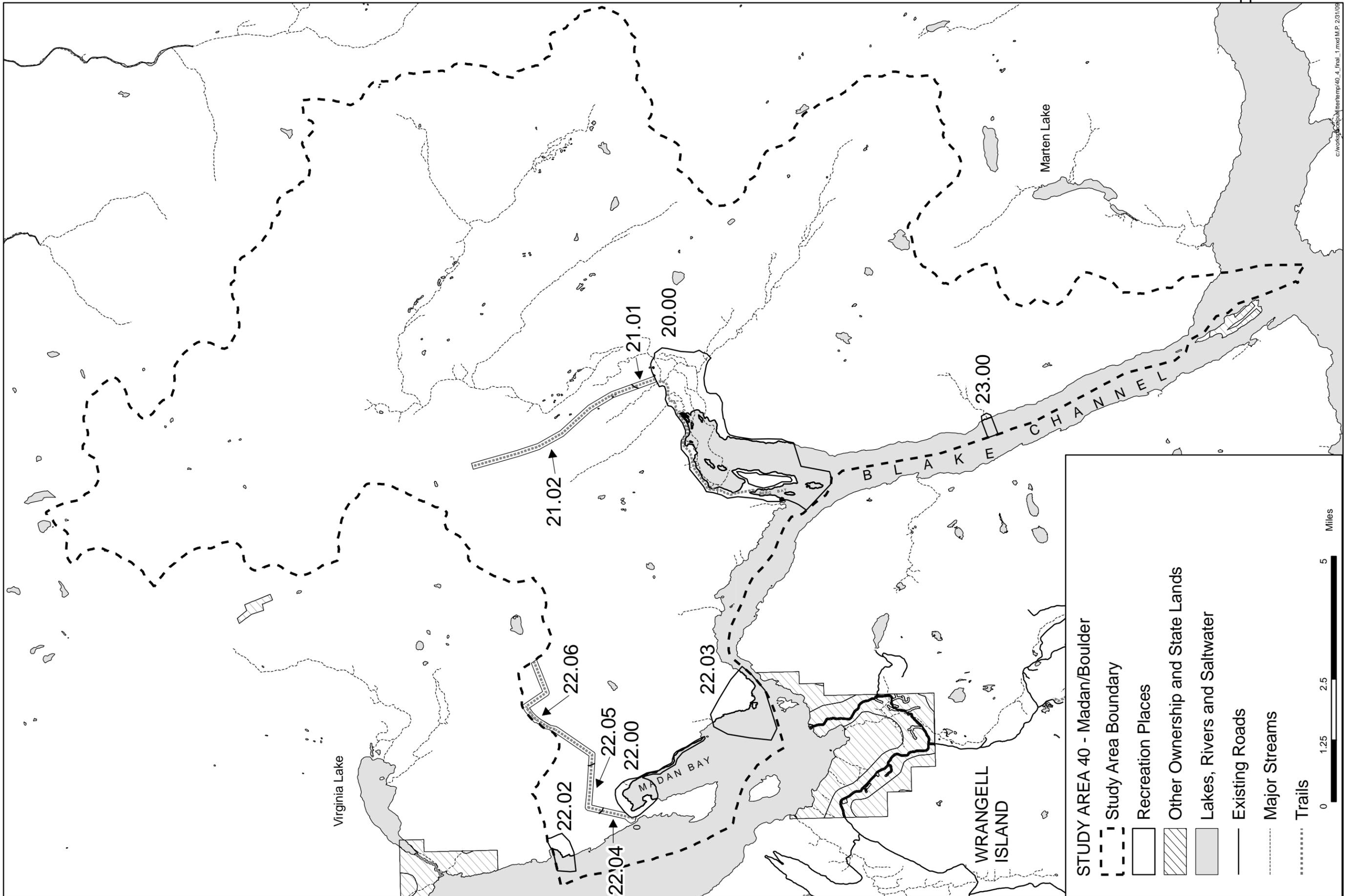
Existing Conditions
Study Area 40
Madan/Boulder

<u>Recreation Use (continued)</u>	
Commercial Use	Guided big game hunting (black/brown bear, mountain goat), hiking, camping, fishing, RSNT.
Non-commercial Use	Hiking, cabin camping, backpacking, dispersed site camping, waterfowl hunting, big game hunting (black/brown bear, deer, moose and mountain goat), trapping, whitewater rafting, sightseeing, fishing.
Use Patterns	Home range; receives use all year due to easy and protected access.
Concerns	Commercial access to Aaron Creek trail should be from the head of the bay, not in front of Berg Bay cabin (Permit Special Stipulation).

<u>Management/Resource Considerations</u>	
Subsistence	No reported subsistence harvest in this study area.
Wildlife	
Fisheries	No reported personal use harvest in this study area.
Botany/Invasive Plants	
Cultural Heritage	Three historic properties have been documented within the study area.

<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
504	30	588	244	162	410

Refer to the following USGS maps for reference: Petersburg B1; Bradfield A6, B6, C1, C6.



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Existing Conditions
Study Area 50
Bradfield

<u>Description</u>	
This study area borders Canada and contains many tributaries that run into the Bradfield River and Canal. The Bradfield Canal is a fiord. The Bradfield River originates near Canada. Several Forest Service recreation cabins are included in this study area as well as the Tye/Wrangell/Petersburg Powerline and Intertie power project. This area is outside home range of the communities of Wrangell and Ketchikan and therefore quite remote.	
Communities	None, but area includes 3 year-round residences at the Tye Lake Hydroelectric Project.
<u>Non-National Forest System Lands</u>	
State-selected lands from the mouth of Bradfield River to Harding River including Tye Lake.	
<u>Recreation Use</u>	
Recreation Places	The entire study area is outside of Wrangell's home range.
22001.00 Bradfield- Head	911 acres. ROS Class: SPM. Includes east end of Bradfield Canal and Bradfield River tidal flats.
22002.00 Bradfield- Eagle River	510 acres. ROS Class: SPM. Includes over 1½ miles of Eagle River and estuary. Eagle River receives the highest sport fishing outfitter/guide use on the Wrangell Ranger District (the average use from 2004-2007 was 21 RVDs/year).
22002.03 Bradfield- Eagle Lake	872 acres. ROS Class: SPM. Includes the area around Eagle Lake FS recreation cabin (the lake is greater than 100 acres, so it is not included in the recreation place acres).
22005.00 Bradfield- Harding River	222 acres. ROS Class: P. Includes the lower reaches of the Harding River and Harding River FS recreation cabin.
22009.00 Bradfield- Tom Creek	127 acres. ROS Class: SPM. Includes lower reaches of Tom Creek.
22011.00 Bradfield- Canal Creek	95 acres. ROS Class: SPM. Includes area on south side of Bradfield Canal at mouth of (locally known) Canal Creek.
22013.00 Bradfield- Franks Creek	144 acres. ROS Class: SPM. Includes area on north side of Bradfield Canal locally known as Franks Creek.
22017.00 Bradfield- Lower Marten Creek	90 acres. ROS Class: SPM. Includes area around the lower (southern) portion of Marten Creek (below a natural barrier) to where it empties into the Bradfield Canal. Marten Creek is one of the highest sport fishing outfitter/guide use areas on the Wrangell Ranger District (the average use from 2004-2007 was 6 RVDs/year).
22018.00 Bradfield- Marten Lake	391 acres. ROS Class: SPM. Includes area around Marten Lake and Marten Lake FS recreation cabin, down to the upper reaches of the outlet.
22018.01 Bradfield- Upper Marten Lake	116 acres. ROS Class: SPNM. Includes area around Upper Marten Lake. This lake is sometimes used as a base for mountain goat hunting.
Commercial Use	Steelhead fishing, guided big game hunting (black/brown bear, mountain goat).

**Existing Conditions
Study Area 50
Bradfield**

<u>Recreation Use (continued)</u>													
Non-commercial Use	Cabin camping, big game hunting (black/brown bear, moose, mountain goat), waterfowl hunting, freshwater fishing.												
Use Patterns	Outside home range, generally accessed by saltwater except for high lakes, which are accessed by float plane.												
Concerns	Steelhead fishing experience – one way in and out of Bradfield Canal which has 3 major steelhead streams; hunting human-habituated bears; Swan Tye Intertie power project construction scheduled through 2009 - possible conflicts with big game guides and Eagle Lake cabin visitors.												
<u>Management/Resource Considerations</u>													
Subsistence													
Wildlife													
Fisheries	Eagle River has one of the largest steelhead returns on the Wrangell Ranger District and is consequently one of the most popular steelhead fisheries. Marten Creek is also one of the most popular steelhead fisheries on the District. The Bradfield and Harding Rivers support small wild king salmon runs.												
Botany/Invasive Plants													
Cultural Heritage	Twenty-two historic properties have been documented within the study area.												
<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 16.6%;">2004 OG EA Allocation to O/Gs</th> <th style="width: 16.6%;">2004 Actual Use</th> <th style="width: 16.6%;">2005 Actual Use</th> <th style="width: 16.6%;">2006 Actual Use</th> <th style="width: 16.6%;">2007 Actual Use</th> <th style="width: 16.6%;">2008 Actual Use</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">701</td> <td style="text-align: center;">85</td> <td style="text-align: center;">71</td> <td style="text-align: center;">56</td> <td style="text-align: center;">62</td> <td style="text-align: center;">75</td> </tr> </tbody> </table>		2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use	701	85	71	56	62	75
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use								
701	85	71	56	62	75								
Refer to the following USGS maps for reference: Bradfield A4, A5, A6, B4, B5, B6, C5, C6.													



Existing Conditions
Study Area 60
Anan

<u>Description</u>	
<p>This study area includes the Anan Wildlife Observatory and associated trail; Anan Bay, Anan Creek and Anan Lake recreation cabins and Boulder and Goat Lakes. This is one of the main recreation/wildlife attractions on the Wrangell District, attracting people from around the world to view brown and black bears in a remote but controlled setting. During the managed season (July 5 - August 25) permits are required under the Federal Lands Recreation Enhancement Act. During this time use is limited to 60 visitors per day. Use also occurs outside of the managed visitor season. Closure orders are in place to modify and make human behavior as predictable as possible to the bears. The access is undeveloped but a boardwalk trail leads to the covered shelter type observatory. The recreation places are within the Primitive (P) and Semi-Primitive (SPM) Recreation Opportunity Spectrum (ROS).</p>	
Communities	None
<u>Non-National Forest System Lands</u>	
Two parcels of Sealaska lands	
<u>Recreation Use</u>	
Recreation Places	Two of the three recreation places are outside of Wrangell's home range.
22012.00 Anan Creek – Shoulder Season	51 acres. ROS Class: SPM. The Anan shoulder season includes the spring and late summer/fall seasons. This recreation place includes the Anan Bay FS recreation cabin, the trail to the primary trailhead, around the lagoon, to the observatory and beyond to the upper falls. The Anan trail is ½ mile long from the trailhead to the observatory. Anan Creek is a popular site for steelhead fishing in the spring and receives the second highest amount of outfitted/guided sport fishing on the Wrangell Ranger District (the average use from 2004-2007 was 10 RVDs/year). Home range.
22012.02 Anan/Boulder Lake	631 acres. ROS Class: P. Includes Anan Lake and FS recreation cabin and Boulder Lake (no cabin). There is a maintained trail between the two lakes. Rowboats are stored at each lake. Outside home range.
22016.00 Goat Lakes	510 acres. ROS Class: P. Includes area around lakes locally-known as Goat Lakes in upper east fork of Anan Creek drainage. Outside home range.
Commercial Use	Spring steelhead fishing; transporting; wildlife viewing at Anan Wildlife Observatory (mainly during high use season of July 5 - August 25); guided mountain goat hunting, crabbing.
Non-commercial Use	Wildlife viewing, cabin camping, sightseeing, trapping, fishing, mountain goat hunting.
Use Patterns	Residents of Wrangell have a lot of ownership in Anan: historically, for its fish production and its stake in the tourism industry. Access to Anan Wildlife Observatory is primarily by saltwater and secondarily by floatplane. Access to the lakes is by floatplane.
Concerns	Hunting black bear that have been habituated to humans. Past studies of collared bears indicate the bears of Anan use are wide-ranging in their use of the Cleveland Peninsula. There is a bear hunting closure order for part of the area.

Existing Conditions
Study Area 60
Anan

Management/Resource Considerations

Subsistence

Wildlife

Major fish and wildlife viewing area.

Fisheries

Anan Creek has one of the largest steelhead returns and is one of the most popular steelhead fisheries on the Wrangell Ranger District.

Botany/Invasive Plants

Cultural Heritage

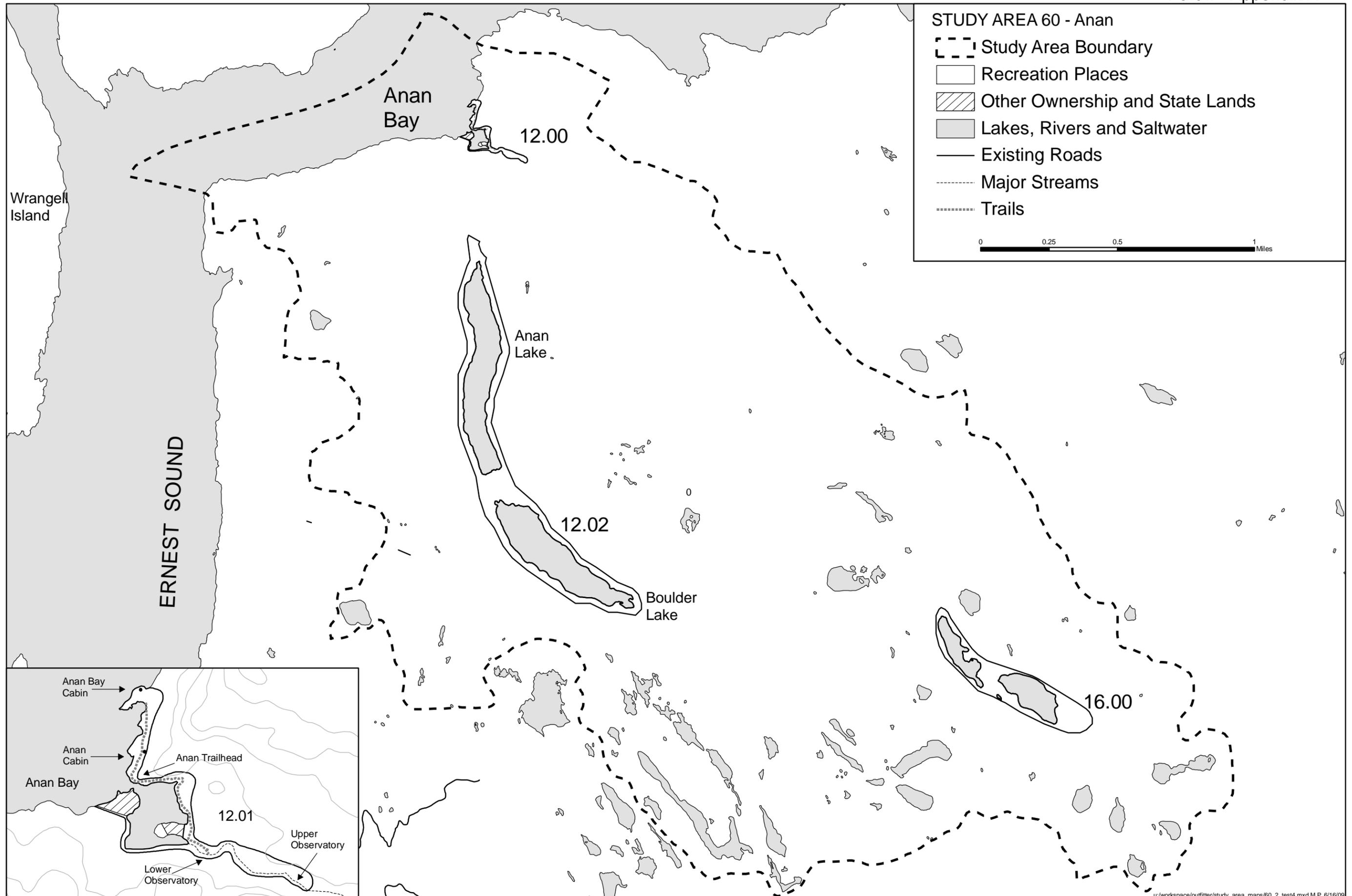
Six historic properties have been documented within the study area.

Recreation Visitor Days (RVDs) Allocation and Actual Use

2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
NA	41 ²	62	49	67	50

Refer to the following USGS maps for reference: Bradfield A6.

² These use numbers reflect use during the shoulder wildlife viewing and steelhead fishing seasons.



Existing Conditions
Study Area 70
Cleveland Pen/Deer Island

<u>Description</u>	
This study area includes the Wrangell District portion of the Cleveland Peninsula, Deer Island and many adjacent islands. The southeastern side of the peninsula is managed by the Ketchikan Ranger District.	
Communities	None
<u>Non-National Forest System Lands</u>	
State lands at Sunny Bay	
<u>Recreation Use</u>	
Recreation Places	Entire study area is outside Wrangell and Ketchikan's home range.
22014.00 Cleveland - Point Ward/Cannery Cove	66 acres. ROS Class: SPM. Includes Point Ward uplands.
22015.00 Cleveland - Frosty Bay	74 acres. ROS Class: SPM. Includes the Frosty Bay FS recreation cabin and some of the road system associated with past timber harvest.
22039.00 Cleveland - Santa Anna	288 acres. ROS Class: SPM. Includes area around Santa Anna Inlet.
22039.01 Cleveland - Lake Helen	143 acres. ROS Class: SPNM. Includes area around Lake Helen.
22040.00 Deer Island - South Shores	1,722 acres. ROS Class: RM. New recreation place in 2008. Includes east and south shores of Deer Island and adjoining islands to the SW.
22040.01 Deer Island - NW Side	426 acres. ROS Class: SPM. New recreation place in 2008. Includes floating base camp for outfitter/guide operations with associated use of uplands.
22041.00 Deer Island - North	133 acres. ROS Class: SPM. New recreation place in 2008. Includes shoreline of northern tip of Deer Island (Kuakan Point).
22042.00 Niblack Islands	408 acres. ROS Class: SPM. New recreation place in 2008. Includes Special Use Permitted recreation cabin on one of the Niblack Islands.
Commercial Use	Camping, guided big game (black/brown bear), hunting freshwater fishing
Non-commercial Use	Camping at Frosty Bay FS recreation cabin, hiking/hunting road system from cabin, Niblak Island includes special use isolated cabin, freshwater fishing at Lake Helen, popular anchorages at Frosty Bay, Santa Anna Inlet.
Use Patterns	This study area is generally accessed by saltwater; outside home range.
Concerns	Hunting of human-habituated bears; visitors searching for heritage features.

Existing Conditions
Study Area 70
Cleveland Pen/Deer Island

Management/Resource Considerations

Subsistence

Wildlife

Fisheries

Botany/Invasive Plants

Cultural Heritage Nine historic properties have been documented within the study area.

Recreation Visitor Days (RVDs) Allocation and Actual Use

2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
591	263	328	611	315	409

Refer to the following USGS maps for reference: Bradfield A6; Ketchikan D6; Craig D1.



Existing Conditions
Study Area 80
Wrangell Island

<u>Description</u>	
Wrangell Island provides the highest concentration of recreation on the Wrangell District. Hundreds of miles of roads and proximity to Wrangell give both residents and guided and unguided visitors access to the island. There are several hiking trails, campsites, and shelters and a variety of dispersed recreation locations. The City of Wrangell and State of Alaska also provide recreation and camping opportunities on non-National Forest Systems lands on this island.	
Communities	Study area is adjacent to the City of Wrangell; Wrangell East and West Subdivisions; Thoms Place, Thoms Place Marine Park
<u>Non-National Forest System Lands</u>	
Wrangell Town Site non-National Forest; inholdings include State and private lands within: Thoms Place, Thoms Lake, Old Town ANSCA selection, Private land on Blake Island, Wrangell East, Wrangell West, Earl West Cove, Reservoir Selection.	
<u>Recreation Use</u>	
Recreation Places	All recreation areas are within Wrangell's home range.
22092.02 Wrangell Island - Institute Trail	167 acres. ROS Class: SPNM. Trail begins 0.6 mile from the Rainbow Falls trailhead. Institute Creek Trail continues 2.7 miles to its terminus at the Shoemaker Bay Overlook Shelter.
22092.03 Wrangell Island - Nemo Point Roads and Campsites	492 acres. ROS Class: RM. Includes the sites and the road system that accesses the sites. 14 miles south of Wrangell off of Zimovia Highway and Forest Highway 16 to Forest Road 6267. Entry site with information displayed at 0.5 mile; Yunshookuh Loop (3 sites) at 0.7 mile; Three Sisters View Point (1 site) at 1.5 mile; Anita Bay Overlook (2 sites) at 2.2 mile, and Highline Campsite (2 sites) at 3.3 mile along Forest Road 6267. Sites provide spectacular views of Zimovia Strait and North Etolin Island. Parking areas, picnic tables, fire grills, and outhouses at each campsite.
22092.04 Wrangell Island - Pats Valley Roads	1,366 acres. ROS Class: RM. Includes the road right-of-way along the maintained road system from the junction with Zimovia Highway through State Lands.
22092.05 Wrangell Island - Lower Rainbow Falls Trail	6 acres. ROS Class: RM. 4.5 miles south of Wrangell adjacent to Zimovia Highway. Includes the Rainbow Falls Trail from the trailhead to the large bridge crossing Institute Creek.
22092.06 Wrangell Island - Upper Rainbow Fall Trail	18 acres. ROS Class: SPM. Includes partially surfaced Rainbow Falls Trail from the large bridge crossing Institute Creek, to 0.6 mile junction of Institute Creek trail. Access to picnicking, views of a scenic waterfall, and Zimovia Strait.
22092.07 Wrangell Island - Thoms Lake Road	1,179 acres. ROS Class: RM. Includes maintained Forest Road 6267 between junction of Forest Road 6265 and Turn Island Trailhead.
22092.08 Wrangell Island - 6265 Road Plus	1,686 acres. ROS Class: RM. Main Forest Roads between State Lands at McCormack Creek and State Lands at Earl West Creek, including: 6265, 6263 (Basin Rd), 50024, 50050 (Salamander Rd), 50022 (Garnet Rd).

Existing Conditions
Study Area 80
Wrangell Island

Recreation Places (continued)	
22092.09 Wrangell Island - No Wrangell Trail SPM	45 acres. ROS Class: SPM. Includes the North Wrangell Trail (aka High Country Trail) from the junction of Institute Creek trail and the trail to Institute Ridge shelter, to the trailhead on the backside of Wrangell Island.
22092.10 Wrangell Island - No Wrangell Trail SPNM	186 acres. ROS Class: SPNM. 3.5 miles from Rainbow Falls trailhead via Rainbow Falls Trail to Institute Creek Trail, to North Wrangell Trail. Trail system leads to a three-sided shelter for picnicking and camping. Excellent views of mainland and surrounding islands. Facilities include a picnic table and outhouse.
22094.01 Wrangell Island - Upper Salamander	31 acres. ROS Class: RM. 17 miles SE of Wrangell on Forest Road 6265. Access via 700-foot trail from parking area to picnicking, camping, and fishing opportunities on scenic Salamander Creek. Facilities include picnic table, fire grill, and outhouse.
22094.02 Wrangell Island - Highbush Lake SPM	209 acres. ROS Class: SPM. Includes area around east end of Highbush Lake.
22094.03 Wrangell Island - Highbush Road	278 acres. ROS Class: RM. Includes Forest Road 50040 (Highbush Rd), parking area, trailhead to lake, boat at Highbush Lake, area around west end of Highbush Lake.
22094.04 Wrangell Island - 6265 Road and State lands	211 acres. ROS Class: RM. Includes Forest Road 6265 within Earl West State land.
22094.05 Wrangell Island - Earl West Recreation Site	4 acres. ROS Class: RM. 28 miles SE of Wrangell at the end of Forest Road 6265. Access via 100-foot trail from parking area to picnic site with scenic view of saltwater and mountains. Opportunities for picnicking, camping, and stream and saltwater fishing. Facilities include parking area, picnic table, fire grill, and outhouse.
22094.06 Wrangell Island - Earl West Marsh	237 acres. ROS Class: RM. Includes a low-lying portion of the Earl West ecosystem of marsh and muskeg, accessible from Forest Road 6270.
22094.07 Wrangell Island - Lower Salamander	52 acres. ROS Class: RM. 23 miles SE of Wrangell off of Forest Roads 6265 and 50050. Site adjacent to scenic Salamander Creek with good access to fishing. Camping and picnic opportunities - picnic tables and fire grills at three locations on site. Parking area and outhouse provided.
22094.08 Wrangell Island - 6299/6270 Roads	1,936 acres. ROS Class: RM. Forest Road 6270 south from Earl West State land, including Forest Road 6276; plus Road 6299 from junction with Road 6270 to the Thoms Creek State land.
22094.10 Wrangell Island - Salamander Ridge Trail	84 acres. ROS Class: RM. New recreation place in 2008. 27 miles south of Wrangell off of Forest Roads 6265 and 50050. First 500 feet of 1 mile trail is surfaced with boardwalk; no surfacing thereafter. Trail leads to subalpine with excellent views.

**Existing Conditions
Study Area 80
Wrangell Island**

Recreation Places (continued)	
22094.15 Wrangell Island - Thoms Creek - Recreation Site and State lands	45 acres. ROS Class: RN. 38 miles from Wrangell off Forest Roads 6265, 6270 and 6299. Access via 100-foot trail from parking area to picnicking, camping, and fishing opportunities on scenic Thoms Creek. Parking area, picnic table, fire grill, and outhouse.
22094.16 Wrangell Island - End of Road 6299	291 acres. ROS Class: RM. Forest Road 6299 from Thoms Creek State land to its terminus.
22100.00 Wrangell Island - Long Lake Road	196 acres. ROS Class: RM. Includes the area along Forest Road 6271 from the junction of Forest Road 6270, to the Long Lake trailhead; includes parking area, picnic table; 0.6 mile boardwalk trail to Long Lake.
22100.01 Wrangell Island - Long Lake	327 acres. ROS Class: SPM. 28 miles SE of Wrangell. Includes the terminus of boardwalk trail at the shelter at Long Lake and facilities which include: picnic table, fire grill, outhouse, skiff, and oars. Opportunities for picnicking, camping and trout fishing.
22103.00 Wrangell Island - Blake Island Bay	80 acres. ROS Class: SPM. New recreation place in 2008. Includes Blake Island Bay on Wrangell Island, just west of Blake Island; used for camping near, but not at, Anan Creek/Wildlife Observatory.
22104.01 Wrangell Island - Thoms Lake Trail thru State land	48 acres. ROS Class: SPM. 22 miles south of Wrangell off of Forest Roads 6265 and 6290. Entire 1.4 mile trail is a graveled surface.
22105.00 Wrangell Island - Fools Inlet	957 acres. ROS Class: SPM. Includes the area immediately adjacent to Fool's Inlet, which can be accessed by the saltwater and hiking from Forest Road 6276.
22107.00 Wrangell Island - Turn Island/Trail	183 acres. ROS Class: SPM. 19 miles South of Wrangell off of Forest Road 6267. Site accessed by 0.5 mile trail beginning at 5.2 mile off Forest Road 6267 or from saltwater. Camping and picnic opportunities, facilities include: tent pads, picnic tables, fire ring, woodshed, and outhouse.
22109.00 Wrangell Island - SE Cove/Thoms Point	713 acres. ROS Class: SPM. Includes lands adjacent to SE Cove to Thoms Point. Accessed by saltwater.
Commercial Use	Outfitting/transporting on road system, hiking, road-based nature tours, freshwater fishing, picnicking, RSNT.
Non-commercial Use	Picnicking, berry picking, biking, camping, freshwater fishing, hiking, cross-country skiing, driving road system, picnicking, snow machining; big game hunting (black/brown bear, deer, moose), trapping, ATV use, horseback riding.
Use Patterns	Home range for Wrangell residents; utilized by local residents and visitors with own transportation.
Concerns	None.

**Existing Conditions
Study Area 80
Wrangell Island**

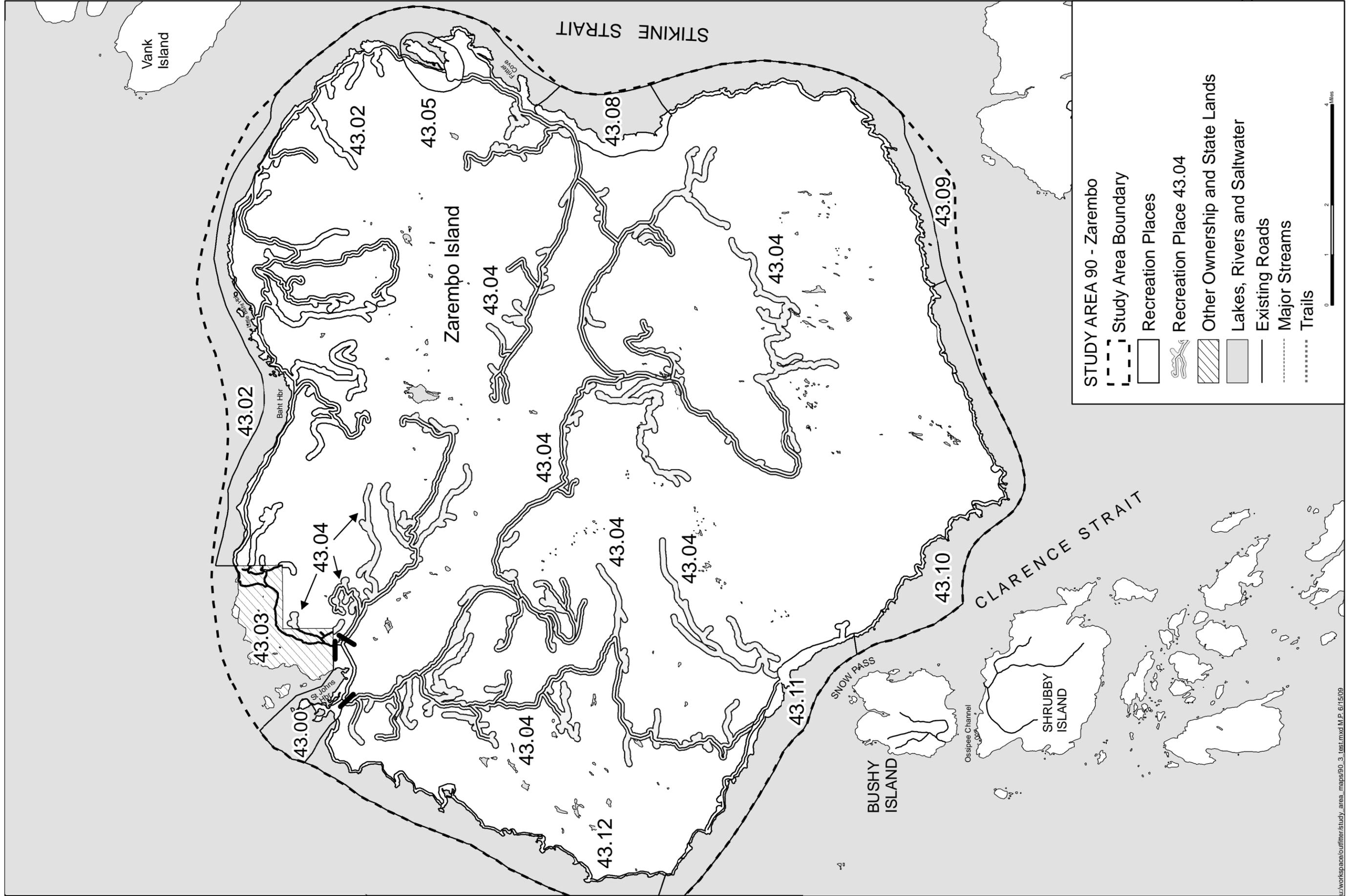
<u>Management/Resource Considerations</u>					
Subsistence	Subsistence use harvest of fishes occurs on Thoms Creek. Sockeye salmon is the most harvested species.				
Wildlife					
Fisheries	Personal use harvest of fishes occurs on Thoms Creek. Sockeye salmon are abundant at Thoms Creek and Thoms Lake and are subsequently the most harvested species. Thoms Creek has one of the highest reported sockeye salmon harvest on the Wrangell Ranger District (greater than 1,000 fish total from 2001-2007).				
Botany/Invasive Plants					
Cultural Heritage	Eighty-five historic properties have been documented in the study area.				
<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
1,700	347	579	718	472	236
Refer to the following USGS maps for reference: Petersburg A1, B1, B2; Bradfield A6, B6.					

Existing Conditions
Study Area 90
Zarembo Island

<u>Description</u>	
Zarembo Island, west of Wrangell, provides for some of the roaded recreation available on Wrangell Ranger District. Two marine access points provide docks and road access. The roads were built to support timber harvest and the main roads continue to be maintained. Future timber harvest is planned for this island. Zarembo also has a small minerals exploration project near Frenchie Creek. Zarembo supports a Sitka black-tailed deer population. Residents of Wrangell harvest deer from Zarembo and guided deer hunts are also allowed. Elk were transplanted on Etolin Island and some of that herd has arrived on Zarembo. Recreation is dispersed and as of 2008 there are no developed recreation facilities on the island.	
Communities	None
<u>Non-National Forest System Lands</u>	
State lands at St John Harbor	
<u>Recreation Use</u>	
Recreation Places	Five of 10 recreation places are outside of Wrangell's home range.
22043.00 Zarembo - St John	872 acres. ROS Class: RM. Includes marine access point, uplands and road around St John Harbor and FS administration cabin. Outside home range.
22043.02 Zarembo - Beach Road – RM	3,675 acres. ROS Class: RM. Includes shoreline and roads on north side of Zarembo Island, from State lands at St John Harbor to Deep Bay. Home range.
22043.03 Zarembo - St John State Land ROW	71 acres. ROS Class: RM. This recreation place was added in 2008. Includes FS mainline roads within State lands at St John Harbor. Home range.
22043.04 Zarembo - Interior Roads	9,034 acres. ROS Class: RM. Includes FS maintained roads on interior Zarembo Island. Home range.
22043.05 Zarembo - Roosevelt/ Deep Bay	532 acres. ROS Class: RM. Includes marine access point, uplands and road around Deep Bay and Roosevelt Harbor, and FS administration cabin. Home range.
22043.08 Zarembo - Meter Bight	506 acres. ROS Class: SPM. Includes shoreline around Meter Bight Bay. Home range.
22043.09 Zarembo - SE Beach	426 acres. ROS Class: SPM. Includes shoreline around southeast shore of Zarembo Island. Outside home range.
22043.10 Zarembo - South Beach/ Snow Pass	410 acres. ROS Class: RM. Includes shoreline around southwest shore of Zarembo Island. Outside home range.
22043.11 Zarembo - North Snow Pass/ Macnamara	615 acres. ROS Class: RM. Includes shoreline and some roads (Maintenance Level 1 – Stored) around southwest shore of Zarembo Island from Snow Pass to Point Macnamara. Outside home range.
22043.12 Zarembo - Macnamara/ St John	340 acres. ROS Class: RM. Includes shoreline around west shore of Zarembo Island from Point Macnamara to St John Harbor. Outside home range.

Existing Conditions
Study Area 90
Zarembo Island

<u>Recreation Use (continued)</u>					
Commercial Use	Transporting; guided big game (deer); RSNT.				
Non-commercial Use	Beachcombing, berry picking, big game hunting (deer, elk), snow machining, recreational driving, camping.				
Use Patterns	Northeast and eastern shores within home range; road system is accessed by St John and Roosevelt Harbors; some locals leave vehicles on island for transportation.				
Concern	Closing roads due to lack of maintenance funding.				
<u>Management/Resource Considerations</u>					
Subsistence					
Wildlife	Elk were transplanted on Etolin Island and some of that herd has arrived on Zarembo.				
Fisheries					
Botany/Invasive Plants					
Cultural Heritage	Ten historic properties have been documented within the study area.				
<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
2,107	7	3	3	12	2
Refer to the following USGS maps for reference: Petersburg A3, B2, B3, B4.					



Existing Conditions
Study Area 100
North Etolin Island

<u>Description</u>	
North Etolin Island study area includes remote high peaks, alpine lakes, two fjord-like bays (Mosman and Burnett) and a road system. Also includes Anita Bay and Honeymoon marine access points, which provide a dock and access to roads that radiate to the north and east. The Forest Service maintains a field camp (Camp Carl) near Anita Bay. Anita Bay is a site for a terminal fishery. There is a FS Recreation Cabin located at Steamer Bay and a trail and shelter at Kunk Creek/Lake. There are no other developed recreation facilities on the island. Recreation is dispersed and either boat based or road based for fishing, camping and hunting. Permitted special uses include mountain top communication sites, Southern Southeast Regional Aquaculture Association Burnett Inlet Hatchery and an oyster farm.	
Communities	Olive Cove
<u>Non-National Forest System Lands</u>	
Private and State lands (Olive Cove, McHenry Anchorage)	
<u>Recreation Use</u>	
Recreation Places	Ten of 30 recreation places are outside of Wrangell's home range.
22055.00 N Etolin - Honeymoon Creek	37 acres. ROS Class: RM. Includes shoreline at the mouth of Honeymoon Creek. Home range.
22055.01 N Etolin - King George Roads	775 acres. ROS Class: RM. Includes entire road system originating from Honeymoon marine access point. Home range.
22056.00 N Etolin - King George	407 acres. ROS Class: SPM. Includes shoreline around King George Bay. Home range.
22057.00 N Etolin - Kunk Creek & Lake	495 acres. ROS Class: SPM. Includes trailhead at saltwater and Kunk Creek trail leading to Kunk Lake Shelter and surrounding area adjacent to lake. There is a rowboat at the shelter which can be taken to the far side of the lake to access the alpine for mountain climbing, hunting, exploring. Home range.
22058.00 N Etolin - Dog Salmon	112 acres. ROS Class: SPM. Includes shoreline of locally known Dog Salmon Bay. Home range.
22058.01 N Etolin - Honker Hole	67 acres. ROS Class: SPM. Includes area around locally known Honker Hole Bay. Home range.
22058.02 N Etolin - Virginia Peak	255 acres. ROS Class: P. Includes area of Virginia Peak summit. Home range.
22058.03 N Etolin - Snake Lake	117 acres. ROS Class: P. Includes locally known Snake Lake and shoreline. Home range.
22058.04 N Etolin - Second Growth Shoreline	312 acres. ROS Class: RM. Includes shoreline of Etolin Island within second growth management area. Home range.
22060.00 N Etolin - Head of Anita Bay	352 acres. ROS Class: SPM. Includes shoreline around the head of Anita Bay, including mouth of locally known Duck and Fish Trap Creeks. Home range.

Existing Conditions
Study Area 100
North Etolin Island

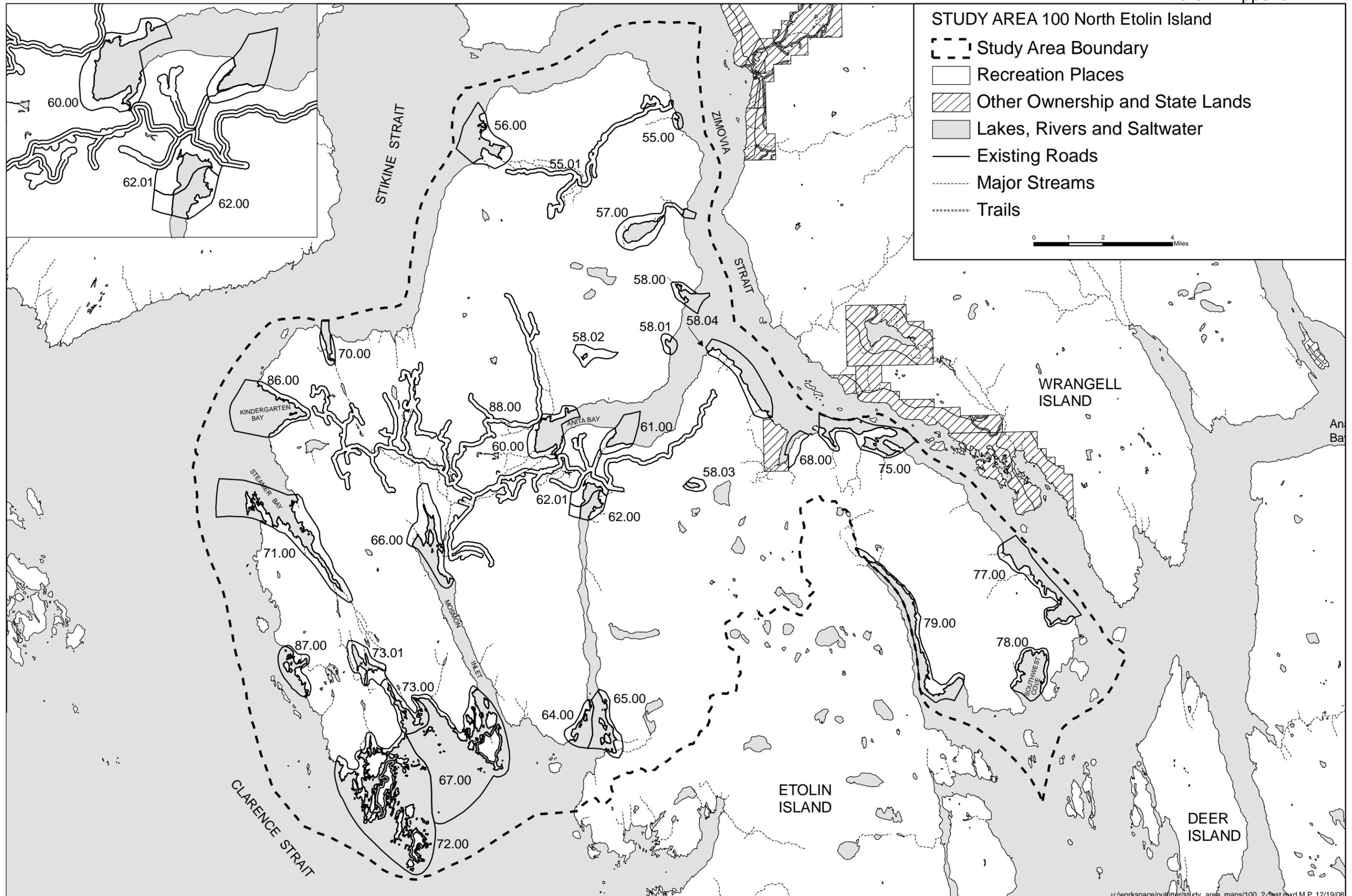
Recreation Places (continued)	
22061.00 N Etolin - Starfish Cove	155 acres. ROS Class: RM. Includes shoreline of locally known Starfish Cove and marine access point to road system. Home range.
22062.00 N Etolin - Head of Burnett Inlet	160 acres. ROS Class: SPM. Includes shoreline of east and west sides of north end of Burnett Inlet. Home range.
22062.01 N Etolin - Head of Burnett Inlet Roads	223 acres. ROS Class: RM. Includes shoreline on north and west sides of north end of Burnett Inlet. Outside of home range.
22064.00 N Etolin - Cannery Cove	145 acres. ROS Class: SPM. Includes shoreline around Cannery Cove on the southwest end of Burnett Inlet. Home range.
22065.00 N Etolin - Navy Creek	262 acres. ROS Class: SPM. Includes shoreline around Navy Creek on the southeast end of Burnett Inlet. Outside of home range.
22066.00 N Etolin - Mosman Inlet	690 acres. ROS Class: SPM. Includes shoreline around north end of Mosman Inlet and locally known Pump Creek. Outside of home range.
22067.00 N Etolin - Cooney Cove	650 acres. ROS Class: SPM. Shoreline of Mosman Island and the shoreline of Etolin Island from Mosman Inlet to Cooney Cove including oyster farm. Outside of home range.
22068.00 N Etolin - Olive Cove	138 acres. ROS Class: RM. Includes shoreline of southeast Olive Cove, not including State and private lands. Outside of home range.
22070.00 N Etolin - Quiet Harbor	114 acres. ROS Class: SPM. Includes shoreline of Quiet Harbor. Outside of home range.
22071.00 N Etolin - Steamer Bay	1,016 acres. ROS Class: SPM. Includes Observation Island and Point Harrington and shoreline of Steamer Bay, FS Steamer Bay recreation cabin (with mooring buoy), and mouth of Porcupine Creek. The bay is long and provides safe harbor for anchoring. Outside of home range.
22072.00 N Etolin - Rocky Bay	1,312 acres. ROS Class: SPM. Includes shoreline of Etolin Island, west of Rocky Bay and islands of Three Way Passage. Outside of home range.
22073.00 N Etolin - Streets Creek	265 acres. ROS Class: SPM. Includes area of Streets Bay and lower Streets Creek. Outside of home range.
22073.01 N Etolin - Streets Lake	408 acres. ROS Class: SPNM. Includes shoreline around Streets Lake. Outside of home range.
22075.00 N Etolin - Whaletail Cove	478 acres. ROS Class: SPM. Includes Etolin Island shoreline of Whaletail Cove and locally known Honker Hole. Home range.
22077.00 N Etolin- Levine's Cove	358 acres. ROS Class: SPM. Includes shoreline of Etolin Island from locally known Levine's Cove north. Home range.
22078.00 N Etolin - Southwest Cove	191 acres. ROS Class: SPM. Includes shoreline around the Cove. It is a popular anchorage and beach walk area. Home range.

Existing Conditions
Study Area 100
North Etolin Island

Recreation Places (continued)					
22079.00 N Etolin - Menefee Inlet East	428 acres. ROS Class: SPM. Includes east side of Menefee Inlet. Home range.				
22086.00 N Etolin - Kindergarten Bay	257 acres. ROS Class: SPM. Includes shoreline around Kindergarten Bay, popular anchorage and shore walk. Home range.				
22087.00 N Etolin - Johnson Cove	206 acres. ROS Class: SPM. Includes shoreline of Etolin Island around Johnson Cove. Home range.				
22088.00 N Etolin - Anita Bay Road System	4,206 acres. ROS Class: RM. Includes entire road system on Etolin Island, originating from Starfish Cove marine access point. Home range.				
Commercial Use	Camping, freshwater fishing, RSNT, big game hunting (black bear, deer), Southern SE Regional Aquaculture Association Burnett Inlet hatchery; oyster farm; mountain top communication site.				
Non-commercial Use	Beachcombing, big game hunting (black/brown bear, deer, elk), hiking, camping, backpacking, freshwater fishing, trapping, boating on Kunk Lake.				
Use Patterns	Use from Olive Cove and Wrangell Island residents; access mainly from saltwater to adjacent FS Lands; road system is used by unguided visitors.				
Concerns	Proposed Navy Timber Sale; potential floating lodge in Cannery Cove				
<u>Management/Resource Considerations</u>					
Subsistence					
Wildlife	Elk were successfully transplanted onto Etolin Island.				
Fisheries					
Botany/Invasive Plants					
Cultural Heritage	Sixty-six historic properties have been documented in the study area.				
<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
1,230	202	1,504	902	1,665	670
Refer to the following USGS maps for reference: Petersburg A1, A2, A3, B2.					



Adult killdeer feigning injury to distract predator from nest, near Wrangell, Tongass National Forest, Alaska. Photograph by Susan Wise-Eagle.



Existing Conditions
Study Area 120
South Etoin Wilderness

<u>Description</u>	
The South Etoin Wilderness, 83,642 acres in size, is on the south end of Etoin Island and includes several smaller islands. It extends from lofty ice carved granite peaks to the rocky coast, including a rim of small-protected islands. It is located between Ketchikan and Wrangell, about 15 miles north of the community of Thorne Bay across Clarence Strait, on the Inside Passage along the Alaska Marine Highway. The lack of unique Alaskan features does not attract the masses and therefore provides exceptional opportunities for complete solitude. The multitude of small islands and passages provide numerous anchorages for recreation activities and small boat travel opportunities. The area's main attractions are its fish and wildlife, wilderness character and potential subsistence use area for the residents of Wrangell and Prince of Wales Island. Elk were successfully transplanted on the Island. There are no public recreation cabins or hiking trails.	
Communities	None
<u>Non-National Forest System Lands</u>	
State lands (McHenry Anchorage)	
<u>Recreation Use</u>	
Recreation Places	All recreation places are outside of Wrangell's home range.
22074.00 SEW - McHenry Inlet	1,004 acres. ROS Class: SPM. Includes McHenry inlet and Jadski Cove.
22074.01 SEW - Hatchery Lake	272 acres. ROS Class: SPNM. Includes Hatchery Lake and some adjacent lands.
22079.01 SEW - Menefee Inlet West	275 acres. ROS Class: SPM. Includes shoreline on west side of Menefee Inlet.
22081.00 SEW - N. Bronson-Fisherman Chuck	866 acres. ROS Class: SPM. Includes shoreline around Fishermans Chuck and both shorelines of north Canoe Pass.
22081.01 SEW - Brownson Island - Salt Chuck	477 acres. ROS Class: SPM. Includes the mid-section of Brownson Island including the Brownson Salt Chuck. Swiftwater boating opportunity in Brownson Salt Chuck
22081.02 SEW - Brownson Island - South	137 acres. ROS Class: SPM. Includes shoreline on south end of Brownson Island.
22081.03 SEW - SW Brownson Island	204 acres. ROS Class: SPM. Includes shoreline of Brownson Island and Brown Island.
22082.00 SEW - Stone Harbor	144 acres. ROS Class: SPM. Includes shoreline around Stone Harbor on south end of Etoin Island.
22082.02 SEW - Krough Creek	159 acres. ROS Class: SPM. Includes shoreline around Krough Creek on south end of Etoin Island.
22082.03 SEW - Krough Lake	129 acres. ROS Class: SPNM. Includes shoreline around Krough Lake.

Existing Conditions
Study Area 120
South Etolin Wilderness

Recreation Places (continued)	
22083.00 SEW - Onslow, Carlton, Eagle, Stone Islands	1,432 acres. ROS Class: SPM. Includes shoreline of Onslow, Carlton, Eagle, and Stone Islands.
22084.00 SEW - J Lake	955 acres. ROS Class: P. Includes alpine area adjacent to unnamed lake, locally known as J Lake.
22084.01 SEW - Lower J Lake	731 acres. ROS Class: SPNM. Includes alpine area adjacent to unnamed lake, locally known as Lower J Lake.
22085.00 SEW Brown Lake	320 acres. ROS Class: P. Includes alpine area adjacent to unnamed lake, locally known as Brown Lake.
22089.00 SEW - Elk Lake	102 acres. ROS Class: SPNM. Includes alpine area adjacent to unnamed lake, locally known as Elk Lake.
22090.00 SEW - Kunday Bay	163 acres. ROS Class: SPM. Includes shoreline around Kunday Bay on south end of Etolin Island
22090.01 SEW - Mount Shakes Trail - South	323 acres. ROS Class: SPNM. Includes south segment of unmaintained trail from Kunday Bay toward Mount Shakes.
22090.02 SEW - Mount Shakes Trail - Middle	630 acres. ROS Class: P. Includes middle segment of unmaintained trail from “Mount Shakes Trail – South” (above) leading to Mount Shakes.
22090.03 SEW - Mount Shakes Trail - North	183 acres. ROS Class: SPNM. Includes north segment of unmaintained trail from “Mount Shakes Trail – Middle” (above) including Mount Shakes summit.
22090.04 SEW - Mount Shakes Trail - North/Beach	80 acres. ROS Class: SPM. Includes north segment of unmaintained trail from “Mount Shakes Trail – North” (above) to shore of Canoe Passage.
22090.05 SEW - South Canoe Pass	229 acres. ROS Class: SPM. Includes shoreline of southern portion of Canoe Pass on Etolin Island.
Commercial Use	Guided backpacking, camping, big game hunting (bear, deer), RSNT; kayaking in the area.
Non-commercial Use	Big game hunting (bear, deer, elk, moose), camping; mountaineering on Mt Shakes, Mt Etolin; trapping; beachcombing on Onslow Island; freshwater fishing opportunity at Krough Lake.
Use Patterns	Outside home range; access is by boat and floatplane. Some of the high elevation lakes in the Wilderness can be accessed by float plane.
Concerns	Resource damage at camp sites; impact of elk on ecosystem; development on non-National Forest in-holdings.

Existing Conditions
 Study Area 120
 South Etohin Wilderness

Management/Resource Considerations

Subsistence

Wildlife Elk were successfully transplanted on the island.

Fisheries

Botany/Invasive Plants

Cultural Heritage Seventeen historic properties have been documented within the study area.

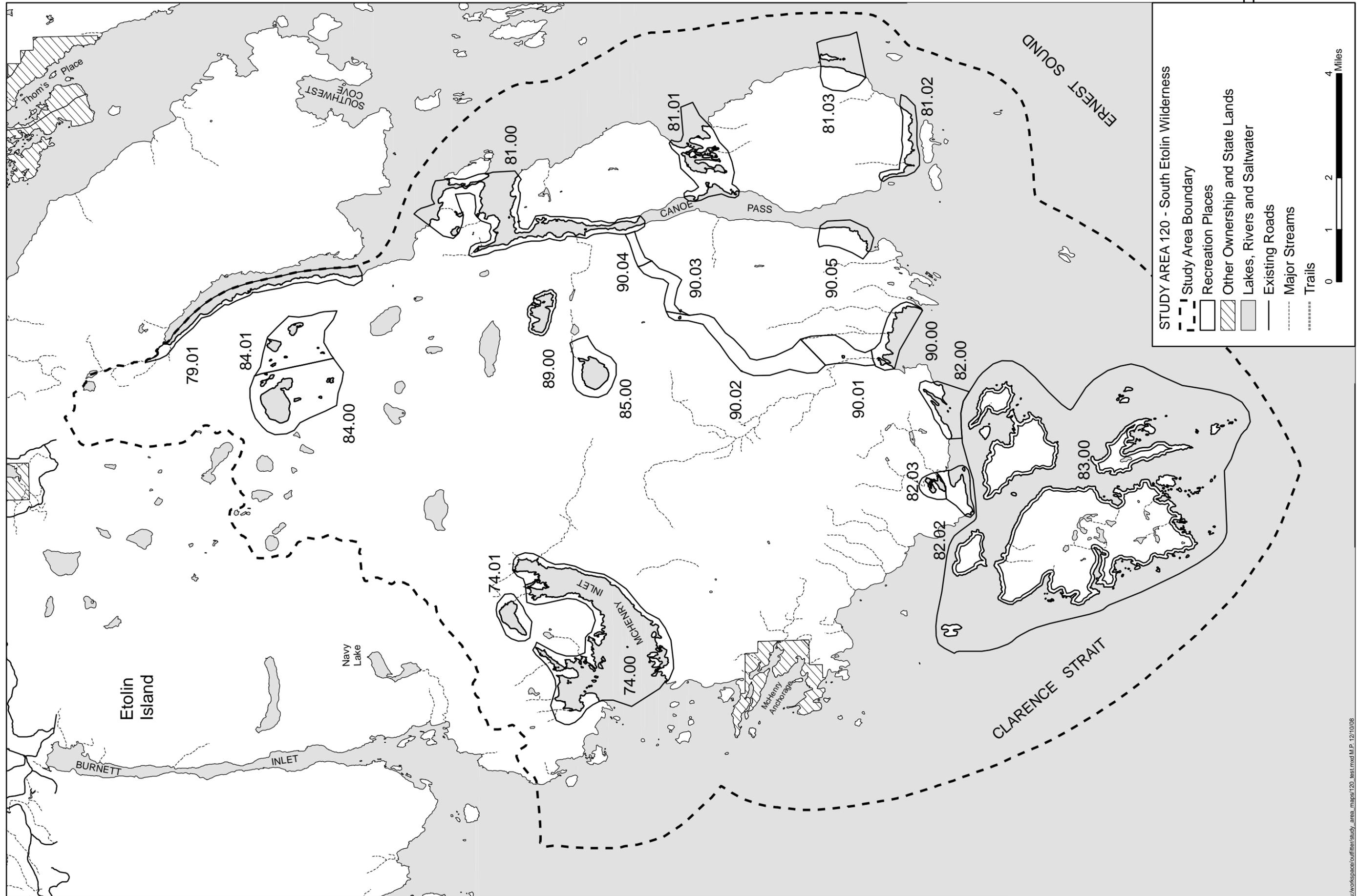
Recreation Visitor Days (RVDs) Allocation and Actual Use

2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
615	381	2,585	4,900	1,543	205

Refer to the following USGS maps for reference: Petersburg A1, A3, B2, B3, C2; Craig D1.



Northern starflower (*Trientalis arctica*). Photograph by Ashley Atkinson.



Existing Conditions
Study Area 130
Vank Island Group

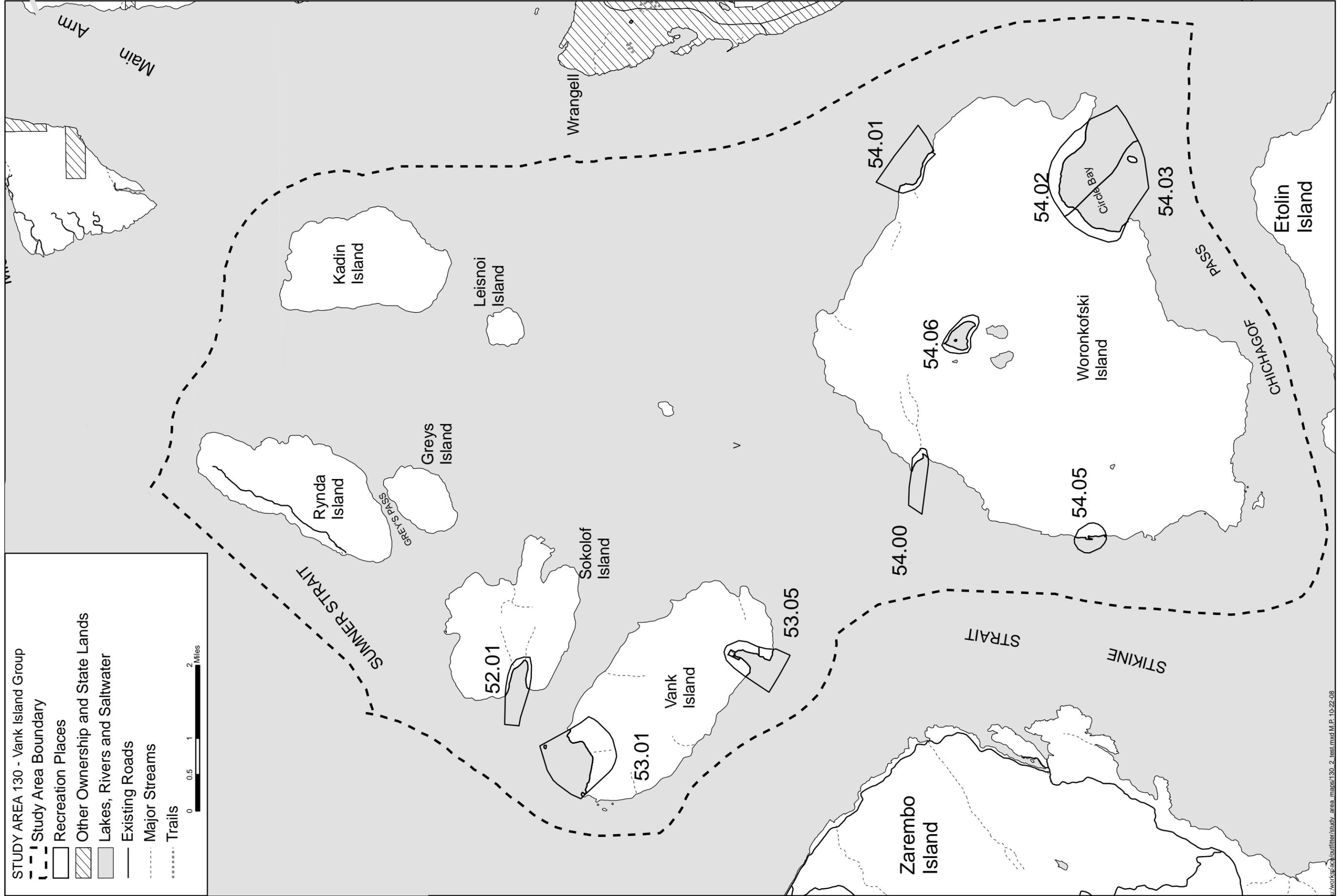
<u>Description</u>	
These islands are part of the Stikine River Delta ecological subsection and are managed for moderate development. Some timber harvest and road building has occurred, mostly on Leisnoi, Rynda, Solkolof, and Vank Islands. Kadin is designated as a Research Natural Area in Tongass Land and Resource Management Plan to protect its unique less-influenced environment. Vank Island hosts an organizational camp under special use permit at the site of an old logging camp. Recreation use is dispersed; there are no developed recreation facilities on these islands. Lesnoi Island includes a seasonal resting area for Stellar sea lions.	
Communities	None
<u>Non-National Forest System Lands</u>	
Private land at Mud Bay on Vank Island	
<u>Recreation Use</u>	
Recreation Places	All recreation places are within Wrangell's home range.
22052.01 Sokolof Island - McDonald Bay	36 acres. ROS Class: RM. Includes popular anchorage and marine access point.
22053.01 Vank Island - Organizational Camp Bay	208 acres. ROS Class: RM. Camp Lorraine is managed by the AK Conference Seventh-Day Adventist and is available for rent by others.
22053.05 Vank Island - Mud Bay	91 acres. ROS Class: RM. There is a parcel of private land in Mud Bay.
22054.00 Woronkofski Island - Sunrise	16 acres. ROS Class: RM. Sunrise Bay is a popular saltwater salmon fishing spot and used for picnicking.
22054.01 Woronkofski Island - Sandy Beach	31 acres. ROS Class: RM. Popular spot for picnicking and one of the few spots with a sandy beach.
22054.02 Woronkofski Island - E Circle Bay	134 acres. ROS Class: RM. A popular saltwater salmon fishing spot and used for picnicking.
22054.03 Woronkofski Island - W Circle Bay	84 acres. ROS Class: SPM. A popular saltwater salmon fishing spot and used for picnicking.
22054.05 Woronkofski Island - Paradise Cove	39 acres. ROS Class: SPM. Popular day-use picnic site.
22054.06 Woronkofski Island - Sunrise Lake	105 acres. ROS Class: SPM. Popular fly-in deer hunting location. Sunrise Lake has a power withdrawal for possible future source of hydropower.

Existing Conditions
Study Area 130
Vank Island Group

<u>Recreation Use (continued)</u>	
Commercial Use	Camp Lorraine on Vank Island is under Special Use Permit: camping, other outdoor-related activities. Special Use Permit to City of Wrangell for hydro-power investigation at Sunrise Lake.
Non-commercial Use	Big game hunting (deer), picnicking, minimal hiking road system on Rynda Island.
Use Patterns	These islands are within Wrangell’s home range.
Concerns	Kadin Island is a Research Natural Area with a high density of bald eagle nests. Outfitter/guide use here would be a concern for disturbance to the eagles.

<u>Management/Resource Considerations</u>	
Subsistence	
Wildlife	
Fisheries	
Botany/Invasive Plants	
Cultural Heritage	Three historic properties have been documented within the study area.

<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
1,675	225	33	0	0	2
Refer to the following USGS maps for reference: Deer Island – Petersburg A1; Bradfield A6; Craig D1. Woronkofski Island – Petersburg B2, C2.					



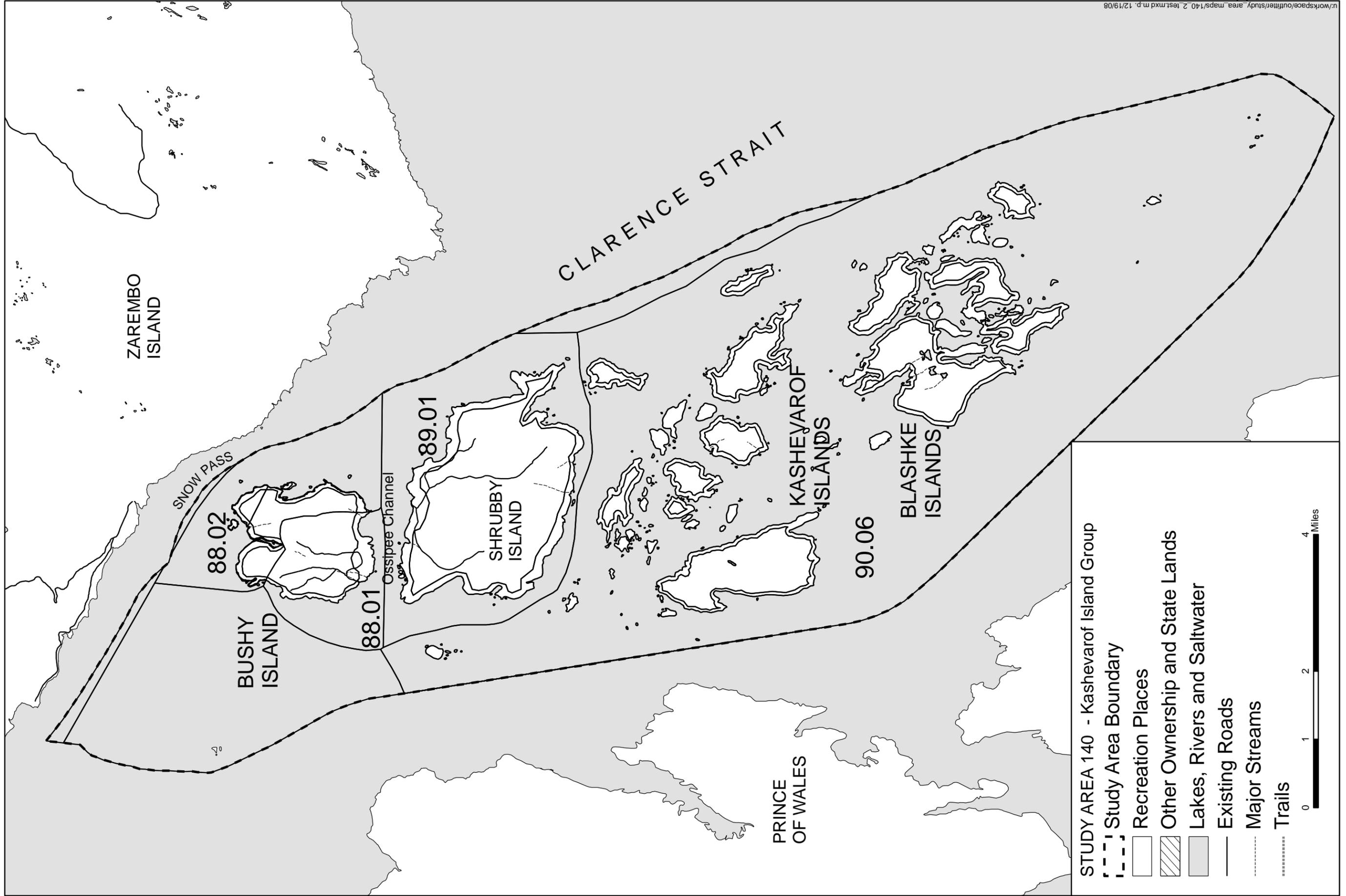
**Existing Conditions
Study Area 140
Kashevarof Island Group**

<u>Description</u>					
This study area contains a group of 25 or more smaller islands on the southwest side of Zarembo Island. The main islands are Shrubby, Bushy and the Blashke, Middle, East, West Islands. Two of the islands have managed stands and timber harvest roads on them. No developed recreation facilities are present. The recreation use is remote and dispersed.					
Communities		None			
<u>Non-National Forest System Lands</u>					
None					
<u>Recreation Use</u>					
Recreation Places		All recreation places are outside of Wrangell's home range.			
22088.01 Bushy Island - SW Bushy		186 acres. ROS Class: RM. Area includes overgrown roads associated with timber management and marine access point.			
22088.02 Bushy Island - NE Bushy		222 acres. ROS Class: SPM. Area includes anchorage on north side, in bay.			
22089.01 Shrubby Island		826 acres. ROS Class: RM. Area includes overgrown roads associated with timber management and marine access point. Includes ATT communication site.			
22090.06 Kashevarof Islands		2,572 acres. ROS Class: SPM. Includes the Blashke Islands which has an oyster farm under Special Use Permit.			
Commercial Use		RSNT			
Non-commercial Use		Kayaking, beachcombing, deer hunting.			
Use Patterns		Receives visitors from Prince of Wales Island and Wrangell; outside of Wrangell's home range.			
Concerns		None			
<u>Management/Resource Considerations</u>					
Subsistence					
Wildlife					
Fisheries					
Botany/Invasive Plants					
Cultural Heritage		Eleven historic properties have been documented within the study area.			
<u>Recreation Visitor Days (RVDs) Allocation and Actual Use</u>					
2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
N/A	0	0	0	0	0
Refer to the following USGS maps for reference: Petersburg A3, A4, B3, B4.					



Fisherman with coho salmon, Tongass National Forest, Alaska. Photograph by Ashley Atkinson.

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Existing Conditions
Study Area 150
LeConte Bay (Stikine-LeConte Wilderness)

<u>Description</u>	
As part of the Stikine-LeConte Wilderness, LeConte Bay is a remote and pristine glacial fiord. LeConte glacier is North America's southern most tidewater glacier, depositing icebergs into LeConte Bay. Few recreation places occur here due to the steep-sided fiord. Many visitors come via tour boat to the bay but don't step onto land. Primary land use includes groups visiting via kayak or small boat, goat hunters and people seeking a remote and challenging experience. One commercial kayak guide company has an assigned site within the study area for seasonal camping use. Mountains in the area of LeConte Bay are steep and most of the upper valleys are glacier-filled. Glaciers and ice fields cover most of the rugged, mountainous area in the eastern part of the Stikine-LeConte Wilderness.	
Communities	None
<u>Non-National Forest System Lands</u>	
None	
<u>Recreation Use</u>	
Recreation Places	All recreation places are either within Petersburg's home range.
22026.05 LeConte Bay - Indian Point	66 acres. ROS Class: SPM. Includes: Indian Point where there is an old structure (cabin) and provides a flat open place to camp; assigned site associated with outfitter guide activities.
22026.06 LeConte Bay - Bussy Creek	42 acres. ROS Class: SPM. Includes area around Bussy Creek which is utilized by campers.
22026.08 LeConte Bay - Cabin Creek	65 acres. ROS Class: SPM. Includes area around Cabin Creek which is utilized by campers.
22026.10 LeConte Bay - Jap Creek	23 acres. ROS Class: SPM. Includes area around Jap Creek which is utilized by campers and a historic, decaying structure.
22026.11 LeConte Bay - Moonshine Creek	14 acres. ROS Class: SPM. Includes area around Moonshine Creek which is utilized by campers
Commercial Use	Camping, outfitting; guided big game hunting (deer, mountain goat); RSNT; non-permitted flight seeing (no landings on National Forest land).
Non-commercial Use	Camping, sightseeing, big game hunting, cross-country skiing; LeConte Glacier terminus is measured annually by the Petersburg High School under Special Use Permit.
Use Patterns	Within home range of Petersburg; guides and residents of Wrangell and Petersburg frequent the area.
Concerns	Effect of global warming on tidewater glacier.
<u>Management/Resource Considerations</u>	
Subsistence	
Wildlife	Documented breeding of Kittlitz's murrelets in LeConte Bay.
Fisheries	

Existing Conditions
 Study Area 150
 LeConte Bay (Stikine-LeConte Wilderness)

Management/Resource Considerations (continued)

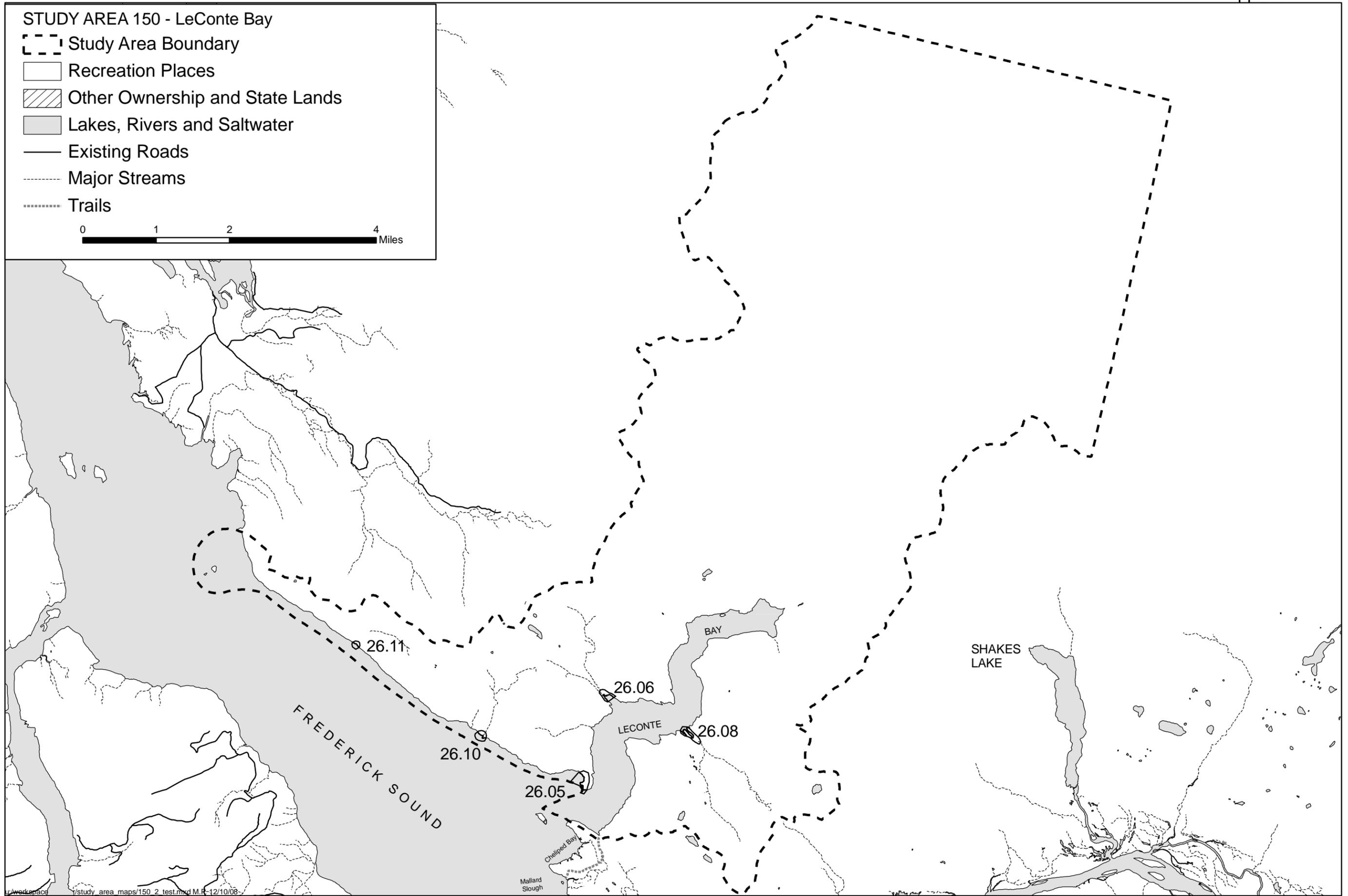
Botany/Invasive Plants

Cultural Heritage One historic property has been documented within the study area.

Recreation Visitor Days (RVDs) Allocation and Actual Use

2004 OG EA Allocation to O/Gs	2004 Actual Use	2005 Actual Use	2006 Actual Use	2007 Actual Use	2008 Actual Use
1,432	423	519	320	404	178

Refer to the following USGS maps for reference: Petersburg C1, D1, D2, D3.



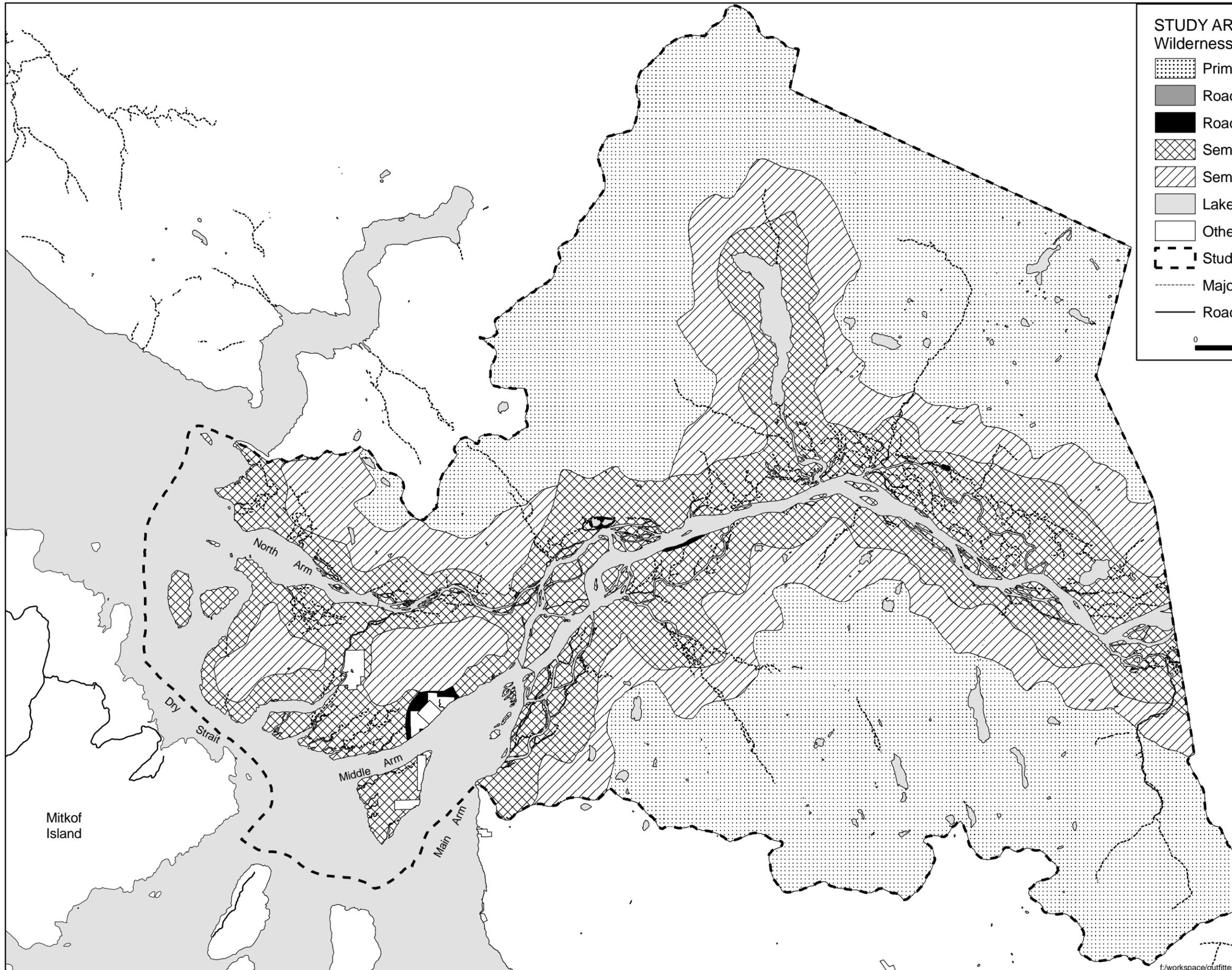
APPENDIX B
ROS Class Study Area Maps



LeConte waterfalls, Stikine-LeConte Wilderness, Tongass National Forest, Alaska. Photograph by Carin Christensen.

STUDY AREA 10 - Stikine-LeConte
Wilderness ROS-Classes

-  Primitive
-  Roded Modified
-  Roded Natural
-  Semi-primitive Motorized
-  Semi-primitive Non-motorized
-  Lakes, Rivers and Saltwater
-  Other Ownership and State Lands
-  Study Area Boundary
-  Major Streams
-  Roads



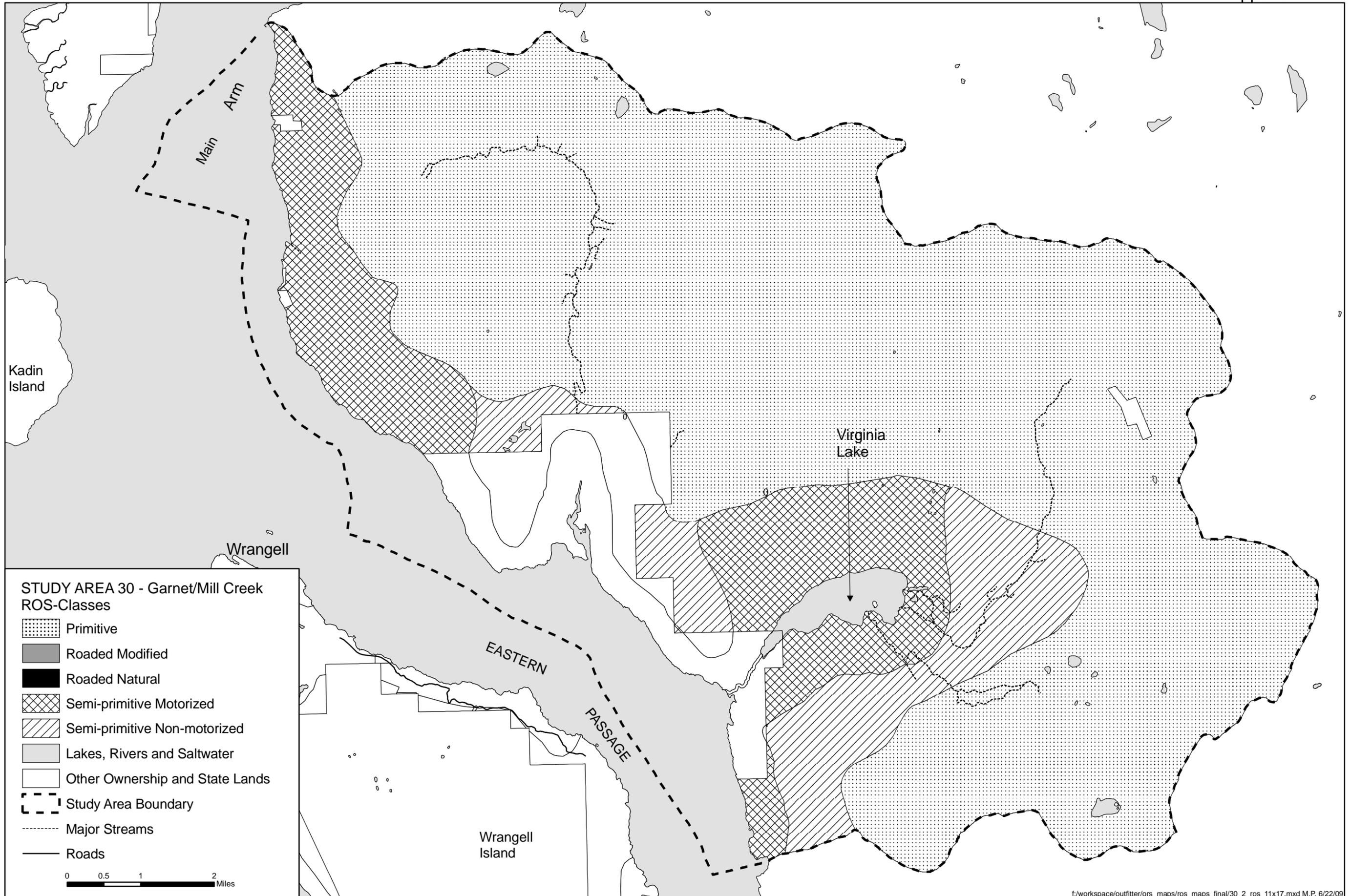
Mitkof
Island

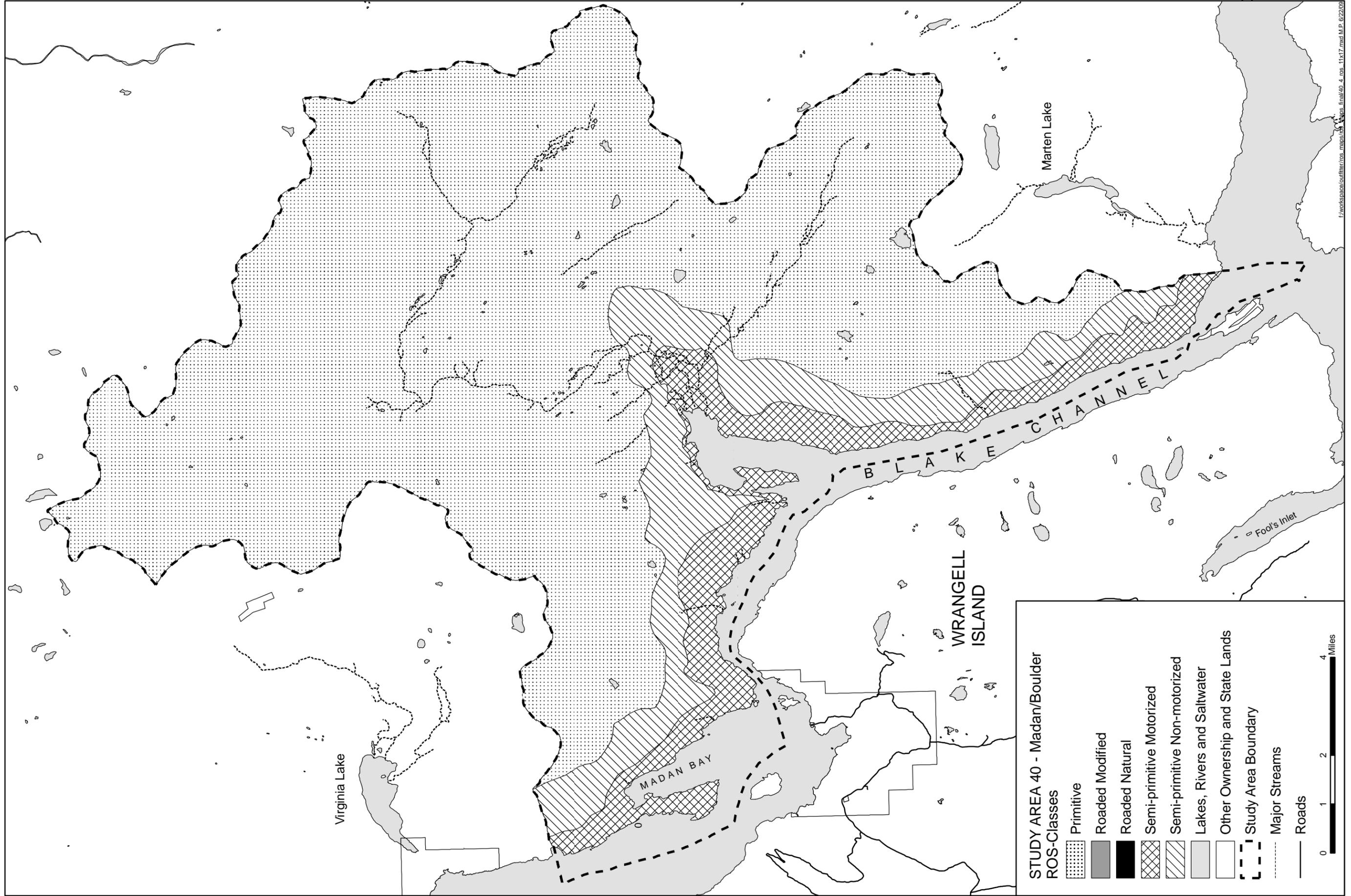
North
Arm

Middle
Arm

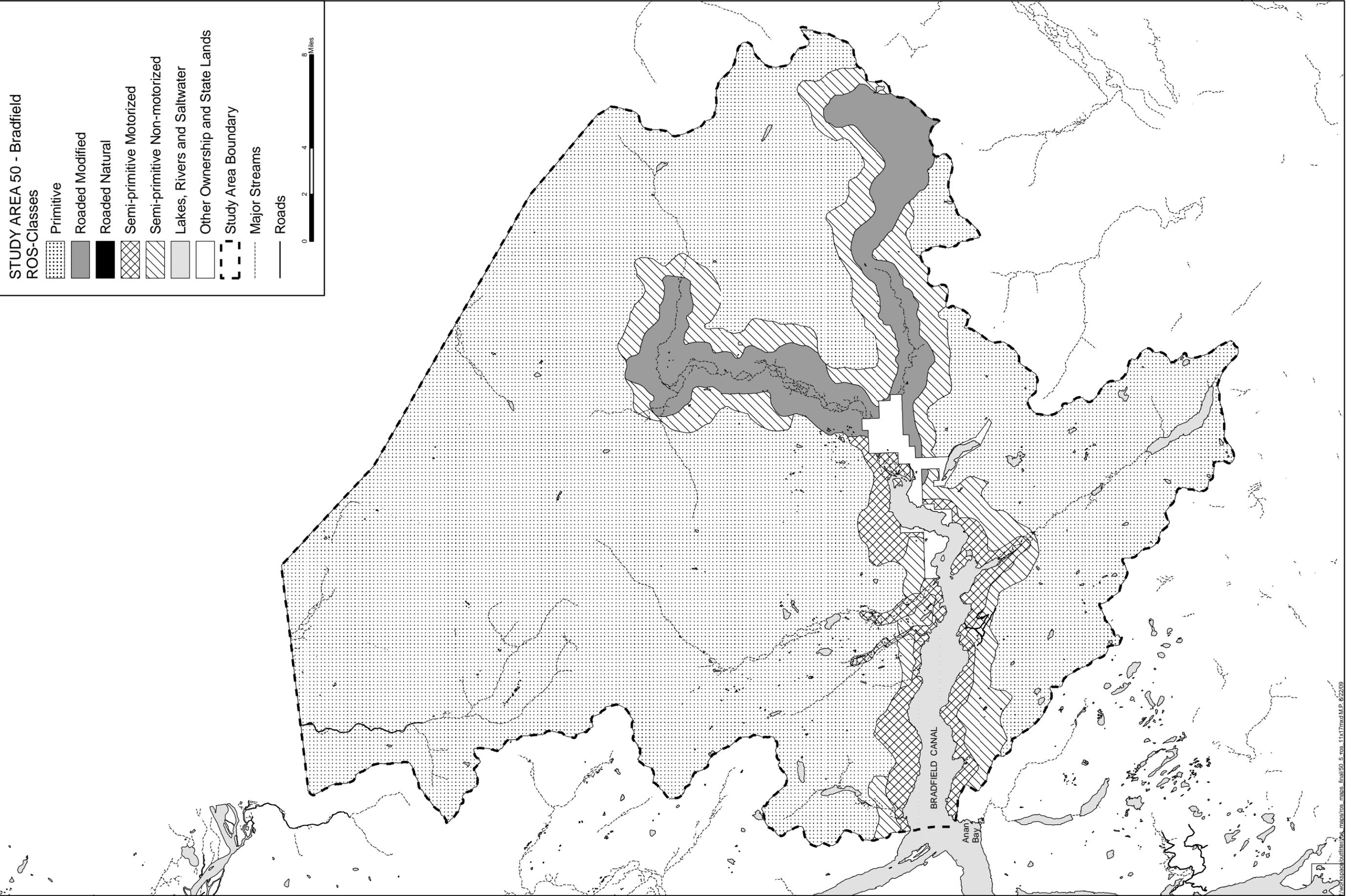
Main
Arm

Dry
Strait





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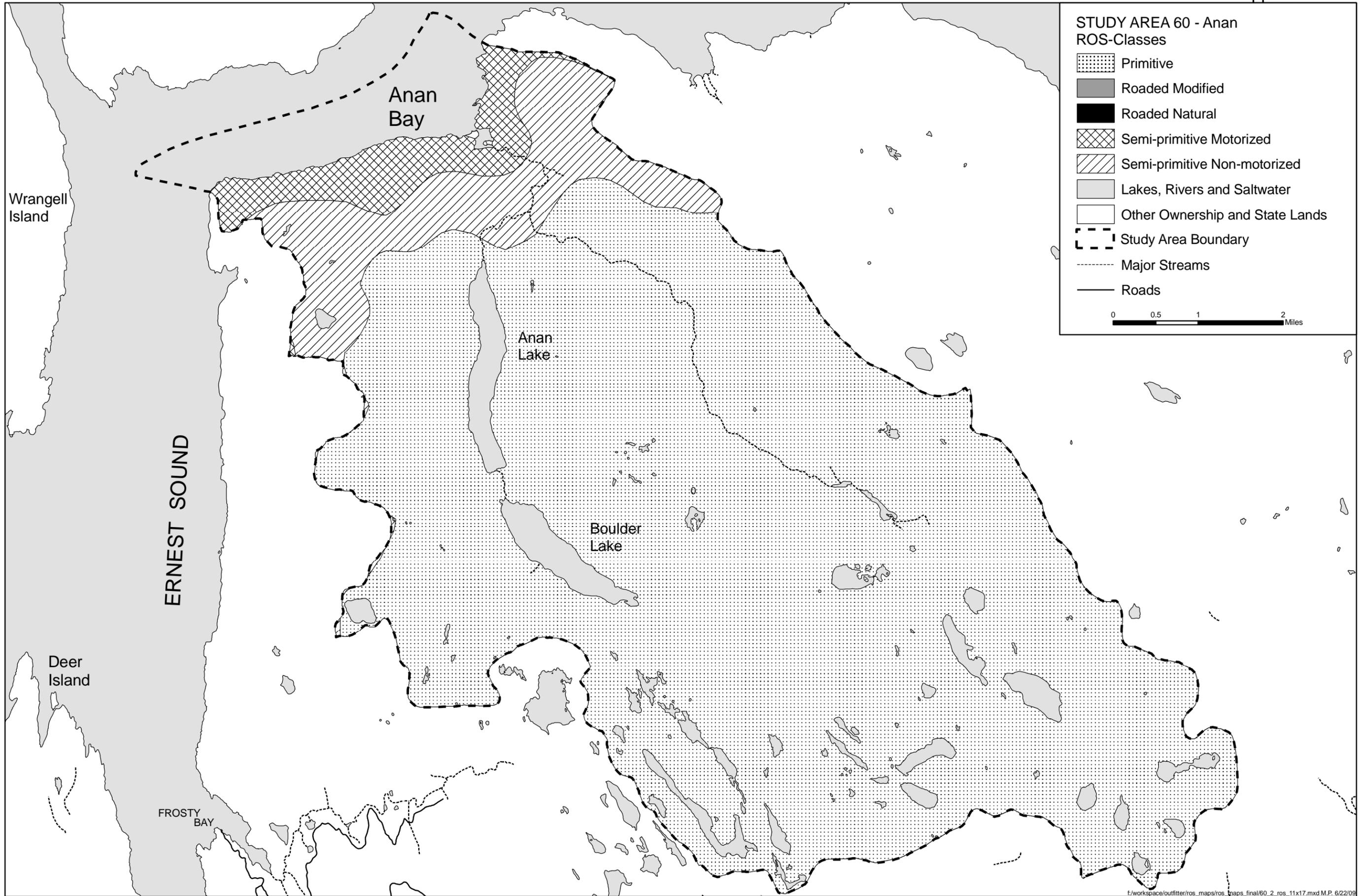


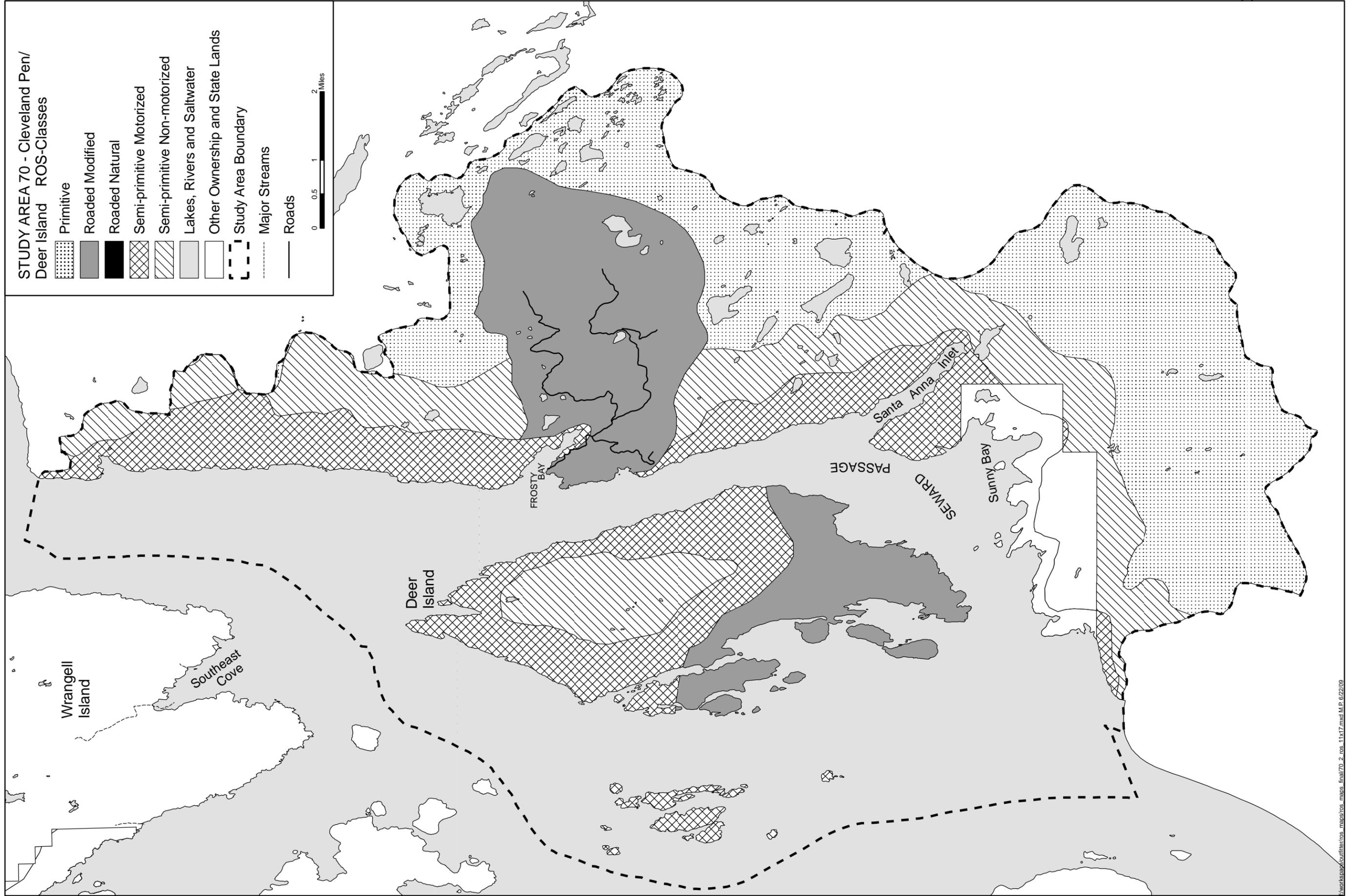
STUDY AREA 50 - Bradfield

ROS-Class

-  Primitive
-  Roaded Modified
-  Roaded Natural
-  Semi-primitive Motorized
-  Semi-primitive Non-motorized
-  Lakes, Rivers and Saltwater
-  Other Ownership and State Lands
-  Study Area Boundary
-  Major Streams
-  Roads





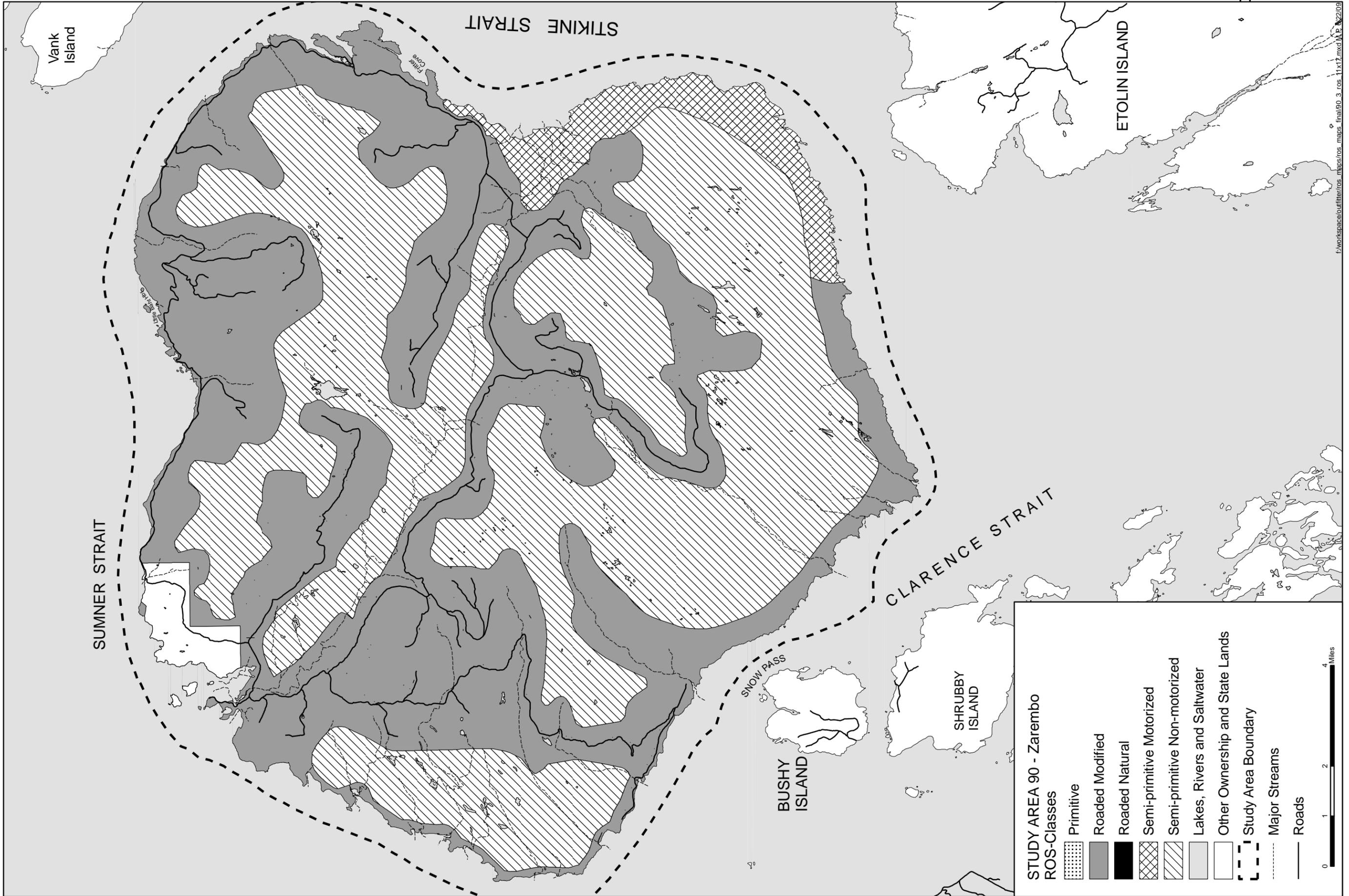


STUDY AREA 70 - Cleveland Pen/
Deer Island ROS-Classes

- Primitive
- Roded Modified
- Roded Natural
- Semi-primitive Motorized
- Semi-primitive Non-motorized
- Lakes, Rivers and Saltwater
- Other Ownership and State Lands
- Study Area Boundary
- Major Streams
- Roads



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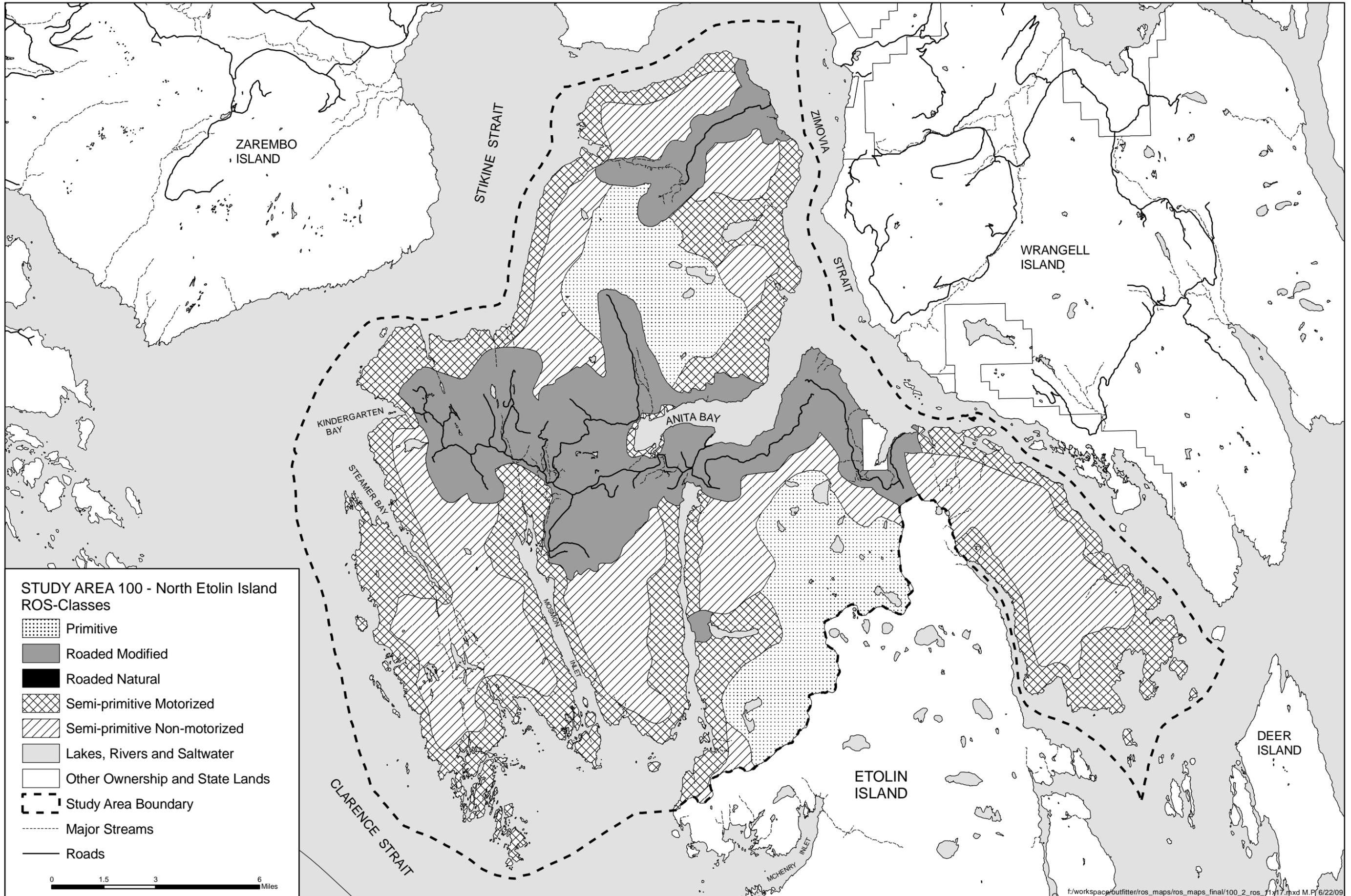
STUDY AREA 90 - Zaremba

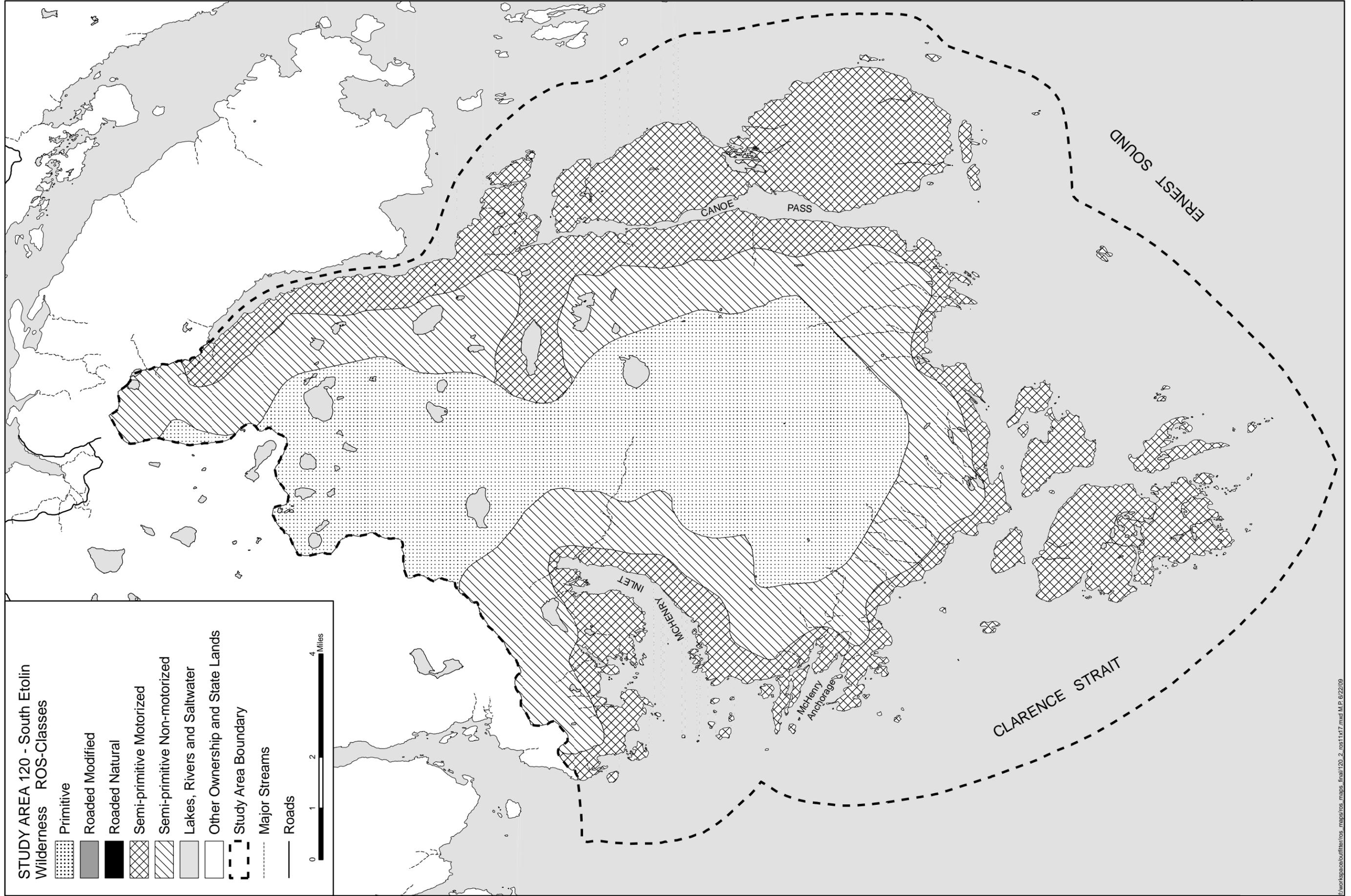
ROS-Classes

- Primitive
- Roded Modified
- Roded Natural
- Semi-primitive Motorized
- Semi-primitive Non-motorized
- Lakes, Rivers and Saltwater
- Other Ownership and State Lands
- Study Area Boundary
- Major Streams
- Roads

0 1 2 4 Miles

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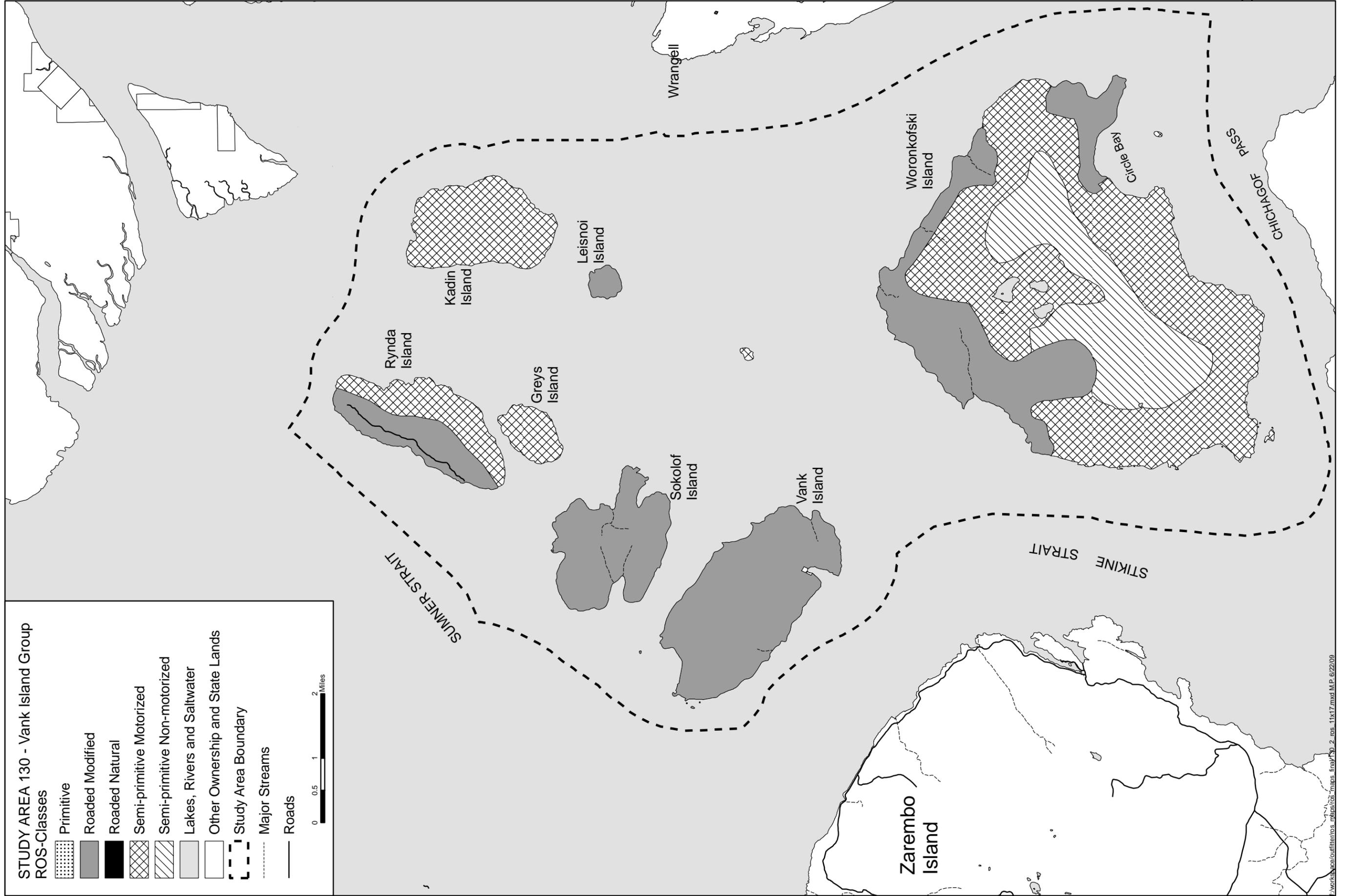




STUDY AREA 120 - South Etolin Wilderness ROS-Classes

- Primitive
- Rooded Modified
- Rooded Natural
- Semi-primitive Motorized
- Semi-primitive Non-motorized
- Lakes, Rivers and Saltwater
- Other Ownership and State Lands
- Study Area Boundary
- Major Streams
- Roads

0 1 2 4 Miles



STUDY AREA 130 - Vank Island Group

ROS-Classes

- Primitive
- Roaded Modified
- Roaded Natural
- Semi-primitive Motorized
- Semi-primitive Non-motorized
- Lakes, Rivers and Saltwater
- Other Ownership and State Lands

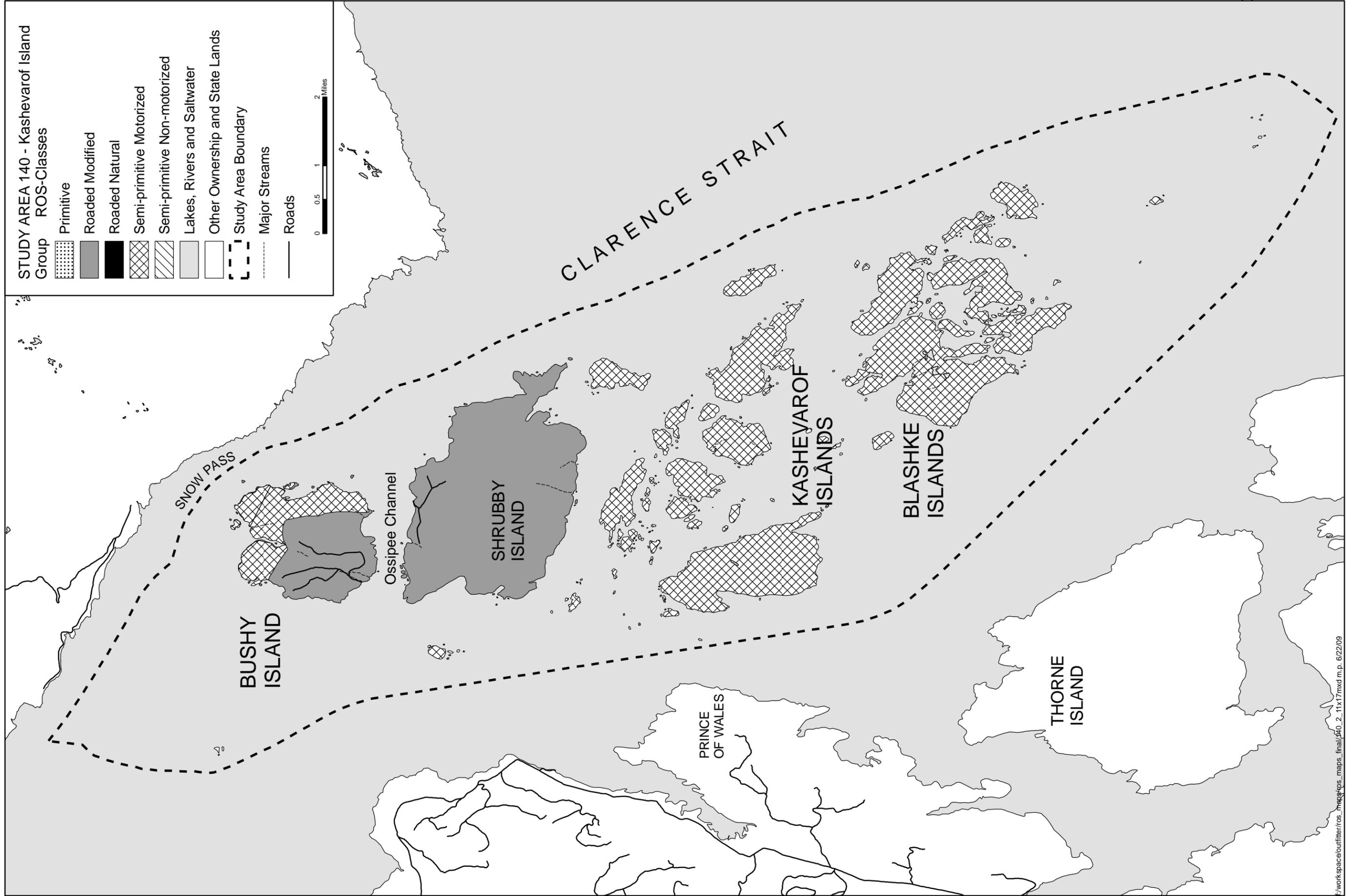
Study Area Boundary

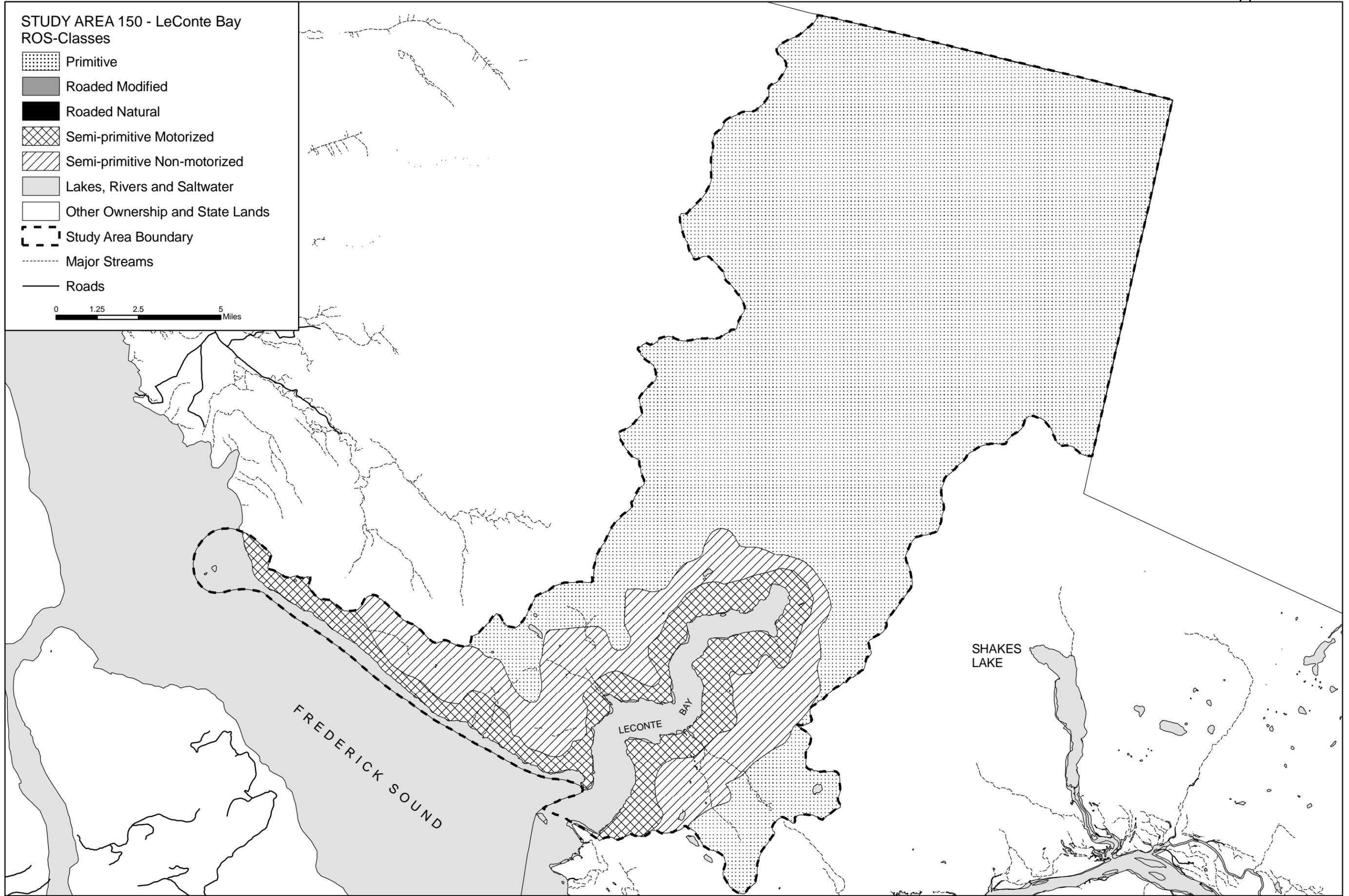
Major Streams

Roads



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APPENDIX C

Biological Assessment for the Wrangell Outfitter Guide Environmental Assessment



Young black bear and bald eagle in hemlock tree at Anan Wildlife Viewing Site, Tongass NF, Alaska. Photograph by Anan Forest Service Staff.

**Threatened, Endangered, Proposed, Sensitive,
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Biological Evaluation & Fish & Wildlife Project Level Analysis

This document provides a process to meet Forest Service Manual (FSM) direction. This direction requires that the effects of a proposed action to management indicator species (MIS) and threatened, endangered, proposed or sensitive (TEPS) species is assessed and that the Forest Plan requirements, goals and objectives for these species are met at the project level (FSM 2621.3, 2621.4 and 2672.4). This document provides a description of the proposed action and discloses the direct, indirect, and cumulative effects of this action on MIS, TEPS and other species. To meet the requirements for Biological Evaluation as described in FSM and Section 7 of the Endangered Species Act and the analysis requirements for the National Environmental Policy Act, this document tiers to the "Fish and Wildlife Resource Report" which provides additional information on current management direction, desired future conditions and the affected environment for species addressed.

Proposed Project

Project Name: Wrangell Outfitter and Guide Management Plan

Date: March 13, 2009

Land Use Designations (LUDs): All but non-wilderness national monument and experimental forest.

This is a programmatic EA proposing to allocate commercial recreation carrying capacity on NFS lands for the Wrangell Ranger District. Actions analyzed in this EA are designed to implement direction contained in the 2008 Forest Plan Amendment.

Project Location (Attach Map): See map in EA.

Will project activities alter habitat for TEPS or MIS species? (Mark with "X")

YES Explain in Effects Analysis below.

NO Complete the Description of Proposed Project and Analysis Area and Sign and Date at the end of the document.

Description of Proposed Project and Analysis Area

Through NEPA analysis, WRD will decide how recreation visitor capacity will be allocated to commercial users by considering long-term and cumulative effects of authorizing and issuing temporary and priority use permits.

Since the 1997 EA, the outfitter and guiding industry has grown. In addition, there is now direction from the Forest Supervisor with regard to conducting individual Wilderness Commercial Services Needs Assessments and commercial services at the district level, prior to issuing outfitter and guide permits in Wilderness.

To examine WRD's ability to accommodate growth of the outfitter and guide industry, a recreation carrying capacity report was completed. The results of this study/report were used to help formulate alternatives in response to the issues identified in scoping. This EA will replace the 1997 Stikine Area Outfitter and Guide EA.

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The action proposed by the FS to meet the purpose and need is to allocate visitor use (guided and non-guided) based on the 2009 Wrangell Recreation Use Carrying Capacity Report as well as the SLW and SEW Needs Assessments.

The proposed action would allocate outfitter and guides up to 10 percent of a study area's capacity within an identified home range, and up to 25 percent of a study area's capacity outside of an identified home range. Overall, the proposal would allocate up to approximately 54,444 Recreation Visitor Days (RVDs) for outfitter and guide use on the WRD. This represents a 250% increase above the no-action alternative, and is 10 percent of the total net RVDs available on the WRD.

All outfitted and guided operations will be subject to area-wide and site-specific mitigation measures to protect natural and historic resources of the TNF and balance allocated use between guided and non-guided users.

For those operators who have demonstrated satisfactory performance, the District Ranger may issue priority permits based on the allocation, for a period of up to 10 years, in accordance with FSH 2709.11, Chapter 40.

There are three exceptions to the 10 percent and 25 percent proposed action:

The 1996 Anan Management Standards Environmental Assessment (EA) evaluated the Anan Wildlife Observatory, and therefore was not part of the 1997 Outfitter and Guide EA or the update in 2004. However, the 2009 Wrangell CCR calculations include Anan's shoulder season (before and after the high use season of July 25 through August 25). No changes to the existing high use visitor season, which allows 64 visitors/day during the 52-day peak season, are proposed.

In the South Etolin Wilderness area, the commercial sector would be allocated 10 percent, rather than 25 percent, of the net RVDs. The Wilderness area is outside the home range of Wrangell, but due to high historical use, site impacts, and the desire to maintain Wilderness character, less commercial use would be allocated.

Ten recreation places, due to high acreages, resulted in high net RVDs to the commercial sector. The proposed action would reduce the allocation of commercial use net RVDs to one percent (1%)²⁸. This would not result in any allocations below the level of historical use.

See EA for further description of alternatives.

Description of Analysis Area (define the boundaries of and the habitat present within analysis area and the time period analyzed): The project area consists of the National Forest System lands encompassing the Wrangell Ranger District of the Tongass National Forest (TNF), totaling approximately 1.7 million acres in central Southeast Alaska. Located within the Alexander Archipelago, the project area extends westward from the Canadian border to Zarembo Island and ranges to just north of LeConte Bay to the southern end of Etolin Island. A map

²⁸ In addition to the ten recreation places that have commercial RVD use adjusted to one percent of net RVDs, there are four more recreation places adjusted to one percent of the net RVD to take into account sensitive ecosystems and high unguided seasonal use.

**Threatened, Endangered, Proposed, Sensitive,
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displaying the project area is presented in Figure 1. For the purpose of this project, the District is divided into study areas²⁹.

Surveys or Site Visits Completed: This EA is programmatic. This EA will not address or authorize assigned sites, ground disturbing activities, and other forms of development. These activities will require a site specific analysis.

Specific mitigation measures w/ regard to TE&S habitat will be included in the EA (bald eagle nest tree, mountain goat kidding and wintering habitat, marine mammals, etc). Standards and guides for TES, MIS per the Forest Plan Amendment 2008 are also incorporated here by reference.

Effects Analysis

The Effects Analysis assesses the direct, indirect and cumulative effects of the proposed action on fish and wildlife resources in the analysis area. Direct and indirect effects can occur as a result of project activities and their connected actions. A direct effect is an effect caused by an action that occurs in the same time and place as the action. An indirect effect is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable. Under NEPA, cumulative effects represent the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects for ESA compliance include "those effects of future State or Private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR 402.02).

I based effects analyses on professional judgment using information provided by forest staff, relevant references and technical literature citations, and subject matter experts. Using technical reports from the published literature that described the most susceptible aspects of species life cycle and/or habitat needs as a guide, I gathered qualitative information regarding the presence and status of these species within the analysis area.

I developed general criteria to assess the intensity or level of influence of the effects. I defined mitigation measures to offset or minimize potential adverse impacts where applicable. Levels of influence definitions are located in the Fish and Wildlife Report.

Through this analysis, I determined that there would be a negligible level of influence and "no effect" to the Eskimo curlew, short-tailed albatross, listed as endangered or the Northern sea otter, spectacled eider, or Steller's eider listed as threatened or the polar bear listed as proposed by the U.S. Department of Interior (USDI) Fish and Wildlife Service (FWS) because these species do not occur in or are not listed as threatened, endangered or proposed in southeast Alaska.

I determined that there would be a negligible level of influence and "no effect" to the blue whale, bowhead whale, fin whale, leatherback sea turtle, North Pacific right whale, sei whale, sperm whale, western distinct population segment (DPS) of the Steller sea lion, Snake River sockeye salmon, Upper Columbia River steelhead, and Upper Columbia River spring chinook salmon listed

²⁹ *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 occurs and to group lands according to their location. These changes are documented in Table D of Appendix A.

Appendix C

Threatened, Endangered, Proposed, Sensitive, Management Indicator & Other Species Project Level Analysis Tongass National Forest

as endangered or the green sea turtle, loggerhead sea turtle, and eastern DPS of the Steller sea lion, Lower Columbia River chinook salmon, Lower Columbia River steelhead, Middle Columbia River steelhead, Puget Sound chinook salmon, Snake River Basin steelhead, Snake River spring/summer chinook salmon, Snake River fall chinook Salmon, Upper Willamette River chinook salmon, and Upper Willamette River steelhead listed as threatened by the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) because these species do not regularly occur in southeast Alaska, on the Tongass National Forest or in the analysis area and/or the proposed activities would not affect stream or marine environments.

Though humpback whales and the eastern DPS 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 WRD. 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 Stellar 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 because outfitters/guides have not currently exceeded allowed days in all but one study area (Study area 120³⁰ - South Etolin Wilderness area). The number of RVDs has increased from the No Action alternative as a result of the formula now used for calculating carrying capacity and not due to an increase in demand for permitted activity.

With regard to subsistence, an increase in outfitter and guide use could occur in all 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. No affect to the distribution and abundance of wildlife is anticipated.

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

³⁰ In 2005 and 2006, the outfitter/guide far exceeded their authorized use. The WRD has been working closely with this permit holder to correct this overuse

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The following table describes the 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 ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2/} Determination	Reason for Determination/ Level of Influence
Threatened, Endangered or Proposed				
Humpback Whale	Yes	Yes	Negligible/ 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	Negligible/ 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.
Sensitive				
Goshawk	Yes	Yes	Negligible/ No Impacts	Proposed allocations would not reduce or affect productive old growth habitat.
Kittlitz's Murrelet ³	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.
Island King Salmon	No	No	Negligible/ No Impacts	Species does not occur in the analysis area.
Fish Creek chum	No	No	Negligible/ No Impacts	Species does not occur in the analysis area.
Northern pike	No	No	Negligible/ No Impacts	Species does not occur in the analysis area.
Management Indicator				
Alexander Archipelago Wolf	Yes	Yes	Negligible	Proposed allocations do not alter prey habitat or increase opportunities for wolf harvest.
American Marten	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest.
Bald Eagle	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest along coastal areas.
Black Bear	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest or riparian areas.
Brown Bear	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest or riparian areas.
Brown Creeper	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest.
Hairy	Yes	Yes	Negligible	Proposed allocations will not reduce or affect

Appendix C

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Species/Issue	Presence		Direct, indirect and Cumulative Effects	
	Species Present in Analysis Area ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2/} Determination	Reason for Determination/ Level of Influence
Woodpecker				productive old growth forest.
Mountain Goat	No	Yes	Negligible	Proposed allocations will not reduce or affect cliffs, alpine and subalpine, or productive old growth forest.
Red-breasted Sapsucker	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest.
Red Squirrel	Yes	Yes	Negligible	Proposed allocations will not reduce or affect young growth or productive old growth forest.
River Otter	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest along coastal, estuary or riparian areas.
Sitka Black-tailed Deer	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest.
Vancouver Canada Goose	No	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest along coastal, estuary or riparian areas.
Pink Salmon	Yes	Yes	Negligible	Proposed allocations will not reduce or affect streams, wetlands, or riparian areas.
Coho Salmon	Yes	Yes	Negligible	Proposed allocations will not reduce or affect streams, wetlands, or riparian areas.
Dolly Varden Char	Yes	Yes	Negligible	Proposed allocations will not reduce or affect streams, wetlands, or riparian areas.
Cutthroat Trout	Yes	Yes	Negligible	Proposed allocations will not reduce or affect streams, wetlands or riparian areas.
Other				
Migratory Birds	Yes	Yes	Negligible	Proposed allocations will not reduce or affect productive old growth forest, or any other terrestrial habitats.
Subsistence	Yes	Yes	Minor	Consistent with section 810 of ANILCA, I evaluated potential effects of this project on subsistence opportunities and resources. There would be no change in abundance and distribution of or access to subsistence resources. If increases in allocations result in increased guided hunting, this could result in increased competition for some subsistence resources such as deer. However, guided hunts for the most important subsistence species are uncommon. Therefore the proposed project will not result in a restriction of subsistence uses.
Essential Fish Habitat (EFH) Determination				
Fish Species	Yes	Yes	No adverse Effects	There would be negligible effects on freshwater or marine EFH because the proposal will not impact fish habitat and no effects would be transported to the marine environment during activities associated with this project

¹ "Yes" if the species is known to occur in the analysis area. "No" if the species has not been documented in the analysis area.

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² Level of influence of the effects for management indicator species includes "negligible", "minor", "moderate", or "major". Levels of influence are defined in the "Fish and Wildlife Resource Report". Determinations are only required for listed and sensitive species. Determinations for threatened and endangered species include "no effect", "not likely to adversely affect", or "likely to adversely affect" (Bosch 2004). Determinations for sensitive species include "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).

³ Although not currently classified as an R10 sensitive species, it is analyzed as such per Regional Forester letter to Forest Supervisors June 16, 2004 (USDA 2004).

Notes/Further Analysis

Effects Common To All Species

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 (USDA 2008a, pp. 4-89 to 4-100) is integral to protecting and providing habitat to maintain viable fish and wildlife populations. Population viability would be maintained for all species addressed in this document because the proposed action is consistent with the Forest Plan conservation strategy and would implement Forest Plan standards and guidelines.

Direct and indirect effects of all the alternatives are similar in that habitat would not be modified. Direct effects typically occur from impacts to the animals themselves at the time of the activity while indirect effects are normally caused by modification of habitat. Habitats that are key to MIS (e.g. nesting habitats, winter use areas or habitat that is considered a limiting factor) will not be modified or affected. No productive old growth habitat would be modified. The main potential effects are disruption of feeding/breeding/nesting habits of wildlife from human presence or disturbance connected to outfitter/guide activities.

Management Measures

If any previously undiscovered endangered, threatened, or sensitive species or key habitats for any MIS or other species identified in this document 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. All appropriate standards and guides apply under the 2008 Forest Plan Amendment.

Consultation and/or Contacts

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.

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References

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Prepared By:	
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Kathy Rodriguez Recreation Planner Tongass Supervisor's Office	April 23, 2009
Reviewed By (required if not prepared by a Journey Level Biologist):	
/s/ Melissa Cady	
Melissa Cady Wildlife Biologist Wrangell Ranger District	April 23, 2009

APPENDIX D

RVD Changes from 2004 to 2009



Shakes Glacier, Stikine-LeConte Wilderness, Tongass National Forest, Alaska. Photograph by Carin Christensen.

This table summarizes, by study area, the reasons the number of RVDs available on the Wrangell Ranger District have changed since the 2004 update. For an explanation by recreation place see Table D in Appendix A of this document.

Study Area	Alt 1 No Action 2004	Alt 2 Proposed Action	Alt 3 Wilderness Alternative	Notes on changes from 2004 to 2009
10 Stikine-LeConte Wilderness	6,020	7,014	2,806	Three recreation places were added in 2009, with a net loss of one recreation place for the study area; study area acres dropped significantly (-25,219); overnight LOS increased in several recreation places due to commercial availability of FS cabin; several recreation places had overall LOS increases.
30 Garnet/Mill Creek	83 ¹	502	502	No new recreation places; acres increased by 11; LOS increased for 2 of the 3 recreation places.
40 Madan/Boulder	504	645	645	Five recreation places added; day and overnight LOS increased in existing recreation places; ROS coefficient increased at Madan Bay to provide additional RVDs for O/G use.
50 Bradfield	701	1,086	1,086	Day LOS increased for several recreation places; the ROS coefficient was increased at Lower Marten Creek Recreation Place to provide additional RVDs for O/Gs; increased PAOT to meet cabin capacity at Lower Marten Lake.
60 Anan	97	134	134	New recreation place (Anan Wildlife Observatory - Shoulder Season) added in 2009 (originally in Anan EA).
70 Cleveland Pen/Deer Island	591	3,289	3,289	Acres in this study area increased due to boundary changes. Several islands (including Deer Island) that were in study area 130 are now in this study area. We did this because they were geographically closer and the grouping seemed more logical. New recreation places were also added and some were enlarged to capture all the areas that are now getting use.
80 Wrangell Island	1,700	7,583	7,583	Day and overnight LOS and acreage increased for many of the recreation places.
90 Zarembo Island	2,107	4,748	4,748	Day and overnight LOS increased for many of the recreation places. The addition of roads to

Study Area	Alt 1 No Action 2004	Alt 2 Proposed Action	Alt 3 Wilderness Alternative	Notes on changes from 2004 to 2009
W100 North Etolin Island	1,230	7,084	7,084	Five recreation places added to this study area for an increase of 1,677 acres. Day and overnight LOS increased for many of the recreation places.
120 South Etolin Wilderness	615	2,002	2,002	Alternatives 2 and 3 allow for a dramatic (>3x) increase in the capacity allocation in the South Etolin Wilderness Area. The increase reflects the addition of recreational place acres into the study area based on recent use patterns in the South Etolin Wilderness Area. When more acres are utilized, allocation can be increased without affecting the user's wilderness experience since the use is dispersed throughout the area.
130 Vank Island Group	1,675	167	167	In the No Action alternative, this study area includes study area 140 which partially accounts for the reduction in RVDs for Alternatives 2 and 3; Acres in study area 130 decreased due to realignment of boundaries. Some acres moved to study area 70 and the remaining went into the new study area (140).
140 Kashevarof Group	-	500	500	Study area 140 was added in 2009. The Kashevarof Group was previously part of study area 130.
150 LeConte Bay (S-LC Wilderness)	1,432	593	237	Acres in study area 150 decreased in 2009 to reflect the acres that users visit. This contributes to fewer RVDs available for allocation in Alternatives 2 and 3.
Total	16,755	35,347	30,783	

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