



Juneau Access Improvements Project Final Supplemental Environmental Impact Statement

Revised Appendix DD Land Use Technical Report

Prepared for:

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& Public Facilities
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2017

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Executive Summary

This report updates the 2004 *Land Use and Coastal Management Technical Report* (DOT&PF 2004) presented as Appendix F in the Juneau Access Improvements (JAI) Project Supplemental Draft Environmental Impact Statement (EIS) and its *Addendum F*, presented in Appendix W of the 2006 JAI Final EIS. Information from these reports has been incorporated where updated information is available. The 2004 and 2006 documents were prepared as an update to the 1995 *Land Use and Coastal Zone Technical Report* (Alaska Department of Transportation and Public Facilities [DOT&PF] 1995; revised in 1997) that was included as an appendix to the 1997 JAI Draft EIS.

Updated and additional information has been incorporated into this report from sources such as the Tongass Land and Resource Management Plan (TLRMP), Alaska Department of Fish and Game; City and Borough of Juneau, Municipality of Skagway Borough, Haines Borough, interviews conducted by Northern Economics, Inc. (Northern Economics 2012), and personal communications with agency representatives in the study area.

The proposed alternatives described below would improve access between the communities of Juneau, Haines, and Skagway. This technical report addresses characteristics of the affected environment related to land ownership and management; land and resource uses such as timber harvesting, mineral exploration and development, commercial fishing, subsistence land use, residential/commercial/industrial land use, recreation, and coastal management. Potential impacts resulting from construction and operation of the proposed JAI Project include changes in land ownership and status, potential conflicts with land management plans and regulations, changes in land and resource use or potential conflicts with existing uses.

Each of these potential impacts to land use and resources is evaluated in this technical report based on the assessment of potential environmental consequences. Construction and operation of the project alternatives would have potential impacts, some beneficial and others adverse.

Acquisition of land for highway rights-of-way and ferry terminal sites would result in some changes in land ownership. Access improvement alternatives would generally be compatible with land and coastal management plans and regulations, depending on methods and mitigation measures used for design and construction. Impacts on land and resource use from access improvements could be beneficial or adverse. Improved highway access could benefit uses such as timber harvesting, mineral development, and development of state and private lands.

Highway access would benefit some recreation, subsistence activities, and residential/commercial/industrial use of lands but could adversely affect some existing users. Potential effects associated with construction (e.g., traffic, noise, dust, and workforce) would be temporary. However, some potential effects associated with improving access between Juneau, Haines, and Skagway and providing new highway access to remote areas would be long-term in duration, although seasonal in nature.

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- Attachment A: 2016 Tongass National Forest Land and Resource Management Plan Land Management Prescriptions within the Juneau Access Improvements Project Area
- Attachment B: 2016 Tongass National Forest Land and Resource Management Plan Forest-wide Standards and Guidelines
- Attachment C: Juneau Access Improvements Project, Old-Growth Analysis and Interagency Old-growth Reserve Review

Acronyms and Abbreviations

ACF	Alaska Class Ferry
ACMP	Alaska Coastal Management Program
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
AMHS	Alaska Marine Highway System
AMHT	Alaska Mental Health Trust
AML	Alaska Marine Lines
AMSA	Area Meriting Special Attention
ANCSA	Alaska Native Claims Settlement Act
AS	Alaska Statute
ASV	Alaska Standard Vehicle
BLM	United States Bureau of Land Management
CBJ	City and Borough of Juneau
CBO	Congressional Budget Office
CFEC	Commercial Fisheries Entry Commission
DOT&PF	Alaska Department of Transportation and Public Facilities
DPS	Distinct Population Segment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAST Act	Fixing America's Surface Transportation Act
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FMP	Fishery Management Plan
FVF	Fast Vehicle Ferry
Forest	Tongass National Forest
GMU	Game Management Unit
Goldbelt	Goldbelt Corporation, Inc.
HB	House Bill
HCMP	<i>City of Haines Coastal Management Plan</i>
IPHC	International Pacific Halibut Commission
IRA	Inventoried Roadless Area
JAI	Juneau Access Improvements
JCMP	<i>Juneau Coastal Management Plan</i>
KGRNHP	Klondike Gold Rush National Historic Park
LUD	Land Use Designation
MMBF	Million Board Feet
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NHS	National Highway System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
NPS	National Park System
NSEAP	<i>Northern Southeast Area Plan</i>

OCRM	Office of Coastal and Resource Management
OG	Old growth
OGR	Old-growth Reserves
P	Primitive
R	Rural
RM	Roaded Modified
RN	Roaded Natural
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum
ROW	Right-of-Way
SAFE	stock assessment and fishery evaluation
SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users
SCMP	<i>Skagway Coastal Management Plan</i>
SEIS	Supplementary Environmental Impact Statement
Skagway	Municipality of Skagway Borough
SPM	Semi-Primitive Motorized
SPNM	Semi-Primitive Non-Motorized
SUD	Special Use Designation
TLRMP	Tongass Land and Resource Management Plan
TRUCS	Tongass Resource Use Cooperative Survey
TUS	Transportation and Utility Systems
TSC	Transportation Systems Corridor
USACE	United States Army Corps of Engineers
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VCU	Value-Comparison Unit
WPYR	White Pass & Yukon Route
YT	Yukon Territory

1. Project Description

Lynn Canal, located approximately 25 miles north of Juneau, is the waterway that connects Juneau with the cities of Haines and Skagway via the Alaska Marine Highway System (AMHS). At present there is no roadway connecting these three cities. The Glacier Highway originates in Juneau and ends at Cascade Point, approximately 38.5 miles to the northwest.

As required by the National Environmental Policy Act (NEPA), this technical report considers the following reasonable alternatives.

1.1 Alternative 1 – No Action

The No Action Alternative (Alternative 1) includes a continuation of mainline ferry service in Lynn Canal and incorporates two Day Boat Alaska Class Ferries (ACF). The AMHS would continue to be the National Highway System (NHS) route from Juneau to Haines and Skagway, and no new roads or ferry terminals would be built. In addition to the Day Boat ACFs, programmed improvements include improved vehicle and passenger staging areas at the Auke Bay and Haines ferry terminals to optimize traffic flow on and off the Day Boat ACFs as well as expansion of the Haines Ferry Terminal to include a new double bow berth to accommodate the Day Boat ACFs. This alternative is based on the most likely AMHS operations in the absence of any capital improvements specific to the Juneau Access Improvements (JAI) Project.

Mainline service would include two round trips per week in the summer and one per week in the winter with Auke Bay-Haines-Skagway-Haines-Auke Bay routing. During the summer, one Day Boat ACF would make one round trip between Auke Bay and Haines six days per week, and one would make two round trips per day between Haines and Skagway six days per week. The Day Boat ACFs would not sail on the seventh day because the mainliner is on a similar schedule. In the winter, ferry service in Lynn Canal would be provided primarily by the Day Boat ACFs three times per week. The *M/V Malaspina* would no longer operate as a summer day boat in Lynn Canal.

1.2 Alternative 1B – Enhanced Service with Existing AMHS Assets

Alternative 1B includes all of the components of Alternative 1, No Action, but focuses on enhancing service using existing AMHS assets without major initial capital expenditures. Similar to Alternative 1, Alternative 1B includes: a continuation of mainline ferry service in Lynn Canal; the AMHS would continue to be the NHS route from Juneau to Haines and Skagway; no new roads or ferry terminals would be built; and in addition to the Day Boat ACFs, programmed improvements include improved vehicle and passenger staging areas at the Auke Bay and Haines ferry terminals to optimize traffic flow on and off the Day Boat ACFs as well as expansion of the Haines Ferry Terminal to include a new double bow berth to accommodate the Day Boat ACFs. Service to other communities would remain the same as the No Action Alternative. Alternative 1B keeps the *M/V Malaspina* in service after the second Day Boat ACF is brought online to provide additional capacity in Lynn Canal. Enhanced services included as part of Alternative 1B are a 20 percent reduction in fares for trips in Lynn Canal and extended hours of operations for the reservation call center.

Mainline service would include two round trips per week in the summer and one per week in the winter with Auke Bay-Haines-Skagway-Haines-Auke Bay routing. During the summer, the *M/V Malaspina* would make one round trip per day five days per week on a Skagway-Auke Bay-Skagway route. On the sixth day, the *M/V Malaspina* would sail on the Skagway-Auke Bay-Haines-Skagway route, and on the seventh day, it would sail that route in reverse (Skagway-Haines-Auke Bay-Skagway). One Day Boat ACF would make one round trip between Auke Bay and Haines seven days per week. The other Day Boat ACF would make two round trips per day between Haines and Skagway six days per week; it would not sail on the seventh day because the mainliner would be on a similar schedule. In the winter, ferry service in Lynn Canal would be provided primarily by the Day Boat ACFs three times per week.

1.3 Alternative 2B – East Lynn Canal Highway to Katzehin, Shuttles to Haines and Skagway

Alternative 2B would construct the East Lynn Canal Highway (50.8-mile including 47.9 miles of new highway and upgrade to 2.9 miles of the existing Glacier Highway) from Echo Cove around Berners Bay to a new ferry terminal two miles north of the Katzehin River. Ferry service would connect Katzehin to Haines and Skagway. In addition, this alternative includes modifications to the Skagway Ferry Terminal to include a new bow berth and construction of a new conventional monohull ferry to operate between Haines and Skagway. Mainline ferry service would end at Auke Bay. This alternative assumes the following improvements will have been made independent of the JAI Project before Alternative 2B would come on-line: two Day Boat ACFs, improved vehicle and passenger staging areas at the Haines Ferry Terminal to optimize traffic flow on and off the Day Boat ACFs, and expansion of the Haines Ferry Terminal to include two new double bow berths.

During the summer months, one Day Boat ACF would make eight round trips per day between Haines and Katzehin, a second Day Boat ACF would make six round trips per day between Skagway and Katzehin, and the Haines-Skagway shuttle ferry would make two trips per day. During the winter, one Day Boat ACF would make six round trips per day between Haines and Katzehin, and a second Day Boat ACF would make four round trips per day between Skagway and Katzehin. The Haines-Skagway shuttle would not operate; travelers going between Haines and Skagway would travel to Katzehin and transfer ferries.

1.4 Alternative 3 – West Lynn Canal Highway

Alternative 3 would upgrade/extend the Glacier Highway (5.2 miles including 2.3 miles of new highway and upgrade to 2.9 miles of the existing Glacier Highway) from Echo Cove to Sawmill Cove in Berners Bay. New ferry terminals would be constructed at Sawmill Cove in Berners Bay and at William Henry Bay on the west shore of Lynn Canal, and the Skagway Ferry Terminal would be modified to include a new stern berth. A new 38.9-mile highway would be constructed from the William Henry Bay Ferry Terminal to Haines with a bridge across the Chilkat River/Inlet connecting into Mud Bay Road. A new conventional monohull ferry would be constructed and would operate between Haines and Skagway. Mainline ferry service would end at Auke Bay. This alternative assumes the following improvements will have been made independent of the JAI Project before Alternative 3 would come on-line: two Day Boat ACFs, improved vehicle and passenger staging areas at the Haines Ferry Terminal to optimize traffic

flow on and off the Day Boat ACFs, and expansion of the Haines Ferry Terminal to include two new double bow berths.

During the summer, two Day Boat ACFs would make six round trips per day between Sawmill Cove and William Henry Bay (total of 12 trips each direction), and the Haines-Skagway shuttle ferry would make six round trips per day. During the winter, one Day Boat ACF would make four round trips per day between Sawmill Cove and William Henry Bay, and the Haines-Skagway shuttle ferry would make four round trips per day.

1.5 Alternatives 4A through 4D – Marine Alternatives

All four marine alternatives would include continued mainline ferry service in Lynn Canal with a minimum of two trips per week in the summer and one per week in the winter with Auke Bay-Haines-Skagway-Haines-Auke Bay routing. Each marine alternative includes a new conventional monohull shuttle that would make two round trips per day between Haines and Skagway six days a week in the summer and a minimum of three round trips per week between Haines and Skagway in the winter. The AMHS would continue to be the NHS route from Juneau to Haines and Skagway. These alternatives assume the following improvements will have been made independent of the JAI Project before the alternative comes on-line: improved vehicle and passenger staging areas at the Auke Bay and Haines ferry terminals to optimize traffic flow on and off the Day Boat ACFs and expansion of the Haines Ferry Terminal to include new double bow berths.

1.5.1 Alternative 4A – Fast Vehicle Ferry Service from Auke Bay

Alternative 4A would construct two new fast vehicle ferries (FVFs). No new roads would be built for this alternative, and the Auke Bay Ferry Terminal would be expanded to include a new double stern berth. A new conventional monohull ferry would be constructed and would operate between Haines and Skagway. The *M/V Malaspina* would no longer operate as a summer day boat in Lynn Canal, and the Day Boat ACFs would no longer operate in Lynn Canal. The FVFs would make two round trips between Auke Bay and Haines and two round trips between Auke Bay and Skagway per day in the summer. During the winter, one FVF would make one round trip between Auke Bay and Haines and one round trip between Auke Bay and Skagway each day.

1.5.2 Alternative 4B – Fast Vehicle Ferry Service from Berners Bay

Similar to Alternative 4A, Alternative 4B would construct two new FVFs. This alternative would upgrade/extend Glacier Highway (5.2 miles including 2.3 miles of new highway and 2.9 miles of the existing Glacier Highway) from Echo Cove to Sawmill Cove in Berners Bay where a new ferry terminal would be constructed. The Auke Bay Ferry Terminal would be expanded to include a new double stern berth. A new conventional monohull ferry would be constructed and would operate between Haines and Skagway. The *M/V Malaspina* would no longer operate as a summer day boat in Lynn Canal, and the Day Boat ACFs would no longer operate in Lynn Canal. In the summer, the FVFs would make two round trips between Sawmill Cove and Haines and two round trips between Sawmill Cove and Skagway per day. During the winter, one FVF would make one round trip between Auke Bay and Haines and one round trip between Auke Bay and Skagway each day.

1.5.3 Alternative 4C – Conventional Monohull Service from Auke Bay

Alternative 4C would use Day Boat ACFs to provide additional ferry service in Lynn Canal. No new roads would be built for this alternative. The Auke Bay Ferry Terminal would be expanded to include a new double stern berth, and the Skagway Ferry Terminal would be expanded to include a new bow berth. A new conventional monohull ferry would be constructed and would operate between Haines and Skagway. In the summer, one Day Boat ACF would make one round trip per day between Auke Bay and Haines, and one Day Boat ACF would make one round trip per day between Auke Bay and Skagway. During the winter, one Day Boat ACF would alternate between a round trip to Haines one day and a round trip to Skagway the next day.

1.5.4 Alternative 4D – Conventional Monohull Service from Berners Bay

Alternative 4D would use Day Boat ACFs to provide additional ferry service in Lynn Canal. This alternative would upgrade/extend Glacier Highway (5.2 miles including 2.3 miles of new highway and 2.9 miles of the existing Glacier Highway) from Echo Cove to Sawmill Cove in Berners Bay where a new ferry terminal would be constructed. The Auke Bay Ferry Terminal would be expanded to include a new double stern berth, and the Skagway Ferry Terminal would be expanded to include a new bow berth. This alternative includes construction of a new conventional monohull ferry that would operate between Haines and Skagway. In the summer, the Day Boat ACFs would make two trips per day between Sawmill Cove and Haines and two trips per day between Sawmill Cove and Skagway. During the winter, a Day Boat ACF would operate from Auke Bay, alternating between a round trip to Haines one day and to Skagway the next day.

2. Methods

Chapter 3 of this technical report discusses current land ownership and management status, land and resource uses, and coastal zone management policies within the JAI Project area. Chapter 4 identifies direct effects to the land and water resources by implementation of any of the proposed project alternatives. The majority of the project area lies within the Tongass National Forest, which is owned and managed by the U.S. Forest Service (USFS). The State owns and manages parcels of land, while the municipalities of Juneau, Haines, and Skagway administer comprehensive plans and coastal management plans within their districts. A number of private entities also own land within the project area.

2.1 Studies and Coordination

This technical report is an update to the 2004 *Land Use and Coastal Management Technical Report* presented as Appendix F in the JAI Project Final Supplemental Environmental Impact Statement (SEIS) and its Addendum F, presented in Appendix W of the 2006 JAI Project Final Environmental Impact Statement (FEIS) (DOT&PF, 2006). Since completion of the 2006 FEIS, project alternatives have been modified, a new alternative (Alternative 1B) has been added, new estimates of traffic volumes have been prepared for each alternative, and some land ownership and jurisdictional boundaries and management policies have changed.

2.2 Methods

This update is based on a review of publications addressing current land use and land ownership and management within the project area. Numerous documents have been reviewed for this update including the current *Tongass Land and Resource Management Plan (TLRMP)*, the most recent community comprehensive plans (Juneau, Haines, and Skagway), State land use plans, etc. A full list of the documents is located in Section 5, References. Some of the referenced plans have not changed since production of the 2006 FEIS. Information incorporated from these plans is considered current for the purposes of this document and has not been modified. This report documents additional contacts with federal, State, and local government officials and private entities to update planning and land management information.

This analysis incorporates modified alternatives that were developed for the 2006 FEIS and new alternatives that were developed for the JAI Project Final SEIS, updates information on existing conditions, and revises the assessment of potential impacts.

The topics covered and the methods used to describe the affected environment have not changed, nor have the potential impacts from the approach used in the 2004 *Appendix F, Land Use and Coastal Management Technical Report* (DOT&PF, 2004) and 2006 *Addendum to Appendix F*. The evaluation of impacts to land uses, land management, and resource use is based on information currently available to describe project alternatives, facility siting, and associated facility construction. Potential improvements to existing ferry terminals are not addressed in the impact analysis because these improvements do not impact land ownership and management or land and resource uses.

3. Affected Environment

This section updates the 2004 *Appendix F, Land Use and Coastal Management Technical Report* in the JAI Project Final SEIS and its Addendum F, presented in Appendix W of the 2006 JAI FEIS.

3.1 Land Ownership and Management Status

3.1.1 Introduction

Current ownership and management status within the JAI project area is discussed in this section. Land ownership in the project area is illustrated in Figure 3-1. The project area consists mainly of undeveloped land. Current uses of these lands and waters between the communities include commercial and sport fishing and wildlife harvest, recreation, remote residences and cabins, tourism, mineral development, and subsistence harvest. A summary of land management follows:

- The USFS is the major land manager along Lynn Canal. Most of the lands in the project area are in the Tongass National Forest and are managed by the USFS. Management direction for these lands is set forth in the TLRMP.
- Alaska Department of Natural Resources (ADNR) manages several State-owned parks, marine parks, and a State forest in the project area. ADNR also manages most of the State-owned tidelands, submerged lands, and lands under navigable waters along Lynn Canal. Specific management guidelines are set forth in the *Juneau State Land Plan* (ADNR, 1993), *Northern Southeast Area Plan* (NSEAP) (ADNR, 2002a), *Haines State Forest Management Plan* (ADNR, 2002b), and the *Alaska Chilkat Bald Eagle Preserve Management Plan* (ADNR, 2002c). The University of Alaska and the Alaska Mental Health Trust also own lands within the project area.

Portions of the project area lie within jurisdictions of the City and Borough of Juneau (CBJ), Haines Borough, and the Municipality of Skagway Borough¹ (formerly the City of Skagway). Each local government either owns or has selected certain lands under AS 29.65, General Grant Land (aka Municipal Entitlement Program) within the project area. Management guidelines for each community are set forth as follows:

- CBJ: *City and Borough of Juneau Comprehensive Plan* (CBJ, 2013) and *Juneau Coastal Management Plan* (JCMP, 1989 and amended through December 1990)
 - Municipality of Skagway Borough (including the former City of Skagway): *Skagway Comprehensive Plan* (City of Skagway, 1999), *2020 Comprehensive Plan* (Skagway, 2009), and *Skagway Coastal Management Plan* (SCMP) (City of Skagway, effective 1983, 1990, and 1991, Area Meriting Special Attention [AMSA] in effect 1992)
 - Haines Borough (including the former City of Haines): *Haines Borough Comprehensive Plan* (Haines Borough 2004; 2012a), *City of Haines Comprehensive Plan* (City of Haines, 2000a), *City of Haines Land Use Code* (City of Haines, 2001),

¹ On June 5, 2007, voters approved dissolution of the City of Skagway and incorporation as the first first-class borough in the State of Alaska.

and *City of Haines Coastal Management Plan* (HCMP; City of Haines 2000b). The City of Haines and the Haines Borough were consolidated in 2002 to form the Haines Borough, and consolidated land management plans are being developed. A *2025 Comprehensive Plan* was adopted in September 2012. Private lands are clustered at several locations throughout the project area and include mines and patented mining claims, private homesteads, Goldbelt Corporation, Inc. (Goldbelt) land, Sealaska Corporation lands, and some Native allotments.

3.1.2 Federal Land Ownership and Management Status

Federally owned land within the JAI project area is discussed in this section. Most of the land in the project area is part of the Tongass National Forest (Forest), which is federally owned and managed by the USFS. The 2016 TLRMP contains Land Use Designations (LUDs) for management parcels within the Tongass National Forest, which include areas maintaining old-growth forest habitat and roadless areas as discussed in the following sections. Federal land in the project area not owned by the USFS is owned by the National Park Service (NPS).

3.1.2.1 U.S. Forest Service Land Ownership and Management

The Tongass National Forest is the nation's largest national forest (16.8 million acres) and encompasses most of Southeast Alaska. The JAI project area is located along the Lynn Canal in the northeastern corner of the Tongass National Forest, in the Juneau Ranger District. All of the build alternatives assessed, including Alternatives 2B, 3, 4B, and 4D, contain a land component within the Tongass National Forest.

As shown in Figure 3-1, the Tongass National Forest includes the uplands along the eastern side of the Goldbelt Echo Cove shore lands, and almost all of the land between Cascade Point and Skagway from the east shore of Lynn Canal to the Canadian border. With the exception of the Klondike Gold Rush National Historic Park area, the USFS owns much of the lands along the East Lynn Canal along Alternative 2B (East Lynn Canal Highway), the eastern portion of Alternative 3, and the land components of Alternatives 4B and 4D. Most of the lands along western portion of Alternative 3 (West Lynn Canal Highway) are also within the Tongass National Forest, beginning at William Henry Bay and proceeding north to the Sullivan Mountain area, where the Haines State Forest extends northward to Pyramid Harbor.

Recognizing the potential for a future transportation corridor in the Lynn Canal area, the USFS management plan addresses Transportation Systems Corridors (TSC) across Tongass lands along both the east and west sides of Lynn Canal. (See further TSC discussion in the subsection below.) The USFS management direction for the Tongass National Forest is set forth in the TLRMP, as discussed in the following section. The TLRMP was adopted in 1979 and most recently revised in December 2016. The Tongass Timber Reform Act of 1990 also modified management practices on USFS lands in the Tongass National Forest.

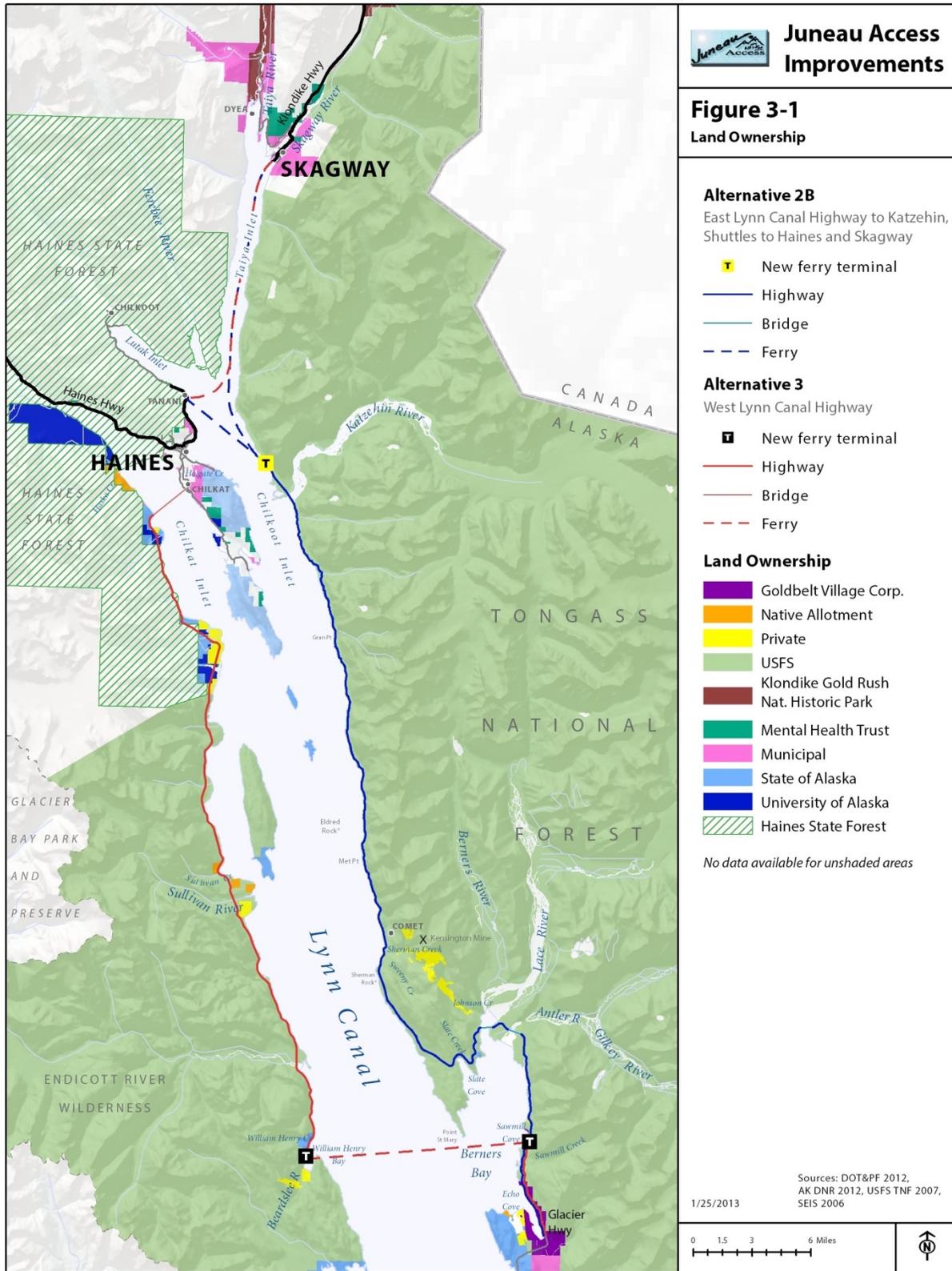


Figure 3-1: Land Ownership

2016 TLRMP Land Use Designations and Transportation Systems Corridors

The TLRMP guides natural resource decision making in the Tongass National Forest (the Forest) by establishing management standards and guidelines for a variety of LUDs and for TSCs. It describes resource management practices, levels of resource production and management, and the availability and sustainability of lands for different kinds of resource management. The USFS allocates (or zones) certain areas of the Forest as LUDs² for different uses. The description of allowed and prohibited activities in each LUD is called a management prescription, which includes Land Use Designation Standards and Guidelines and Forest-wide Standards and Guidelines. The Land Use Designation Standards and Guidelines are specific to each LUD and give general direction on what may occur within the LUD, the standards for accomplishing each activity, and the guidelines on how to go about accomplishing the standards. The Forest-wide Standards and Guidelines³ are common to many areas of the forest across multiple LUDs.

The TLRMP established two main LUD categories: Non-development⁴ (which maintains old-growth forest habitat) and Development⁵. Each LUD category describes the purpose and objectives of management for each area of the Tongass National Forest and establishes specific constraints for the various uses. Figure 3-2 depicts the locations of current TLRMP LUDs within the project area. Attachment A outlines the TLRMP LUD management prescriptions that are applicable within the project area, and Attachment B provides the Forest-wide Standards and Guidelines.

The Non-development LUD category contains two groups: (1) Wilderness and National Monument, and (2) Mostly Natural. The Development LUD category also consists of two groups: (1) Moderate Development and (2) Intensive Development. Each of these four groups consists of sub-categories of LUD designations, which are described in Table 3-1.

In addition to the LUDs, the 2016 TLRMP addresses TSCs. The TLRMP does not designate or describe a land area associated with TSC, but provides Standards and Guidelines for TSC wherever they may occur. The TLRMP indicates the following:

*The purpose of the plan direction is to facilitate the availability of [National Forest System] land for the development of existing and future transportation system corridors such as those identified by the State of Alaska in the Final Southeast Alaska Transportation Plan (2004) and applicable laws (for example, Section 4407 of P.L. 109-59, Title XI of ANILCA, P.L. 96-487).
2016 TLRMP p. 5-11*

² A Land Use Designation (LUD) is a management prescription allocated to specific areas of National Forest System land.

³ Forest-wide Standards and Guidelines are 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.

⁴ Non-development LUDs do not permit commercial timber harvest.

⁵ Development LUDs permit commercial timber harvest (Timber Production, Modified Landscape, and Scenic Viewshed) and convert some of the old-growth forest to early-to mid-successional, regulated forests.

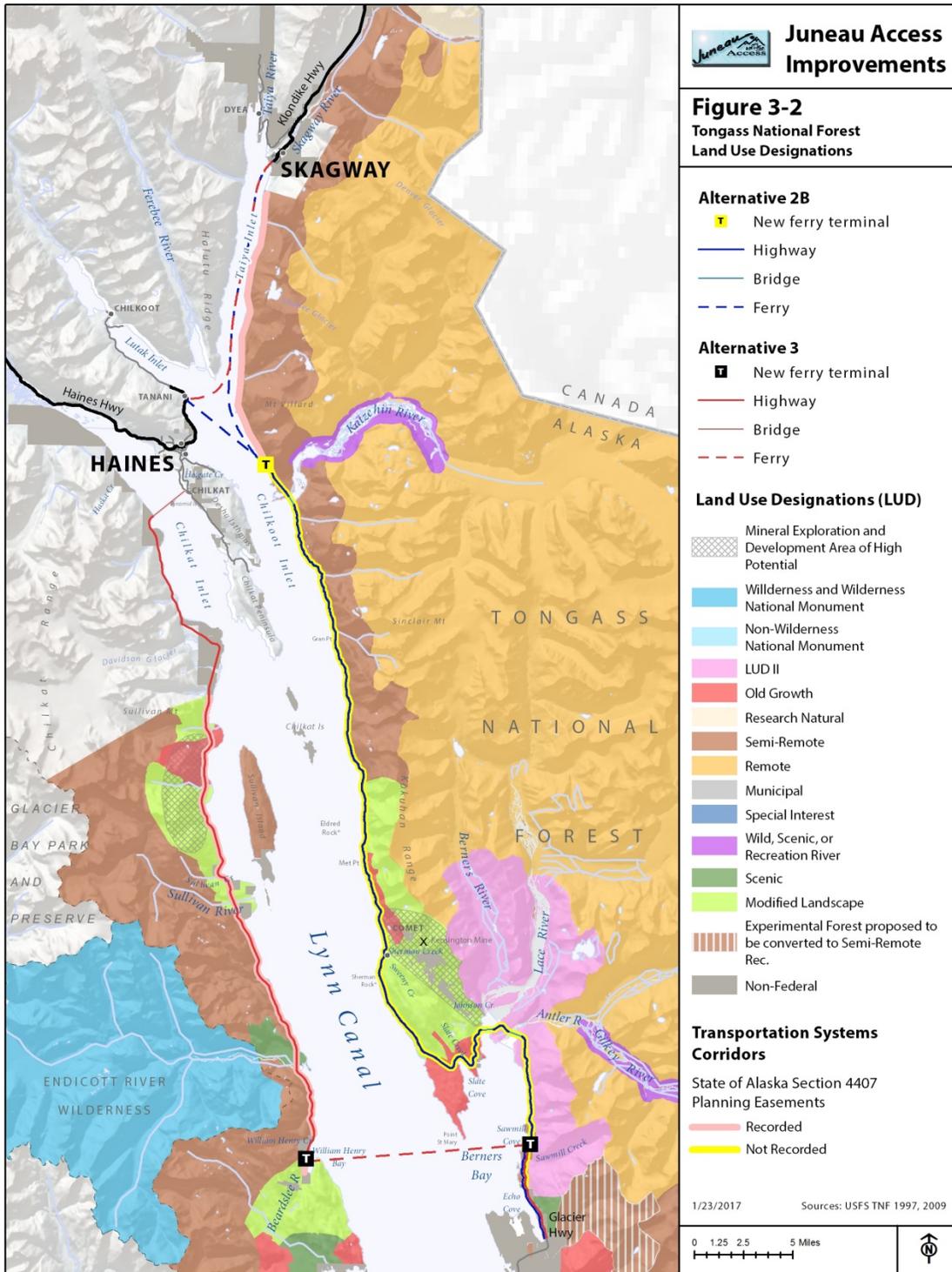


Figure 3-2: Tongass National Forest Land Use Designations

Table 3-1: TLRMP Land Use Designation

Category	Group	Sub-category
Non-development	Wilderness and National Monument	Wilderness and National Monument – Preserve essentially unmodified areas to provide opportunities for solitude and primitive recreation. Limits motorized access.
		Non-Wilderness National Monument – Facilitate the development of mineral resources in a manner compatible with the National Monument purposes.
	Mostly Natural	LUD II – Maintain the wildland characteristics of these congressionally designated unroaded areas. Permit fish and wildlife improvements and primitive recreation facilities.
		Old-Growth Habitat – Maintain old-growth forests in a natural or near-natural condition for wildlife and fish habitat.
		Research Natural Area – Manage areas for research and education and/or to maintain natural diversity on National Forest System Lands.
		Semi-Remote Recreation – Provide for recreation and tourism in natural-appearing settings where opportunities for solitude and self-reliance are moderate to high.
		Remote Recreation – Provide for recreation in remote natural settings outside Wilderness, where opportunities for solitude and self-reliance are high.
		Municipal Watershed – Manage municipal watersheds to meet State water quality standards for domestic water supply.
		Special Interest Area – Preserve areas with unique archaeological, historical, scenic, geological, botanical, or zoological values.
		Wild, Scenic, or Recreational Rivers – Maintain and enhance the outstandingly remarkable values of river segments which qualify the river to be classified as a Wild, Scenic, or Recreational River.
Development	Moderate Development	Scenic Viewshed – Maintain scenic quality in areas viewed from popular land and marine travel routes and recreation areas, while permitting timber harvest.
		Modified Landscape – Provide for natural-appearing landscapes while allowing timber harvest.
		Experimental Forest – Provide opportunities for forest practices research and demonstration.
	Intensive Development	Timber Production – Manage the area for industrial wood production. Promote conditions favorable for the timber resource and for maximum long-term timber production.
		Minerals (Overlay LUD*) – Encourage mineral exploration and development of areas with high mineral potential.

*The Mineral Overlay LUD is overlain on other, underlying LUDs. The lands overlain in this way are managed according to the underlying LUD until mineral development is approved. If such development is approved, the mineral LUD management standards and guidelines take effect.

In the project area, State of Alaska planning easements established under Section 4407 of PL 109-59 occur on the east and west sides of Lynn Canal (see Figure 3-2). If a road were formally planned for one of these corridors, its management would be as a TSC. The TLRMP Final EIS indicates the following:

TSC plan components (e.g., Standards and Guidelines in the Forest Plan) would take precedence over other Forest-wide and LUD-specific Standards and Guidelines (subject to applicable laws) where TSC are proposed or exist.
TLRMP Final EIS p. 3-313

The Standards and Guidelines for the TSC are included in Appendix B.

The project alternatives cross the Non-development and Development LUDs listed in the following sections and shown in Figure 3-2.

Non-Development LUDs:

East Lynn Canal (Alternative 2B, eastern portion of Alternative 3, and land component of Alternatives 4B and 4D)

- LUD II
- Semi-Remote Recreation
- Old-Growth Habitat

West Lynn Canal (Alternative 3)

- Semi-Remote Recreation
- Old-Growth Habitat

Development LUDs

East Lynn Canal (Alternative 2B, eastern portion of Alternative 3, and land component of Alternatives 4B and 4D)

- Scenic Viewshed
- Modified Landscape
- Mineral Overlay LUD

West Lynn Canal (Alternative 3)

- Modified Landscape
- Scenic Viewshed
- Mineral Overlay LUD

Old-Growth Forest Reserves

Federal actions in 2006 to approve the JAI Project were challenged in court in part based on a USFS decision involving Old-growth Forest Reserves and a Transportation and Utilities System

(TUS) LUD that existed in the previous TLRMP. Because the legal challenge highlighted this issue, additional detailed information is provided in the paragraphs below to clarify the purpose and importance of old-growth forest habitat within the Tongass National Forest, and to explain the interplay of the Old-growth (OG) Habitat LUD and the TCSs described in the subsection immediately above. The USFS is a cooperating agency for the SEIS and must make decisions based in part on the information contained in this *Land Use Technical Report* and the JAI SEIS. Congress granted the State of Alaska transportation easements on each side of Lynn Canal that the State believes supersede the administratively adopted TLRMP (see State of Alaska Transportation Easements in Section 3.1.3.1, below). The information provided here is primarily for the USFS and its internal process of maintaining old-growth forest habitat across the Forest; the TLRMP would not affect the proposed transportation alignments unless they extended outside the easements granted by Congress.

Lands on both sides of Lynn Canal, in the vicinity of the JAI Project, contain substantial but sometimes discontinuous old-growth forest habitat. Measured from the latitude of Auke Bay (Juneau) north to the Canadian border and including all Tongass National Forest lands in the watershed of Lynn Canal, there are 103,501 acres of mapped old growth forest on the east side of Lynn Canal and 51,963 acres on the west side, for a total of 155,464 acres⁶. Through the TLRMP, old-growth forest habitat is maintained across the entire forest in the Non-Development LUD category (e.g., in the Wilderness LUD Group and Natural Settings LUD Group).

The 2016 TLRMP preserves a large acreage of old-growth forest habitat by designation of non-development LUDs. These LUDs function as medium or large old-growth reserves (OGRs). A smaller amount of old-growth forest habitat that typically is located within development LUDs and that meets specific criteria for size, spacing, and composition⁷ is preserved in the form of small old-growth reserves. The TLRMP Land Use Designations map designates these smaller units as OG Habitat LUDs (Figure 3-2 presents these data for the project area). These OG Habitat LUDs provide connectivity between larger OGRs. The large and small OGRs are the key components of the Forest's old-growth habitat conservation strategy, which is meant to protect wildlife species as well as the forest itself, with emphasis on the viability of key indicator wildlife species. In short, the reserve system was "developed to maintain a functional and interconnected old-growth forest ecosystem on the Tongass by retaining intact, largely undisturbed habitat" (USFS 2016, Appendix D). In the project area, OG Habitat LUDs (small OGRs) occur in the following Value Comparison Units (VCUs)⁸.

- VCU 230 and VCU 240, adjacent OG Habitat LUDs on the east side of Lynn Canal north of Juneau near Echo Cove.
- VCU 160 and VCU 200, adjacent OG Habitat LUDs east of Lynn Canal in the area of Slate Cove and Point Saint Mary Peninsula on the northern edge of Berners Bay; the LUD in VCU 200 overlaps into VCU 160, and there is separate OG Habitat LUD in VCU 160 as well.

⁶ Measured using geographic information system (GIS) software using USFS data: "TNF 2007 Cover Type 4-Old-growth with sawtimber (9"+ DBH, more than 150 yrs old)."

⁷ Specific requirements are discussed in Appendix D to the 2008 TLRMP Final EIS (USFS, 2008b) and in Appendix K of the 2008 TLRMP itself (USFS, 2008c).

⁸ VCUs are subdivisions of the Tongass National Forest used for forest planning. Boundaries generally follow easily recognizable watershed divides and encompass distinct geographic areas containing one or more large stream systems.

- VCU 190, an OG Habitat LUD east of Lynn Canal in an area between Comet and Met Point.
- VCU 950, an OG Habitat LUD west of Lynn Canal near the National Forest boundary with Haines State Forest.

According to USFS policy, OG Habitat LUDs require a contiguous landscape of at least 16 percent of the VCU area, and 50 percent of this area must be productive old-growth timber (USFS, 1997). Where feasible, the boundaries of an OG Habitat LUD should follow geographic features so that the boundaries can be recognized in the field. Along with the general criteria of size and productivity, connectivity between areas of old growth habitat is also a criterion. The design of each habitat is to be based on wildlife concerns specific to the particular area. Criteria commonly used in designating OG Habitat LUDs include important deer winter range, probable goshawk nesting habitat, probable marbled murrelet nesting habitat, large forest blocks, rare plant associations, and landscape linkages.

As part of the overall conservation strategy, the USFS has developed a process for modifying OG Habitat LUD boundaries when necessary (e.g., when a land exchange or new development such as a road affects an OG Habitat LUD). According to Appendix K of the TLRMP, a “project level review” is required if the USFS wishes to change the size and location of an OG Habitat LUD or any OGR. Such a review may be triggered if the USFS determines that actions proposed within the OG Habitat LUD would reduce the integrity of the old-growth habitat in that LUD. USFS review of the forest’s overall conservation strategy may be necessary if a proposed action would affect a medium or large OGR or multiple small, medium, or large OGRs. Appendix K specifies that if the USFS deems an overall review unnecessary where a project affects medium and large OGRs, “documentation of the rationale will be done through the NEPA process.” For this project, USFS has implemented the project-level-review process, and an interagency review team comprised of the Alaska Department of Fish and Game (ADF&G), USFS, and U.S. Fish and Wildlife Service (USFWS) has produced a paper (Brockmann et al., 2015). This paper, provided as Attachment C, is further discussed in Section 4.3.

As indicated above, the USFS had approved the location of the highway easement DOT&PF and the Federal Highway Administration (FHWA) had selected in the 2006 JAI FEIS, and that approval was challenged in court. Project opponents alleged failure of the USFS to consider whether there was a feasible alternative that would avoid OG Habitat LUDs before approving the easement. The court did not rule on this issue. The issue concerns the interplay of the OG Habitat LUD and what was called in the 2008 TLRMP a TUS LUD. The 2016 revised TLRMP no longer contains the TUS LUD and instead addresses TSCs.

The 2016 Forest Plan, under the OG Habitat LUD management prescription, states that “new road construction is generally inconsistent with OG Habitat LUD objectives, but new roads may be constructed if no feasible alternative is available.” The prescription indicates that the USFS generally must perform transportation analysis “to determine if other feasible routes avoiding this LUD exist during the project environmental analysis process.” However, the TSC plan components in the TLRMP also acknowledge that the State holds transportation easements on Forest lands (easements granted by Congress).

Because State of Alaska transportation easements exist in the project area (see Section 3.1.3.1), and based on documentation in the TLRMP Final EIS that the TSC plan direction takes precedence, the State of Alaska believes the TSC plan direction makes *not applicable* the standard OG Habitat LUD prescriptions mentioned above (i.e., the prescriptions that “new road construction is generally inconsistent” and that USFS must perform transportation analysis regarding feasible avoidance routes). These prescriptions *do* apply to the OG Habitat LUD anywhere TSCs do not exist. In other words, if the State stays within the easements granted by Congress, these TLRMP prescriptions do not apply.

The OG Habitat LUD, and its interplay with the TSCs, is important for this project because (a) the USFS must make decisions related to the project based in part on management under the OG Habitat LUD and TSCs, and (b) project opponents have shown concern in the past that decisions were not made appropriately. This Technical Report further addresses these issues in Section 4.3.

U.S. Forest Service Inventoried Roadless Areas

The Roadless Area Conservation Rule (36 CFR 294) applies to the National Forest System. This document presents information about how the Roadless Rule affects a road project.

The USFS reviews all proposals for new roads or timber removal in any Inventoried Roadless Area (IRA) to ensure the USFS is “doing all we can to protect roadless area characteristics” (Tidwell, 2012). In general, roadless areas were inventoried by the USFS nationwide beginning in the 1970s. Inventories and evaluations in part examine the suitability of such areas for possible future designation by Congress as part of the National Wilderness Preservation System (federal wilderness).

The Roadless Rule defines “Roadless Area Characteristics” as:

Resources or features that are often present in and characterize inventoried roadless areas, including:

1. High quality or undisturbed soil, water, and air;
2. Sources of public drinking water;
3. Diversity of plant and animal communities;
4. Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land;
5. Primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation;
6. Reference landscapes;
7. Natural appearing landscapes with high scenic quality;
8. Traditional cultural properties and sacred sites; and
9. Other locally identified unique characteristics.

[36 CFR 294.11]

The regulations provide a general prohibition on construction of new roads within IRAs but also provide two applicable exceptions to this prohibition.

One exception applies when a road “is provided for by statute or treaty” (36 CFR 294.12(b)(3)). Because Congress authorized the granting of transportation and utility easements to the State of Alaska on both sides of Lynn Canal, easements for several of the JAI Project alternatives have been provided for by statute. These easements cross IRAs. These currently are planning easements and “float” within a specified area (see State Transportation Easements in Section 3.1.3.1). The State of Alaska believes that the USFS would not need to undergo a specific approval process of its own, but would need to make an affirmative finding that the easements had been provided by statute.

If for some reason the ultimate highway alignment were forced outside of the planning easement areas specified by Congress (not considered likely), there is another exception that applies for Federal Aid Highway projects such as the JAI Project. The prohibition on road building is excepted if:

The Secretary of Agriculture determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists... [36 CFR 294.12(b)(6)]

According to the USFS, in its capacity as a cooperating agency for this project, the provision quoted above would require the Secretary of Agriculture to make an affirmative finding that otherwise would not be required for a federal-aid highway located outside an IRA. The finding would address whether the project “*is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists.*” Such a finding would not be required under the first exception described above.

There are four IRAs in the project area, depicted on Figure 3-3. The following text addresses the roadless area characteristics indicated above for the IRAs 301 and 305, located on the east side of Lynn Canal, and IRAs 303 and 304, located on the west side of Lynn Canal. The IRAs all are large, together totaling about 1.6 million acres:

- IRA 301, Skagway-Juneau Icefield: 1.2 million acres
- IRA 303, Sullivan: 66,143 acres
- IRA 304, Chilkat-West Lynn Canal: 198,109 acres
- IRA 305, Juneau Urban: 94,800 acres

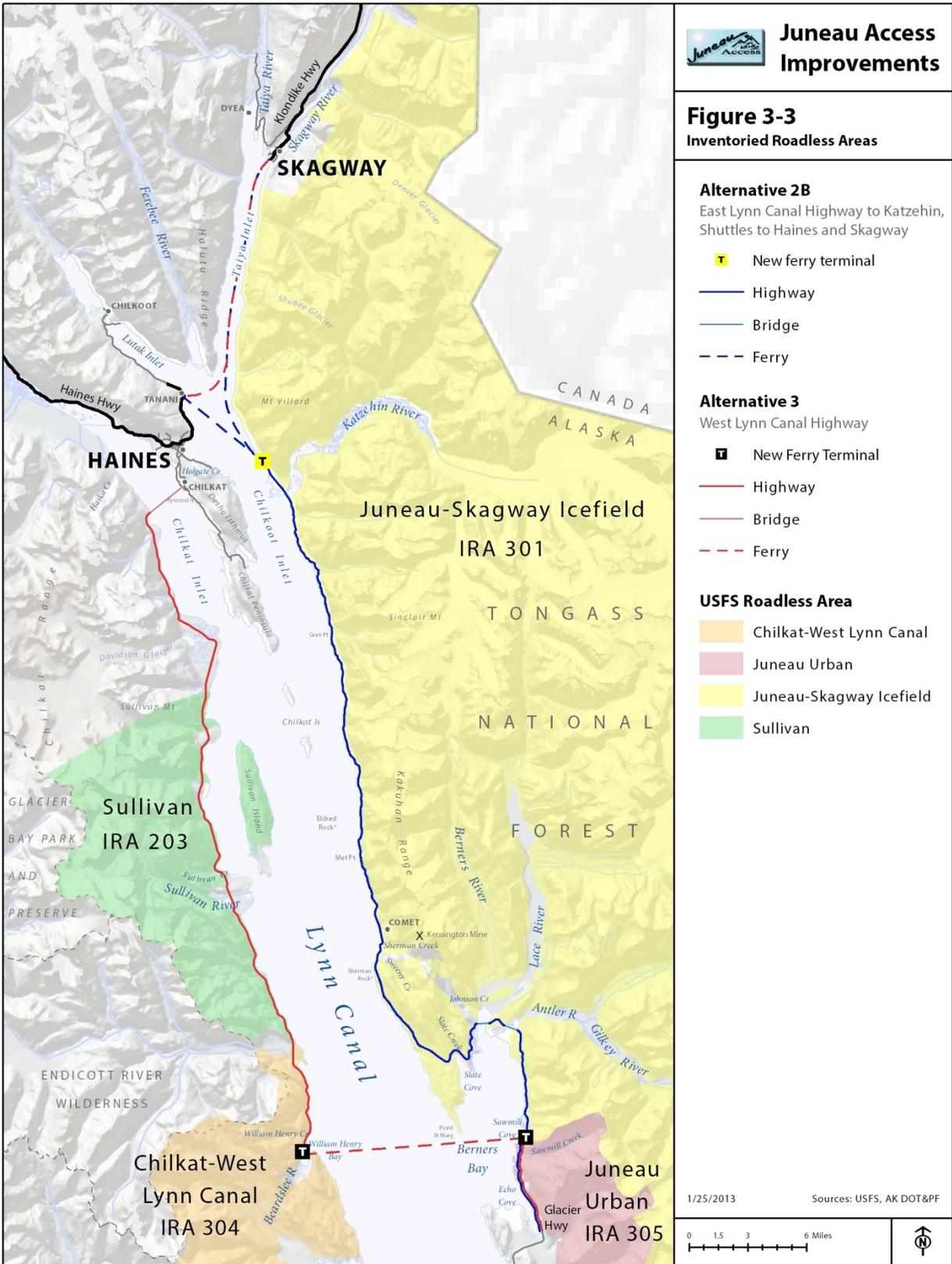


Figure 3-3: Inventoried Roadless Areas

These four are in the context of more than 100 IRAs in Tongass National Forest, totaling 9.5 million acres of IRAs, or 57 percent of the 16.8-million-acre national forest. Ninety-one percent of the forest is “roadless” if areas already designated as part of the National Wilderness Preservation System are included (USFS, 2008a, p. 3-445). The USFS provides information on the IRAs in Chapter 3 of the *Tongass National Forest Land and Resources Management Plan Final Environmental Impact Statement* (2008) in a section titled “Roadless Areas,” and further information is contained in a February 2003 “Roadless Area Evaluation for Wilderness Recommendations” report as part of a previous Forest Plan EIS. None of the IRAs forest-wide was recommended for formal designation by Congress as federal wilderness in the current Forest Plan (2008). The characteristics of the four IRAs are more similar than different. The following bulleted paragraphs describe the general characteristics of these IRAs, using the nine “Roadless Area Characteristics” from the Roadless Rule.

- **High-quality or undisturbed soil, water, and air.** The overlap between the project area and the IRAs (the western edges of IRAs 301 and 305 and the eastern edges of IRAs 303 and 304) are characterized by high-quality and largely undisturbed soil, water, and air quality. The east side of Lynn Canal (IRA 301) has been affected by ongoing mining activity, primarily in the Juneau Goldbelt Tract, for decades and by hydroelectric projects near Skagway (outside the area of any new road or ferry terminal proposed as part of the JAI Project), but the developments are officially outside the IRA itself. Sections 3.2.1, 3.2.2, and 3.2.5 of the JAI Project SEIS address geology, hydrology and water quality, and air quality, respectively. No hazardous waste treatment, storage, or disposal sites occur in the IRAs. Hazardous Materials are the subject of Section 3.2.7 of the Draft SEIS, with detail in an *Initial Site Assessment Technical Report (2014 Update to Appendix M)*.
- **Sources of public drinking water.** Streams, lakes, and groundwater within the IRAs are not a substantial source of public drinking water inside or downstream of the IRAs; there are no communities in or immediately adjacent to the IRAs, except for the Juneau Urban IRA (305) that effectively surrounds Juneau. Lakes and streams within the affected portions of the IRAs provide drinking water for hunters, hikers, boaters on adjacent marine waters, public recreation cabin users, and public recreation permittees. Ground and surface waters that originate in the IRAs contribute to drinking water for the Kensington and Jualin Mines, which are surrounded by IRA 301, and to a few private cabins and tent platforms on both sides of Lynn Canal. The Juneau Urban IRA (IRA 305) contributes substantial drinking water for the greater Juneau area, but the far northern edge of this IRA near Sawmill Creek is remote from the city and its suburbs and is more similar to the mostly undeveloped IRA 301 immediately to the north. Drinking water and wells are not otherwise discussed in the SEIS.
- **Diversity of plant and animal communities.** Diverse plant and animal communities exist within the IRAs, particularly at low elevations near the proposed project alternatives. The diversity in these IRAs is not unusual for the Tongass National Forest. Tens of thousands of acres in these IRAs are mapped as productive old growth forest, which is high value wildlife habitat. Wetlands and beach areas contribute to diversity, adding substantial fish habitat, waterfowl habitat, and haulout habitat for the threatened Steller sea lion within and at the edges of the IRAs. Wetlands and terrestrial habitat are addressed in Sections 3.3.1 and 3.3.3 of the SEIS. Wildlife is addressed in Section 3.3.5. The *2014 Update to Appendix O* and *2014 Update to Appendix X* address wetlands. The *2017 Update to Appendix Q*, *2014 Update*

to Appendix R, and 2014 Update to Appendix S respectively address wildlife, bald eagles, and threatened and endangered species.

- **Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land.** No threatened or endangered species of plants or animals have been identified within these IRAs. The eastern distinct population segment (DPS) of Steller sea lions was formerly listed as “threatened” under the Endangered Species Act (ESA) and occurs in marine water and at shoreline haulouts mostly adjacent to the IRAs rather than within them. The western DPS is still classified as endangered under the ESA. National Marine Fisheries Service (NMFS) delisted the eastern DPS, effective December 4, 2013. However, it remains protected under the Marine Mammal Protection Act, and the designated critical habitat remains unchanged because it was established for the entire Steller sea lion population before the two DPSs were recognized. USFS Alaska Region sensitive wildlife species include trumpeter swan, Peale’s peregrine falcon, and Queen Charlotte goshawk; no sensitive plant species have been identified in the area. Sensitive plant species known or suspected to be present in Tongass National Forest are identified in Section 3.3.3 of the SEIS. Wildlife species that depend on large land areas in or near the project area include bald eagle, black bear and brown bear, moose, wolf, marten, river otter, and mountain goat, among others. Section 3.3.5 addresses wildlife. Section 3.3.7 addresses threatened and endangered species. Updates to *Appendices Q, R, and S* (found collectively in Appendix Z of the Draft SEIS [an update to Appendix Q and errata for *Appendices R and S* are included in Appendix Z of the Final SEIS]) address wildlife, bald eagles, and threatened and endangered species, respectively.
- **Primitive, semiprimitive nonmotorized and semiprimitive motorized classes of dispersed recreation.** The USFS Recreational Opportunity Spectrum (ROS) classifications for these IRAs are almost entirely Primitive, Semiprimitive Nonmotorized, and Semiprimitive Motorized. IRA 301 is 100 percent within these classifications (90 percent Primitive), while IRA 303 is at 99 percent (54 percent Primitive), IRA 304 is at 97 percent (48 percent Primitive), and IRA 305 is at 96 percent (39 percent Primitive). Specific discrete areas at the lower ends of drainages within or immediately adjacent to the IRAs on both sides of Lynn Canal are classified as Roaded Natural and Roaded Modified on the ROS and contain mining and logging roads. The shorelines in general on both sides of Lynn Canal are classified in a narrow band as Semiprimitive Motorized. Helicopter landings on the Juneau Icefield are very popular within IRA 301 and involve thousands of helicopter trips annually over the lower elevations of the east-side IRAs, but typically farther south than the project area. Section 3.1.1.5 of the SEIS (a subsection of Land and Resource Uses) addresses recreation issues.
- **Reference landscapes.** One definition of reference landscapes is that they are “carefully preserved natural or near-natural forests that can provide information about natural species’ mix and ecology, that can be used in planning and measuring the success of restoration” (Dudley, 2005). There are some areas of the forest proposed for restoration efforts. Large portions of the IRAs could serve as reference landscapes, because they are principally natural forests with intact natural species mix and ecology. There is no indication that the potentially affected portions of these IRAs are being used formally as reference landscapes today or that there is a need for them as reference landscapes in the foreseeable future. Approximately 91 percent of the Tongass Forest is “roadless” with large portions protected as federal

Wilderness, including the Endicott River Wilderness adjacent to the west-side IRAs and the LUD II Congressionally designated protected roadless area within IRA 301 (east of Lynn Canal in the Berners Bay area)—suggesting that there are many opportunities for reference landscapes within and outside these IRAs. Section 3.3.3 of the SEIS, Terrestrial Habitat, addresses vegetation and forest types.

- **Natural appearing landscapes with high scenic quality.** The appearance of the landscapes within these IRAs overall is natural-appearing with high scenic quality. The USFS (2003) makes similar statements for all four IRAs, generally indicating that all four are “generally unmodified and natural.” Long-term ecological processes are evident. The lack of modification and the relatively large areas within these IRAs (especially IRA 301) result in these areas being perceived as pristine, natural, and mostly free from disturbances. Activities on land adjacent to IRA 301 near Berners Bay on the east side of Lynn Canal, at alluvial fans in IRA 303 on the west side, and trails, cabins, and other development at the edge of the city of Juneau along with the relatively high recreation use near Juneau affect the apparent naturalness to some degree. Thousands of summer helicopter tours from Juneau to the icefield within IRA 301 also are evidence of human influence. Lynn Canal in general and Glacier Highway, adjacent to IRA 305, are Visual Priority Routes; these IRAs are broadly visible from the Alaska Marine Highway (ferry) route shared with cruise ships and small private vessels, heightening the importance of the viewed landscape in these IRAs. In the descriptions of “apparent naturalness” of these four IRAs, the USFS (2003) concludes that the *appearance* of each of the four IRAs is largely or entirely “suitable for wilderness classification.” Section 3.1.2 and the *2014 Update to Appendix G in Appendix Z* of the SEIS address the visual aesthetics and the visual character of the project area in more detail.
- **Traditional cultural properties and sacred sites.** There are no traditional cultural properties or sacred sites in these IRAs. There are historic districts in the general Lynn Canal area. Section 3.1.3 of the SEIS addresses historic and archaeological resources.
- **Other locally identified unique characteristics.** Karst and cave topography occurs within these IRAs, and there are marble outcrops and icefields that are unusual in most of North America. Karst and cave areas could be located in portions of the IRAs potentially affected by alternatives. Section 3.2.1, Geology, includes discussion of karst topography.

Wild and Scenic River Status

The 2016 Record of Decision approving the revised TLMP Forest Plan determined that the upper 10 miles of the Katzeihin River are suitable for inclusion in the National Wild and Scenic Rivers System as a Wild River, and recommended such inclusion. Until the river is officially designated Wild or Scenic by an act of Congress, the USFS manages this part of the Katzeihin River to protect its suitability for designation.

Legislation Affecting the Tongass National Forest

In June 2012, the U.S. House of Representatives approved H.R. 2578, a bill that—among many other land issues—would incorporate the Southeast Alaska Native Land Entitlement Finalization and Jobs Protection Act. To become law, the Senate also would need to pass H.R. 2578, and the President would need to sign it. The administration does not support the legislation, according to a Statement of Administration Policy (Executive Office of the President 2012). The Land

Entitlement Finalization would allow Sealaska Native Corporation to select from federal lands that are not available to it under the Alaska Native Claims Settlement Act (ANCSA) and that are expected to generate timber receipts for the U.S. Treasury beginning around 2019, according to the Congressional Budget Office (CBO; Legislative Digest 2012). The lands available to Sealaska under ANCSA are not expected to generate receipts. After taking possession of the land, the Sealaska Corporation would be entitled to the revenue derived from the sale of any timber harvested from those lands.

3.1.2.2 National Park Service Ownership and Management

Within the study area, the NPS manages the Skagway unit of the Klondike Gold Rush National Historical Park covering 12,976 acres. Actual ownership is split between the State of Alaska (8,723 acres), the federal government (2,419 acres), the Municipality of Skagway Borough⁹ (1,477 acres), and private owners (including Native allotments [220 acres], private land in Dyea [57 acres], and commercial land [80 acres]).

In addition to the historic structures in downtown Skagway, the major attraction of the Klondike Gold Rush Park is the Chilkoot Trail, located nine highway miles west of Skagway in Dyea. The Chilkoot Trail unit covers 9,900 acres; it begins at the north edge of Dyea and extends 16.5 miles north along the Taiya River valley to the Canadian border. The General Management Plan emphasizes developing and following a comprehensive approach that will protect the natural resources and ensure perpetuation of a pristine landscape compatible with the historic setting.

3.1.3 State Land Ownership and Management Status

The State owns and manages several State parks, marine parks, and a State forest within the project area. The State also owns and manages most of the tidelands, submerged lands, and lands under navigable fresh waters along Lynn Canal. The locations of State lands are shown in Figure 3-1. Management of State lands is described in the *Juneau State Land Plan* (ADNR, 1993), the *Northern Southeast Area Plan* (NSEAP; ADNR 2002a), the *Haines State Forest Management Plan* (ADNR, 2002b), and the *Alaska Chilkat Bald Eagle Preserve Management Plan* (ADNR 2002c). Other State-owned lands include the University of Alaska and Alaska Mental Health Trust lands. Management plans have not been updated since the completion of the 2004 SDEIS *Appendix F, Land Use and Coastal Management Technical Report*. The following sections discuss the areas owned and managed by the State of Alaska.

3.1.3.1 State Land and Resource Ownership

The majority of the State land and resource ownership information for the east and west sides of Lynn Canal is included in the discussion below. Updates for East Lynn Canal parcels are based on information from the NSEAP (ADNR, 2002a), which has also been incorporated.

State-Owned Lands, East Lynn Canal

The State owns all tidelands, submerged lands, and lands under navigable fresh waters within the project area, except those that have been patented to other owners. In addition, the State owns or has filed statehood selections on several parcels along the east side of Lynn Canal.

⁹ In 2007, Skagway voters approved dissolving the first-class City of Skagway in favor of forming a first-class borough.

Within the Berners Bay area, State-owned and managed land is located at Point Bridget State Park west of Echo Cove. Near Skagway, State land in the area of Devil's Punchbowl is managed for scenic and recreational values, with potential for development in the west portion of the parcel. There is also State land in the Twin Dewey Peaks area. The Twin Dewey Peaks area State land is managed as a viewshed, except for an area west of the railroad tracks where material extraction is permitted.

The State has selected four parcels of USFS land along East Lynn Canal. Selection by the State does not convey ownership or management, so these selected lands continue to be managed by the USFS. One of these selections is in the Berners Bay area, and the other three are in the area of the Katzechin River. The parcel in the Berners Bay area consists of 615 acres in Slate Creek Cove that have been selected as prospective community land related to the development of mining in the Kensington- Jualin area (ADNR, 2002a). Two of the parcels in the Katzechin River area, totaling approximately 660 acres, are located south of the Katzechin River and were selected by DOT&PF as possible future ferry terminal sites. However, the DOT&PF is no longer interested in the parcels for this purpose (ADNR, 2002a). The fourth parcel (615 acres) was selected by the State on the north side of the Katzechin River delta for community recreation purposes (ADNR, 2002a). It is unlikely that the parcels in the Katzechin River area will be conveyed to the State because they are all affected by Public Land Order 5603 (1976), which withdrew these lands from federal lands available for selection. The Public Land Order would have to be withdrawn for any land transfer to occur (41 Federal Register 44041). In addition, these three parcels are currently classified as State land selection priority level "C," the lowest level of classification, and will not be considered for conveyance to the State unless the selection priority is changed (ADNR, 2002a). It is unlikely that Public Land Order 5603 will be withdrawn; therefore, it is expected that the three Katzechin River area parcels will remain under USFS management.

The State owns tidelands and submerged lands at the existing Auke Bay Ferry Terminal and the ferry facilities.

The Skagway State ferry terminal facility is jointly used by the Municipality of Skagway Borough and the State of Alaska; the Municipality owns the transfer bridge and one third of the floating dock. The immediately adjacent tidelands and submerged lands are State owned, abutted by city tidelands on the east and city tidelands under long-term lease to the White Pass & Yukon Route Railroad (WPYR; White Pass & Yukon Route, 2012) on the west.

State-Owned Lands, West Lynn Canal

The State owns all tidelands and submerged lands in the project area except where they have been conveyed (patented) to other landowners. Leases or easements granted by the State across tidelands or submerged lands do not convey ownership, and such lands remain State-owned.

On the west side of Lynn Canal, a 328-acre parcel of land along the northwest shore of William Henry Bay was transferred to the State for possible use as a ferry terminal site. Other areas of State land managed by ADNR on the west side of Lynn Canal include Sullivan Island State Marine Park, Chilkat State Park on the Chilkat Peninsula, and the Chilkat Bald Eagle Preserve.

The northern boundary of the Tongass National Forest on the west side of Lynn Canal is oriented in an east-west direction from Sullivan Mountain toward Seduction Point on the southern tip of the Chilkat Peninsula. North of this boundary, most of the land in the project area is within the Haines State Forest. Pyramid Island, the tidelands surrounding the island, and the tidelands adjacent to both the west and east sides of Chilkat River and Chilkat Inlet are State owned.

One-quarter of the Lutak dock, the current ferry terminal in Haines, is owned by the State. The DOT&PF manages the tidelands and submerged lands at the Lutak dock site and several small upland parcels on the west side of Lutak Highway.

State-Owned Transportation Easements

The State of Alaska owns land interests in transportation easements on each side of Lynn Canal for potential road construction. The Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users is a 2005 federal transportation law (PL 109-59, known as SAFETEA-LU), and the Fixing America's Surface Transportation Act is a similar 2015 federal transportation law (PL 114-94, known as the FAST Act). In Section 4407 of SAFETEA-LU, as amended by the FAST Act, Congress stipulated: "Notwithstanding any other provision of law, the reciprocal rights-of-way and easements identified on the map numbered 92337 and dated June 15, 2005 are granted." The map and a subsequent memorandum of understanding (MOU) between the State of Alaska and USFS indicate a collection of potential road segments desired by the State of Alaska (across forest lands) and log transfer facilities and marine access points desired by USFS (on State lands and waters). The MOU indicates a two-step process that begins with a planning easement and progresses, when an actual project is approved, to a final ROW easement. Most of the planning easements specified on the map have been recorded by the ADNR Recorder's Office. Pertinent to this project, Section 4407 planning easements exist on the east and west sides of Lynn Canal covering the road segments of the JAI Project alternatives; the west side easement has been recorded. The east side easement was the subject of the 2006 lawsuit on this project and has not been recorded.

The State and FHWA may also elect to proceed using the standard and well-established federal land transfer process authorized by 23 USC 317 and further detailed in 23 CFR 710.601 and in a separate 1998 MOU between FHWA and the USFS to acquire a final ROW easement across Tongass National Forest lands. This mechanism would result in an easement unless, after cooperative efforts to resolve outstanding issues, the USFS issued a letter formally stating "reasons why appropriation would be contrary to the public interest or would be inconsistent with the purpose for which the National Forest System lands are being managed" (FHWA-USFS, 1998). For this reason, FHWA is addressing consistency with the TLRMP in the SEIS.

Both methods of acquiring final ROW easements involve scrutiny by the USFS and FHWA, the primary federal agencies involved. In either case, the USFS would review the project under multiple resources (wetlands, cultural resources, recreation, etc.) and may suggest mitigation measures to protect forest resources. The SEIS is intended to provide the documentation necessary for both agencies under either mechanism.

3.1.3.2 State Land and Resource Management

The ADNR has developed two area plans for State lands within the project area: The Juneau State Land Plan (ADNR, 1993) and the NSEAP (ADNR, 2002a). The two plans share a common boundary and, together with the Haines State Forest Management Plan (ADNR, 2002b) and the Alaska Chilkat Bald Eagle Preserve Management Plan (ADNR, 2002c), address State lands in the JAI Project area. Other categories of State lands include State parks such as Chilkat State Park and Sullivan Island State Marine Park, the University of Alaska, and Mental Health Trust lands.

ADNR Juneau State Land Plan

The Juneau State Land Plan includes nearly all of the land within the CBJ, except for land on Admiralty Island (ADNR, 1993). The Juneau State Land Plan criteria for development projects on State land or tidelands within the CBJ are presented below. Updated information is identified and included in the discussion.

Within the CBJ, the State owns approximately 22,200 acres of uplands and 306,900 acres of tidelands and submerged lands. The State has selected another 22,200 acres of uplands. These lands are managed by ADNR, Division of Mining Land and Water, generally for multiple uses. The Juneau State Land Plan, December 1993, establishes broad management policies for land, and more detailed LUDs to specify intended uses and values. Selected policies generally applicable to any transportation or utility project on State land within the CBJ are listed below. These policies should be considered design criteria for highway projects:

- **Roads or Causeways** – Temporary and permanent highways or causeways will, to the extent feasible and prudent, be routed to avoid wetlands and tide flats, avoid streams and minimize alteration of natural drainage patterns, and avoid long-term adverse effects on recreation, water quantity, or water quality. If a temporary highway is routed through tide flats, clean fill will be used and construction methods that facilitate removal of the fill will be required.
- **Protect Hydrologic Systems** – Transportation facilities will, to the extent feasible and prudent, be located to avoid significant effects on the quality of adjacent surface water resources and to avoid detracting from recreational use of waterways. The following guidelines apply:
 - Stream crossings should be minimized. Those in anadromous fish habitat require an ADF&G permit. Where a stream must be crossed to construct a highway, the crossing should be as close as possible to a 90-degree angle to the stream, consistent with good highway alignment practices. Stream crossings should be made at stable sections of the stream channel.
 - Construction in wetlands, floodplains, and other poorly drained areas should be minimized and existing drainage patterns maintained. Culverts should be installed where necessary to enable free movement of fluids, mineral salts, and nutrients.
 - Disturbed stream banks should be recontoured or revegetated or other protective measures should be taken to prevent soil erosion into adjacent waters.

An additional policy in the Juneau State Land Plan that relates to waterfront development projects on State land or tidelands within the CBJ is:

- Breakwaters, jetties, causeways, harbors, and marinas will, to the extent feasible and prudent, be sited and designed to minimize impacts on longshore transport, circulation, and mixing.
- The site and design should also optimize flushing to avoid concentration of pollutants. Harbors, marinas, and launch ramps should be sited where upland demands (such as parking, support facilities, and increased traffic flow) can be accommodated.

Specific management policies for State lands that would be affected by the project alternatives were described in the 1997 DEIS. The applicable guidelines are as follows:

- **Auke Bay Terminal Area** – The State owns the ferry terminal area and most adjacent tidelands. The Juneau State Land Plan designates the area for habitat, fish and wildlife harvest, public facilities, and waterfront development. The ferry terminal area is noted as being available for acquisition by a non-State public entity if management would continue to be consistent with identified uses.
- **Echo Cove/Sawmill Creek** – State tidelands and submerged lands within the Echo Cove area are managed to provide a semi-primitive recreation experience, wildlife habitat, and harvest opportunities. Tidelands north and south of Sawmill Creek are designated for waterfront development, including ports among other uses. The proposed Sawmill Cove Ferry Terminal may involve acquiring a lease for State submerged lands, tidelands, or shorelands. The tidelands near the mouth of Sawmill Creek are not designated for waterfront development because this area is a popular campsite and contains an anadromous fish stream.

Management guidelines state that ADNR authorizations along the tidelands on the east side of Echo Cove should not block future opportunities for a port or transportation corridor. The Juneau State Land Plan notes that before ADNR authorizes any phase or segment of a regional road corridor north from Juneau, appropriate agencies and the public will have a chance to comment.

- **Berners Bay** – State-owned tidelands, submerged lands, and lands under navigable waters are located at the head of Berners Bay. Most State lands in this area are managed to provide a semi-primitive recreational experience, and to protect fish and wildlife habitat and harvest opportunities. Over the long term, road and utility corridors that provide improved access to mining or serve as part of a regional transportation and utility system may be considered. Most of the tidelands in the Slate Creek area are designated to provide support facilities for mining-related activities. The State has selected 615 acres of uplands near Slate Creek Cove for future mining-related community development. This State selection is currently low priority and its status remains inactive.
- **Tidelands along Lynn Canal in Kensington Mine Area** – The *Juneau State Land Plan* addresses the tidelands along East Lynn Canal between Point St. Mary and the northern boundary of the CBJ in a discussion of the management intent for Unit 11A. Two miles of tidelands near the mouth of Sherman Creek would be managed to support water-dependent activities associated with development of the Kensington Mine, while minimizing impacts to anadromous fish streams at Sherman and Sweeny Creeks, salmon and halibut sport fishing,

and commercial gillnet fishing. The balance of the State lands in the Unit 11A area (primarily tidelands) would be managed to provide a semi-primitive recreation experience, wildlife habitat, and fish and wildlife harvest opportunities. As a long-term objective, roads and utility corridors that provide improved access for mining or that serve as part of a regional transportation system may be considered (ADNR, 1993).

ADNR Northern Southeast Area Plan – The NSEAP was adopted in October 2002. The planning area includes all State-owned and State-selected lands, as well as all tidelands, submerged lands, and shorelands in the project area north of Eldred Rock on the east side of Lynn Canal, and encompasses all State-interest lands on the west side of Lynn Canal, except the Haines State Forest and the Chilkat Bald Eagle Preserve. The *Haines State Forest Management Plan* (ADNR, 2002b) and the *Alaska Chilkat Bald Eagle Preserve Management Plan* (ADNR, 2002c) were developed concurrently with the NSEAP to ensure integrated development of State land use plans for this area of common boundaries and common river drainages, and due to the need for consistent management of resources. The NSEAP reflects the considerable effort that was expended during plan development to determine the intensity of community recreation and commercial recreation patterns, and the extent of resources associated with State uplands and tidelands. With the adoption of the NSEAP, the former *Haines-Skagway Land Use Plan* was superseded and replaced (ADNR, 2002a).

Haines State Forest

The 2002 *Haines State Forest Management Plan* is a revision of the original 1985 management plan. The Haines State Forest encompasses approximately 286,208 acres in the northwestern Lynn Canal area. The Alternative 3 highway along the west side of Lynn Canal would cross approximately 15 miles of the Haines State Forest. The ADNR Division of Forestry manages these lands in accordance with the Haines State Forest Management Plan, updated in August 2002 (ADNR, 2002b). The legislative intent for establishment of the forest is as follows:

The primary purposes for the establishment of the area are the utilization, perpetuation, conservation, and protection of the land and water, including but not limited to, the use of renewable and nonrenewable resources through multiple use management, and the continuation of other beneficial uses, including traditional uses and other recreational activities.

The purposes of the Haines State Forest Management Plan are the utilization, perpetuation, conservation, and protection of land and water through multiple-use management. The plan defines management intent for State lands and waters within the Haines State Forest boundaries and provides for the continuation of other beneficial uses including recreational activities and traditional uses. The unit of the forest that extends from the boundary of the Tongass National Forest near Sullivan Mountain area northward to Pyramid Harbor (Unit 6) contains approximately 2,578 acres of operable forest land. However, the Haines State Forest Management Plan prohibits commercial timber harvest in Unit 6 and emphasizes management for scenic and recreational values, fish and wildlife, and potential mineral values. Unit 6 of the Haines State Forest is affected by a Special Use Designation allowing for commercial recreation operations. Subunit 6a

(West Chilkat Inlet) allows for commercial recreation operations with limited clients per day and group size per trip. Subunit 6b (Glacier Point) allows for medium- and high-intensity commercial recreation operations.

Alaska Chilkat Bald Eagle Preserve

Information about the Alaska Chilkat Bald Eagle Preserve is presented below.

The Alaska Chilkat Bald Eagle Preserve is located near the communities of Haines and Klukwan. While outside the project area, it could be affected by changes in traffic levels. The preserve is managed by the ADNR, Division of Parks and Outdoor Recreation. Management intent is documented in the *Alaska Chilkat Bald Eagle Preserve Management Plan, 2002* (ADNR, 2002c). The management plan is based largely on enabling legislation (Alaska Statute [AS] 41.21.610–630), which established the preserve to:

- Protect and perpetuate the bald eagle and its natural habitat
- Protect and sustain natural salmon runs
- Provide opportunities for research, education, and enjoyment
- Assure continued public use of the area
- Ensure water quality and quantity

General management guidelines in the plan for transportation projects include discussion on rights of access, access review, design and approval, maintenance of forest highways, gravel pits, highway realignment, and cooperative agreements with the DOT&PF. A goal of the plan for those portions of the preserve adjacent to the Haines Highway is to allow visitor access to the preserve and eagle concentration areas without creating traffic hazards or significantly impacting the eagles.

While the Haines Highway right-of-way (ROW) is excluded from management by the preserve, it is adjacent to or within the preserve for 24 miles. The common border and proximity of the eagle concentration area to the Haines Highway dictates that management of one will affect management of the other.

Chilkat State Park

Chilkat State Park contains 9,837 acres in two discrete units on the Chilkat Peninsula. This State park is located within the management area addressed by the NSEAP (ADNR, 2002a) and is managed consistent with the requirements of State parks and the enabling legislation that created the park (AS 41.21.110). No formal management plan is in place for the park. Chilkat State Park is heavily used by Haines residents and visitors for recreation. Recreation facilities include a 32-site campground, boat ramp, dock, trails, picnic sites, and a log cabin visitor's center.

University of Alaska

The University of Alaska owns over a dozen parcels of land in the northern Lynn Canal area, primarily along the west side of Lynn Canal. South of Pyramid Harbor, the University also owns land, and north of the project area there is a block of University of Alaska land along the Takhini and Kicking Horse rivers. The University of Alaska also owns lands on the Chilkat Peninsula

near Mud Bay, Letnikof Cove, and within the City of Haines that are not affected by project activities.

The University of Alaska has no specific land management plans for these parcels. The Board of Regents' overall policy is to manage real property for prudent trust management and long-term financial and/or educational use. University of Alaska lands have been used for logging operations, subdivisions, and various commercial ventures. Proposals for development activities are evaluated on a case-by-case basis for their revenue-generating capacity.

Mental Health Trust Lands

Prior to statehood, Congress created a Mental Health Land Trust to provide a revenue stream to fund mental health services for Alaskans. Over one million acres of land were deeded to the State as mental health lands, to be held in trust and managed for revenue production. Over the years, many of these lands have been sold, leased, or dedicated to other purposes, generating litigation on behalf of the mental health community.

In 1991, the Alaska Legislature passed a new mental health statute (Session Laws of Alaska Chapter 66) designed to resolve the litigation and reconstitute the Trust. Although the 1991 legislation did not resolve the case, a revised settlement received court approval in December of 1994. The settlement identified the lands to be included in the reconstituted trust.

The Trust Land Office manages Alaska Mental Health Trust (AMHT) lands for the Alaska Mental Health Trust Authority, under ADNR Title 38. AMHT lands are managed separately from other State of Alaska lands, in accordance with regulations adopted in 1997. AMHT lands are managed to protect and enhance value in order to maximize revenue from those lands over time. Decisions concerning land use are made on a parcel-by-parcel basis.

The Skagway area contains a number of Mental Health Trust parcels, including a tract adjacent to the northeast corner of the Klondike Highway near the crossing of the Skagway River. This parcel extends to the southeast to a bench that surrounds most of Icy Lake. Another parcel lies across the Skagway River from downtown Skagway, and others are located farther up the Skagway River valley.

The Haines area includes many of the original Mental Health Trust lands. Most of these are not included in the reconstituted Trust. Several small parcels along the west side of Lynn Canal are identified as Mental Health Trust lands. One is located just south of the Davidson Glacier near the coast. Several parcels of Mental Health Trust lands exist on the Chilkat Peninsula.

3.1.4 Local Government and Private Land Ownership and Management Status

3.1.4.1 City and Borough of Juneau

The CBJ covers an area of approximately 3,248 square miles bounded on the west by Lynn Canal, on the east by the U.S./Canadian border, on the south by Point Coke, and on the north by the Haines Borough boundary. Development is confined to a narrow strip of land between the sea and the mountains to the northeast on the mainland, along the eastern and northern coastline

of Douglas Island, and the Mendenhall Valley. Approximately 90 percent of the total area is comprised of water, mountain, or glacial icefields within the Tongass National Forest.

The CBJ is a political, commercial, and transportation hub for central and northern Southeast Alaska. The CBJ is a unified home rule municipality and can exercise any power not specifically prohibited by law or the municipality's charter. The CBJ's economy is currently dominated by government and summer season tourism; however, the CBJ seeks to diversify its economic base by facilitating new or expanding its current export industries such as mining, food processing and manufacturing (CBJ, 2013).

The CBJ is accessible only by sea and air; there are no roads connecting CBJ to other communities in the area (CBJ, 2013). Because of this, transportation is significant to the development of regional commerce. The CBJ completed an *Area Wide Transportation Plan* in 2001; elements of this transportation plan are included in the *Comprehensive Plan* in order to support creation of a balanced and integrated multimodal surface transportation system. Supported improvements to transportation links include air (passenger and cargo), roadways, ferries, and fixed guideway systems.

CBJ Land Ownership

Approximately 2,080,000 acres of land are located within CBJ boundaries, including some tidelands and submerged lands. Roughly 82 percent of the CBJ (approximately 1,710,900 acres) is federal public land and water managed by the USFS as part of the Tongass National Forest. The ADNR claims ownership of approximately 17 percent of the land within the CBJ, as well as tidelands. For this and other reasons, quantification of exact land holdings by all entities within the CBJ is difficult. Within the JAI Project vicinity, the CBJ owns an 11-acre boat launch and campground site at the head of Echo Cove near the end of the Glacier Highway. The CBJ owns another large block of land approximately 2 miles south of the end of Glacier Highway.

CBJ Management Status

Jurisdiction and management of the land within the CBJ is layered with local, State, and federal government agencies claiming ownership, management, and zoning rights. All lands within the CBJ, regardless of ownership, are subject to CBJ land use and zoning policies, including the *Comprehensive Plan of the City and Borough of Juneau* (CBJ, 2013) and the *CBJ Land Use Code* (CBJ, n.d). The most recent *Comprehensive Plan* update (CBJ, 2013), which was adopted November 2013 (Ordinance 2013-26), is intended to guide the growth, development, and conservation of valued resources to the year 2033. The ADNR has ownership and management jurisdiction over all State lands in the CBJ including State-owned/selected uplands and submerged lands and tidelands below Mean High Water (approximately 15 feet). According to the Juneau State Land Plan, State lands in the CBJ encompass 351,300 acres, of which 44,400 acres are uplands and the remainder is tidelands or submerged lands (ADNR, 1993). The USFS has ownership and management jurisdiction over Tongass National Forest lands in the CBJ, which are managed under the TLRMP (TLRMP, 2016).

The regional transportation policy set forth in the CBJ *Comprehensive Plan* is to support the improvement of transportation facilities and systems that reinforce Juneau's role as the capital city and a regional transportation and service center (CBJ, 2013). The goal of the *Comprehensive*

Plan is to provide an accessible, convenient and affordable transportation system that integrates vehicle, vessel, rail, and aircraft transport with sustainable and innovative transportation options, including convenient and fast public transit service, particularly for commuters, and bicycle and pedestrian networks throughout the community. The 2013 update to the CBJ *Comprehensive Plan* supports consideration of all affordable energy efficient transport alternatives to improve transportation links between CBJ and other areas of Southeast Alaska, including improved air (cargo and passenger) service, roadways, ferries, and fixed guideway systems.

The following areas within the CBJ are specifically addressed in the CBJ *Comprehensive Plan*.

Auke Bay

Auke Bay is categorized as urban in the CBJ *Comprehensive Plan*. Land use designations range from open space/natural areas to industrial. Much of the area is a Transition area, where higher density development will be considered once infrastructure is available (e.g., public sewer and improved intersections). Land use includes Rural Low Density Residential, Medium Density Residential, CBJ Natural Area Park, CBJ Recreational Service Park, Marine Mixed Use, and Institutional and Public Use (CBJ, 2013: Maps E, F, and G).

The management guidelines for Auke Bay Subarea include:

- Conducting an area/neighborhood plan to address residential and non-residential uses in the vicinity of the cove, harbor, and University of Alaska with the goal of creating a Marine Mixed Use, transit, and pedestrian-oriented village in Auke Bay. Marine Mixed Use could include water-related recreation, eco-tourism, commercial and sport fisheries, marine-related research and aquaculture, and other private and public uses of the waters.
- Protecting and providing for continued water-dependent development at the Ferry Terminal and in Auke Bay.
- Encouraging high-density, transit-oriented residential and/or mixed use developments
- Preserving valuable, publicly owned tidelands, shorelines, and creek and stream corridors as fish and wildlife habitat and public open space/natural areas.
- Encouraging University and private property owners to dedicate new public ROW to create an interconnected Auke Bay neighborhood street system.
- Providing for expansion of the University of Alaska campus, including student and faculty housing and athletic facilities.
- Allowing development of in-fill residential development (e.g., apartments and condominiums).
- Considering parks, trails, community gardens, and stream corridor improvements and protections identified in the *Parks and Recreation Comprehensive Plan* (Chapter 8).
- Considering transportation improvements included in Chapter 8 of the CBJ *Comprehensive Plan*; investigating the feasibility of a roadway extending from the Glacier Highway and running east of Auke Lake or considering a bypass of the Auke Bay area.
- Encouraging beautification and buffering along major roadways.

- Identifying scenic view corridors as seen from public vista points and preserving them through development restrictions/requirements.
- Ensuring that extensions of the Glacier Highway are designed to provide year-round, energy efficient, and safe passage.
- Identifying historic and cultural resources in the area; allowing for Historic Resources Advisory Committee review of projects that may impact these resources; avoiding demolition/removal of these resources.
- Working with DOT&PF to provide sidewalks, bicycle paths, and or trails to provide safe and efficient access and reduce pedestrian and bicycle/motor vehicle conflicts.

Eagle River – Berners Bay Area

The Eagle River to Berners Bay area is categorized in the 2013 CBJ *Comprehensive Plan* as Rural with a New Growth Area at Echo Cove. The lands in Berners Bay are designated primarily as recreation resource lands in the 2013 CBJ *Comprehensive Plan* (CBJ, 2013:Map A). A recreational resource designation means that land is primarily under federal or State management for a range of resources such as timber, minerals, fish and wildlife, and recreation uses. Land use categories for this area include Resource Development, Recreational Resource, State Park, CBJ Natural Area Park, Stream Protection Corridor, Marine Commercial, and CBJ Conservation Area.

Echo Cove, which is located within this area, is identified as a Resource Development Area with a New Growth Area overlay. This area includes the Davies Creek and Cowee Creek watersheds; a scenic corridor/viewshed (approximately 400 feet wide by 10 miles long) from Bridget Cove to Eagle River; and flooding hazard areas at Cowee and Davies creeks, Eagle River, Herbert River, Peterson Creek, and coastal areas (CBJ, 2013:174).

The management guidelines for the Eagle River to Berners Bay Subarea are as follows:

- Preserve valuable, publicly owned lands, including Lynn Canal shoreline areas, as public open space/natural areas, recreation areas, fish and wildlife habitat, and publically accessible scenic corridors.
- Recognize that Pacific herring are an important indicator and keystone species; harvest of this species could be an economic boon; a healthy and abundant herring population will have an economic ripple effect on commercial fisheries and tourism; concern for conservation and protection of herring spawning areas along east shoreline of Lynn Canal, especially near Bridget Point, Echo Cove, and Berners Bay.
- Recognize special concern for conservation and protection of Steller Sea Lion habitat around Benjamin Island (pursuant to *National Marine Fishery Service Stellar Sea Lion Recovery Plan*).
- Support New Growth Area development in Echo Cove, including a mixture of residential, recreational, and water-related uses. (See section below for more information about Echo Cove.)

- Limit residential and nonresidential development to very low densities and rural character development within the area to protect sensitive habitat, with the exception of the Echo Cove New Growth Area.
- Recognize that Berners Bay and the river systems that feed it are important fish and wildlife habitat, recreation, and scenic areas that have significant local and visitor use; identify and adequately protect fish and wildlife corridors along anadromous streams from the uplands to Lynn Canal; provide an adequate wildlife crossing to assure safe passage from uplands to the sea along anadromous streams crossed by potential future roads/railways.
- Develop a comprehensive, interagency plan for Tee Harbor to Berners Bay that recognizes, protects, and enhances fish and wildlife habitat and the multiple recreational and educational, and scenic resources in the area.
- Consider parks, trails, community gardens, and stream corridor improvements and protections identified in the *Parks and Recreation Comprehensive Plan* (Chapter 8).
- Ensure that extensions of the Glacier Highway are designed to provide year-round, energy efficient, and safe passage.
- Identify historic and cultural resources in the area; allow for Historic Resources Advisory Committee review of projects that may impact these resources; avoid demolition/removal of these resources.
- Identify, develop, and protect public access places to view the aurora borealis; establish “dark sky” outdoor lighting codes to protect views of stars.

Echo Cove Area

As stated above, the CBJ *Comprehensive Plan* designates Echo Cove as New Growth Area, Recreational Resource, and Resource Development lands (CBJ, 2013:Map A). The plan also states that nonresidential uses such as port facilities, transportation- or resource-related industrial development may also be accommodated (CBJ, 2013:21). New Growth Areas are to be remote, self-contained communities that reflect an urban density but are located a distance from the urban area and are developed according to a master development plan for that specific area.

Goldbelt, Inc. owns approximately 1,400 acres of land that completely surround Echo Cove, with the exception of 5.5 acres traded to CBJ for use as a boat launch and camping area. Goldbelt submitted a Master Plan to CBJ for Echo Cove in 1996 and is currently working on a plan to develop a marine facility at Cascade Point just north of Echo Cove (the facility was permitted by CBJ in 2004 and the permit was extended in 2007), which will be used to transport mine workers across Berners Bay. Although the permitting is complete, legal actions and funding constraints have delayed the project (NEI, 2013).

The shoreland around Echo Cove is designated for resource development (CBJ, 2013:Map A). Resource development lands are managed primarily to identify and conserve natural resources until specific land uses are identified and developed. Minimal development is allowed on these lands, and uses may include resource extraction and development, recreational and visitor-oriented facilities, and residential uses.

3.1.4.2 Haines Borough

The City of Haines and the third-class Haines Borough consolidated in 2002 to become the home rule Haines Borough. The home rule Haines Borough encompasses approximately 2,350 square miles of land and 382 square miles of water along Lynn Canal. Approximately two-thirds of the land is owned by the federal government, almost one-third is owned by the State of Alaska, and about 2 percent is either privately owned or Borough land (Haines Borough *2025 Comprehensive Plan*; Haines Borough, 2012a).

The Borough owns three-quarters of the existing Lutak dock (Municipal Dock), and the State owns the remaining one-quarter (Alaska Marine Highway System Haines Ferry Terminal). Management authority for the tidelands and submerged lands at the Lutak dock site was transferred from the ADNR to DOT&PF, and adjacent tidelands and submerged lands were conveyed to Haines Borough. The Borough also owns much of the uplands near Lutak dock.

The Haines Borough Assembly adopted a revised comprehensive plan on September 11, 2012, to guide growth over the next 10 to 20 years (Haines Borough, 2012b). This plan describes current conditions, reviews outstanding issues and needs, establishes broad goals that set overall direction, identifies specific objectives that are the desired future that the community wants to achieve over time, and sets out actions to chart a path to achieve the goals and objectives. Topics covered are quality of life, municipal government, the economy and economic development, current and future land use, transportation, recreation, utilities, public safety, community services, and education (Haines Borough, 2012a).

The Haines Borough includes four zoning districts and includes multiple zones that are defined in Title 18 Land Use/Development of the Haines Borough Code. The Mud Bay Planning/Zoning District includes Rural Residential Zone and Cannery Zone. The zones for the other planning/zoning districts, along with the permitted and conditional uses for each zoning district, are outlined in Title 18.

One of the Haines Borough *2025 Comprehensive Plan* transportation objectives (4C) is to Support Alaska Marine Highway System ferry service to and from Haines. The plan advocates daily AMHS day boat service between Upper Lynn Canal communities and Juneau, for the proposed Alaska Class ferry to serve the Upper Lynn Canal, and for an AMHS ferry to homeport or overnight in Haines (Haines Borough, 2012a). “Waterfront Development” is one of the 10 land use designations in the *2025 Comprehensive Plan*, and is intended to encourage land uses and activities that are water-dependent, water-oriented or promote enjoyment of the waterfront. Activities are proposed to be primarily of an industrial or commercial nature. The Lutak Dock and AMHS Ferry Terminal are covered by the “Waterfront Development” designation (Haines Borough, 2012a).

Based on Resolution No. 11-11-316, and previous resolutions of the Haines Borough Assembly 04-04-042 and 07-11-116 (Haines Borough, 2012c), the Haines Borough *2025 Comprehensive Plan* states the Borough’s continued preference for improved ferry service rather than an east Lynn Canal highway. Haines residents fear, among other things, that such a highway would divert tourists to Skagway, have economic impacts for Haines businesses, and result in

dangerous and inconvenient travel between Haines and Juneau. If a highway alternative is selected, a West Lynn Canal Road (Alternative 3) would be preferable (Haines Borough, 2012a).

3.1.4.3 Municipality of Skagway Borough

In 2007, Municipality of Skagway Borough (Skagway) voters approved dissolving the first-class City of Skagway in favor of forming a first-class borough. The boundaries of the borough are not different from the former city boundaries. Skagway is bounded on the south and west by the Haines Borough, and the Municipality is bounded on the north and east by the U.S./Canada border. Formation of the borough recognizes that local government provides both traditional city as well as regional services and ensures that Skagway will not become part of the Haines Borough. Skagway employs a strong manager form of government, with a manager being hired to run daily government tasks. According to Skagway's comprehensive plan, Skagway consists of approximately 461 square miles of land. Federal agencies manage 71 percent, State agencies (including Alaska Mental Health Trust Authority) manage 25.5 percent, the Municipality owns 2.8 percent, and 0.6 percent is in private ownership (Skagway, 2009).

The Municipality owns or has entitlement to multiple facilities and lands within the Borough, including the Dewey Lakes area, east of the WPYR, the lower slopes of AB Mountain, Dyea Point, along Dyea Road, Dyea Flats, West Creek, and land within the Klondike Gold Rush National Historic Park (KGRNHP). The city owns approximately 100 acres of waterfront including 70 acres currently leased to the WPYR, a small boat harbor, an RV park, and Pullen Creek Shoreline Park. The State ferry terminal facility is jointly used by the Municipality and the State of Alaska; the Municipality owns the transfer bridge and one third of the floating dock.

Federal agencies have plans that outline direction and intent of land use, including the USFS in the portion of the Tongass National Forest east of town (*Tongass Land and Resource Management Plan*, 2008), the National Park Service within the townsite, the KGRNHP (*Klondike Gold Rush National Historic Park General Management Plan*, 1997), and the Bureau of Land Management in land west of the Taiya River Valley to the Haines Borough boundary (*Ring of Fire Management Plan*, 2008). State agencies with land use plans include Alaska Mental Health Trust and Department of Natural Resources.

Land use within the Municipality of Skagway is governed primarily by Skagway's *2020 Comprehensive Plan* (Municipality of Skagway, 2009) and municipal code. The Skagway *Comprehensive Plan* suggests a balance between well-located industrial and commercial land, future growth, port and waterfront utilities, and recreation areas. The Municipality of Skagway supports port development and there has been long-standing community consensus for split use of the port for tourism and industrial uses. The *Skagway Comprehensive Trails Plan* (Skagway, 2003), adopted in 2005, records trails and routes and creates a system that incorporates policy development, management, trail maintenance, funding systems, and enhancement of the trail system as a whole (City of Skagway, 2005). Skagway municipal codes relevant to land management include Chapters 16 (Public Lands), 19 (Planning and Zoning), and 20 (Subdivisions). The *Dyea Flats Land Management Plan*, *Dyea Management Plan*, and *Dewey Lakes Recreation Area Management Plan* are codified in the Skagway Municipal Code (Chapters 16.08, 16.10, and 16.12, respectively). These plans outline allowed and prohibited uses in these areas.

The Skagway 2020 *Comprehensive Plan* states that it is the goal of the Municipality to provide an integrated, efficient, safe, and reliable transportation network to facilitate the movement and goods in and through Skagway (Skagway, 2009). The transportation policy supports maintaining and increasing year-round access to and from Skagway including public and private ferries, and air, road, trail, marine, and rail access. The Municipality depends upon the Klondike Highway and the AMHS to transport goods and people into and through Skagway. The plan acknowledges that the Skagway economy, population growth, and community development are closely tied to the movement of people and goods to and through town. The Municipality of Skagway states the preference for improved and more frequent ferry service rather than a new highway from Juneau to Skagway. In 2004, a resolution was passed and approved to support improved ferry service between Juneau and the Upper Lynn Canal and oppose the construction of any road linking Juneau to Skagway or Haines (Resolution No. 03-08R; City of Skagway, 2004).

The Municipality of Skagway supports development of renewable hydroelectric energy and an electrical intertie with Canada (Skagway, 2009). Hydroelectric facilities are located at Dewey Lakes and Goat Lake and Kasidaya Creek. To guide future land use and development, these areas are designated as Hydroelectric/Recreation in Skagway's *Comprehensive Plan*. The plan's goal is to provide recreation in conjunction with hydroelectric development that considers noise and visual impacts when designing and building access, facilities, pipes, and dams.

3.1.4.4 Goldbelt

Goldbelt, a Native Corporation based in Juneau, owns 3,200 acres near Juneau, and 1,382 of these acres are in the JAI Project study area surrounding Echo Cove. Goldbelt is a for-profit Native Corporation with approximately 3,200 shareholders established under ANCSA. After two decades of business activity primarily in timber harvest, their *Vision 2000* management plan was created for the corporation to plan an exit from the timber industry and enter Southeast Alaska's tourism industry (Goldbelt, 2005). Thus, although there is some potential for timber harvesting around Echo Cove, Goldbelt presently has no plans to pursue harvests now or in the future. Its present focus is on government contracting businesses and its tourism-based subsidiaries (Loiselle, personal communication 2012).

In 1996, Goldbelt prepared the *Echo Cove Master Plan* and in 1998, the USFS issued a Record of Decision (ROD) for a proposed access highway from Echo Cove to Cascade Point in Berners Bay. The Goldbelt Corporation was granted a CBJ Conditional Use Permit in November 2004, to reopen and expand an existing rock quarry to supply shot rock for construction of a 2.5-mile extension of Glacier Highway from its terminus to Cascade Point (USE2004-00047). The road was to provide access to a commercial dock at Cascade Point, which was approved by the Juneau Planning Commission in 2004 to support Kensington Mine. Both the road and dock were submitted as part of Goldbelt's Master Plan for Echo Cove in 1996. The quarry project site was to include a 10-acre project area, of which 3 acres would be the quarry site, a 1.5-acre expansion of the current 1.5-acre quarry (CBJ, 2004).

In May 2005, CBJ approved a Conditional Use Permit for Channel Construction to open a rock quarry on Goldbelt land (USE2004-00068). This quarry site is near the existing Goldbelt quarry at Echo Cove. Use of material from this quarry is not tied to any specific project. The quarry,

however, was not opened, and, because demand for aggregates is presently low, Goldbelt has no plans to open it in the future. Presently, instead of a ferry from Cascade Point, Kensington Mine employees are transported using a shuttle operated by Goldbelt, Inc. from Yankee Cove, 14 miles south of Slate Cove in Lynn Canal (Loiselle, personal communication 2012).

3.1.4.5 Native Allotments

The Central Council of Tlingit and Haida Indian Tribes of Alaska and the U.S. Department of the Interior Bureau of Indian Affairs manage land and natural resources to protect the rights of Native tribal members during the transfer of land. The following Native allotments are within the project area:

Township 31 South Range 59 East Sections 6, 7 and 8 CM:

USS 9615 – Certificate from Bureau of Land Management (BLM) to Milton G. Phillips for the 159.95 acres. This certificate is the homestead of the allottee and his heirs in perpetuity. This is a restricted allotment. Certificate No. 50-91-0528.

USS 13749 – Certificate from BLM to Fred Phillips (Deceased) for 159.97 acres. This deed is the homestead of the allottee and his heirs in perpetuity. This is a restricted allotment. Certificate No. 50-2009-0202.

USS 13853 – April 9, 2013, DNR approved the survey for 59.99 acres. As of June 6, 2013, BLM requested reconveyance of lands within the surveyed Native allotment. Native allotment of the heirs of Fred Phillips (Deceased). This is a restricted allotment.

Township 34S Range 60E Sections 13, 14, 15, 22 and 24 CM:

USS 2162 – Certificate NA0019410509 from BLM to Paddy Goenett for 126.35 acres (35.86 acres within Section 13 and 90.4900 acres with Section 24). This is a restricted allotment.

USS 1884 – Certificate NA0019380929 from BLM to Patsy Davis for 134.75 acres (106.49 within Section 14 and 28.26 within Section 23). This deed is the homestead of the allottee and her heirs in perpetuity. Further research is required to determine if the restriction on this allotment was released when subdivided or not. This may still be a restricted allotment. This allotment was then subdivided into lots with a 60 foot existing access easement. This easement also provides access to 1.33 acres of accreted land. The accretion claim is ASLS 870381 and lies within Section 14 and adjoins the subdivision.

USS 12382 – Certificate 50-2006-0064 from BLM to the Heirs, Devisees and/or Assigns of Austin P. Hammond within Sections 10 and 15. This deed is the homestead of the allottee and his heirs in perpetuity. This is a restricted allotment.

USS 801 – Homestead Claim of W.H. Marrett for 315.32 acres. Based on the map provided, this parcel would not be impacted. This does not appear to be a Native allotment.

Township 37S Range 63E Section 11 CM:

USS 9595 – Certificate NA0050920292 from BLM to Henry Anderson (Deceased) c/o C Tribal Council of Tlingit Haida for 64.68 acres. This is a restricted allotment.

3.1.4.6 Kensington Gold Project

Situated within the CBJ and the Tongass National Forest, the Kensington Mine is located approximately 45 air miles north of Juneau and 35 air miles south of Haines. Coeur Alaska, Inc., a mining company based in Idaho, acquired the Kensington and Jualin mines in the 1990s and received all permits required to begin construction and operations following publication of the 1997 Kensington Gold Project Final SEIS and issuance of a USFS ROD. In December 2004 the USFS finalized the Final SEIS and issued the ROD for the modified Kensington Gold Project (USFS, 2004). In June 2005, Coeur Alaska, Inc. received a National Pollutant Discharge Elimination System Permit; later it received a Section 404/10 Permit from the U.S. Army Corps of Engineers (USACE) to authorize construction of a tailings facility, millsite road improvements, and a Slate Creek Cove dock facility. In an effort to increase efficiency and reduce disturbance in the area, Coeur Alaska, Inc. submitted an amended Plan of Operations, which was approved in the USFS 2004 ROD. In July 2005, construction of the mine began. However, construction activities were suspended during a litigation process for the 404/10 permit. Construction resumed in 2009 and was completed in 2010. The mine started production on June 24, 2010, and expects to produce approximately 125,000 ounces of gold annually over an initial mine life of 10+ years. Initially employing 300–400 people when the mine was constructed, Coeur Alaska expects to employ 200 full-time employees to operate its mine and processing facilities (Coeur Alaska, 2012a, 2012b).

3.1.4.7 Other Private Lands

On the east side of Lynn Canal in the Cowee Creek/Echo Cove area west of the JAI Project area, there are lands owned by a private religious organization and used for religious, educational, recreational, and residential purposes. North of the proposed Sawmill Cove Ferry Terminal is a private mineral survey (U.S. Mineral Survey 318). Other than the Kensington Gold Project development described in Section 3.1.4.6, there are no known private lands between Echo Cove and Skagway on the east side of Lynn Canal.

Along West Lynn Canal, two private parcels at the head of William Henry Bay total approximately 370 acres. There are several other private parcels at Glacier Point on the delta at the mouth of the Glacier River. These parcels include small private cabins or sheds.

Within the limitations of mapping scale, the locations of private lands in the project area are shown in Figure 3-1.

3.2 Land and Resource Uses

This section describes land and resource uses in the project area. It has been updated based on interviews conducted in 2012 by Northern Economics (Northern Economics, 2012), publically available information, and personal communications.

3.2.1 Timber Harvest

The majority of land in Lynn Canal is USFS land and is part of the Tongass National Forest. Figure 3-4 shows USFS timber sale program management strategy areas. These are the areas where timber could be harvested. The USFS currently has no plans for timber harvest and sales in Lynn Canal areas (Sandhofer, personal communication 2012). Forestry resources in areas north of Juneau do not appear to have the same high values in terms of logs as do forest resources farther south. Goldbelt's forest resources at Hobart Cove to the south of Juneau were quite valuable as logs, and the second and third growth in the more southerly regions of the Tongass may once again be valuable, particularly in the longer term. However, forestry resources in Lynn Canal, even if they were available for logging, would more than likely be used as pulp product rather than as export logs, and the costs of pulp processing in Alaska may limit the growth potential in northern southeast Alaska (Northern Economics, 2012).

3.2.2 Mineral Exploration and Development

The JAI Project area lies within a large mineral region known as the Juneau Mining District. It is bounded by the crest of the Fairweather Range on the west, the Alaska-Canada border on the north and east, and various marine waterways on the south. Gold, silver, copper, zinc, lead, nickel, cobalt, tungsten, molybdenum, chromium, uranium, and platinum-group-metals are all found in the Juneau Mining District. Historically, this has been a highly productive mineral area since 1869, producing large quantities of gold, silver, and lead (Northern Economics, 2012).

Mining in the direct project area is expected to remain relatively stable. The Kensington Mine located north of Berners Bay on the west side of Lynn Canal is currently projected to remain operating until 2021, based on its identified resource base and measured economic reserves. As with many large mines, it is expected that the identified resource base of the mine will expand over time and that the mine will operate over a longer period of time than is indicated by its current reserves. Coeur Alaska operates the mine. Workers are transported by bus to Yankee Cove and then by vessel to the mine's dock at Slate Creek.

There are plans to move the southern passenger ferry terminus to a proposed dock at Cascade Point on Goldbelt land at Echo Cove on the south side of Berners Bay. The proposed dock at Cascade Point, while fully permitted, has not yet been constructed pending legal actions and funding constraints (NEI, 2013). The road running north out of Juneau, however, was extended to Cascade Point in 2012. Moving the transit point to Cascade Point will enhance the safety of the crews and will make travel across Berners Bay more reliable. Kensington mine is also currently served by Alaska Marine Lines (AML), which delivers freight (mainly cement and explosives) and diesel fuel by barge. Ore is also shipped out by barge.

There are potential new mining prospects in the Haines Borough. There is a rare earth metals site at William Henry Bay, but there is also a potential new mine development at the northern edge of Haines Borough known as the Palmer deposit—a copper-zinc-gold-silver prospect that is being explored by Constantine Metal Resources Ltd.

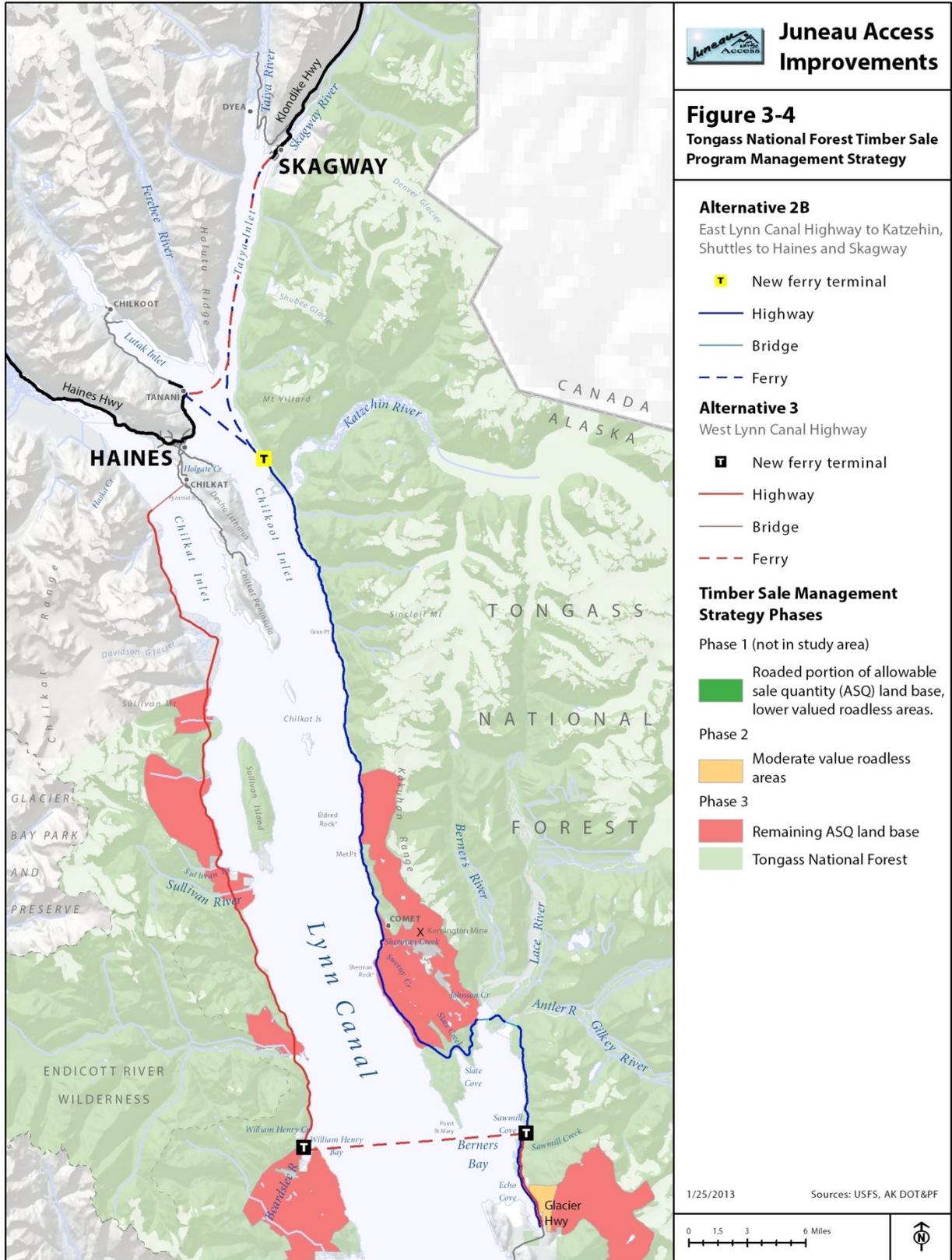


Figure 3-4: Tongass National Forest Timber Sale Program Management Strategy

New mining developments are under consideration in the Yukon Territory to the north of the Lynn Canal area. The area that has come under relatively intense exploration lies primarily north of Carmacks, Yukon Territory (YT), which is 219 miles north of Skagway on the Klondike Highway. These exploration prospects and potential mines affect the project area because Skagway (and possibly Haines) would serve as the primary port(s) for moving exploration and mining equipment and materials up to the region. If mines are developed then it is possible that Skagway (and possibly Haines) could also serve as the ore exportation port(s). Currently three mines are exporting ore out of Skagway—Keno (lead, zinc, silver) Minto (copper and gold), and Wolverine (zinc and silver).

3.2.3 Commercial Fishing

The JAI Project is located within the Juneau Management Districts 111 and 115, administered by ADF&G. Commercial fishing is an important part of the economy of Juneau and Haines. According to Commercial Fisheries Entry Commission (CFEC) 2010 data for Juneau, 315 Juneau-based commercial fishermen fished 313 permits and harvested 15.8 million pounds of fish with an estimated gross income of \$16.9 million. Earnings per permit fished averaged \$53,967. Salmon comprised the majority of the landed fish at 11.1 million pounds, followed by halibut at 1.18 million pounds. Crab landings totaled more than 600,000 pounds for the year and landed sablefish were 470,541 pounds. Smaller quantities of herring, other groundfish, and other shellfish were also landed (CFEC, N.d.).

According to CFEC preliminary data for Haines, 81 Haines-based commercial fishermen fished 130 permits in 2010 and harvested 6.4 million pounds of fish with an estimated gross income of \$7 million. This is an increase in revenue from 2000 when 97 Haines-based commercial fishermen fished 152 permits and harvested 7 million pounds of fish with an ex-vessel value of \$3.8 million. Salmon comprised the majority of the landed fish in 2010 at 4.9 million pounds, followed by halibut at 457,000 pounds. Small quantities of crab, herring, other shellfish, and sablefish were also landed (CFEC, N.d.).

CFEC data for Skagway shows that 3 Skagway-based commercial fishermen fished 4 permits in 2011. Permits were issued for halibut, herring, and salmon, but only halibut and salmon were harvested. Pounds of fish harvested and estimated gross earnings are masked in the CFEC on-line table to preserve confidentiality (AS 16.05.815) because 3 or less Skagway-based people or permits are involved in this fishery (CFEC, 2012).

3.2.3.1 Drift Gillnet Salmon Fisheries

As reported in the *2012 Southeast Alaska Drift Gillnet Fishery Management Plan* (ADF&G Regional Information Report No. IJ12-06; ADF&G, 2012b), the Lynn Canal drift gillnet fishery targets sockeye, summer chum, pink, coho, and fall chum salmon. Chinook salmon are taken incidentally. Sockeye salmon returns to Lynn Canal are some of the largest in Southeast Alaska. Coho and fall chum salmon runs to the Chilkat River are among the largest in northern Southeast Alaska.

More detail about the salmon fishery in the Lynn Canal area is available in ADF&G Regional Information Report No. IJ12-06 (ADF&G, 2012b). The following table provides updated harvest

information. Harvests of all salmon species were well above average in 2012, except for Coho (ADF&G, 2012h). Table 3-2 reports recent commercial drift gillnet salmon harvest data for Lynn Canal.

Table 3-2: Commercial Drift Gillnet Salmon Harvest in Lynn Canal, 2010-2012

Salmon species	Number of fish harvested 2012 (to date)*	Number of fish harvested 2011^	Average number of fish harvested 2001 to 2010^
Chinook	2,600	1,166	805
Sockeye	224,000	63,788	111,824
Coho	7,300	33,753	47,409
Pink	353,000	508,930	106,218
Chum	1,520,000	1,115,821	717,742
Total	2,106,900	1,723,458	983,998

*Source: ADF&G 2012 Inseason Alaska Commercial Salmon Summary.

<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyfisherysalmon.bluesheetsummary#southeast>

^Source: ADF&G, Regional Information Report IJ12-06, 2012, Table 6.—Southeast Alaska annual Lynn Canal (District 15) traditional and terminal harvest area drift gillnet salmon harvest, in numbers, by species, 2001 to 2011.

3.2.3.2 Halibut and Groundfish Longline Fisheries

Alaska’s groundfish fisheries target a diverse number of species including pollock, Pacific cod, sablefish, Atka mackerel, lingcod, and numerous rockfish and flatfish species. Most Alaskan groundfish fisheries are managed by the NMFS under federal Fishery Management Plans (FMPs) adopted by the North Pacific Fishery Management Council (NPFMC). The status of groundfish stocks and federally managed fisheries are summarized in annual stock assessment and fishery evaluation (SAFE) reports. Halibut, however, are managed by the International Pacific Halibut Commission (IPHC; ADF&G, 2012d).

The State of Alaska manages groundfish fishery resources within State territorial waters. The ADF&G has management jurisdiction over all groundfish resources within State waters in Region I (Southeast Alaska and Yakutat). In addition, the State has management authority for Demersal Shelf Rockfish, ling cod, and black and blue rockfish in both State and federal waters (ADF&G, 2012e). The number of groundfish harvested commercially from 2006 to 2011 is presented in Table 3-3, below.

3.2.3.3 Crab and Shrimp Pot Fisheries

Lynn Canal supports king, tanner, and Dungeness crab fisheries and a commercial shrimp pot fishery. Most of the shellfish fisheries are fully developed. Some, such as Southeast Dungeness crab and Southeast golden king crab, have been stable or increasing, while others such as the Southeast red king crab and Southeast Tanner crab have declined. In 2009, all Southeast shellfish fisheries were under limited entry.

Beginning with the 2002/03 season, the minimum threshold for red and blue king crab fisheries was reduced to 200,000 pounds. The fishery was closed during the 2004/05, 2006/07, 2007/08, and 2008/09 seasons due to estimates of allowable harvest that fell below the threshold.

Table 3-4 provides updated harvest information.

Table 3-3: Commercial Drift Goundfish Harvest in Lynn Canal, 2006–2011

Year	Round Pounds [^]		Net Weight*
	Pacific Cod	Sablefish	Halibut
2006	26,362	142,443	131,393
2007	9,067	134,313	140,786
2008	43,431	94,463	125,279
2009	47,030	60,922	100,186
2010	79,553	67,555	109,912
2011	70,402	69,431	Not in data set

[^]Source: ADF&G, Division of Commercial Fisheries, Region I, for Statistical Areas 345801, 345803, 355830, 355900 September 25, 2012

*Source: International Pacific Halibut Conference, Regulatory Area 2C and Statistical Area 183 (Lynn Canal), no date. Retrieved from <http://www.iphc.int/commercial/catch-data.html>. Accessed September 25, 2012

Table 3-4: Commercial Crab and Shrimp Harvest in Lynn Canal, 2007–2011

Species	Pounds harvested 2007/08	Pounds harvested 2008/09	Pounds harvested 2009/10	Pounds harvested 2010/11
Dungeness Crab*	384,054 [^]			
Red and Blue King Crab	Commercial fishery closed [#]			
Golden King Crab	661,000 [^]	156,244 [#]	176,784 [#]	161,512 [#]
Tanner (Bairdi) Crab	605,062 [^]	154,634 ^{^^}	291,627 ^{^^}	227,605 ^{^^}
Coonstriped and Spot Shrimp**	fishery closed [^]	Fishery Closed	10,446	1,800 ^{##}

*Dockside sampling by fishery area during commercial season.

** Shrimp beam trawl fishery.

[^]Source: ADF&G, Fishery Management Report No. 08-62, 2008.

^{^^}Source: ADFG, Fishery Management Report No. 11-57, 2012 Report to the Board of Fisheries on Southeast Alaska/Yakutat Tanner Crab Fisheries, November 2011.

http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2011-2012/se_shellfish/fmr11-57.pdf. Accessed 11/12/12. Includes Lynn Canal/Upper Stephens Passage.

[#]Source: ADFG Fishery Management Report No. 11-68, 2011, 2012 Report to the Board of Fisheries on Southeast Alaska/Yakutat King Crab Fisheries, December 2011.

http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2011-2012/se_shellfish/fmr11-68.pdf. Accessed October 12 2012. Harvest numbers are for the Northern Management Area.

^{##} Source: Alaska Department of Fish and Game Division of Commercial Fisheries New Release November 1, 2012. Southeast Alaska Commercial Pot Shrimp Fishery Update.

<http://www.adfg.alaska.gov/static/home/news/pdfs/newsreleases/cf/236648407.pdf>. Pot shrimp fishery only.

3.2.3.4 Herring Sac Roe Fishing

The Lynn Canal herring sac roe fishing area is within the Juneau Management Districts 111 and 115, specifically Sections 15-B, 15-C, and a portion of Section 11-A. According to ADF&G Regional Report No. 1J12-02 (2012c), although the Lynn Canal fishery has not been open since 1982, the ADF&G continues to monitor the herring stock closely. Surveys conducted during the spring of 2011 documented 6.2 nautical miles of spawn, but the biomass continues to be below the 5,000 ton threshold, so the fishery is not open in 2012.

On April 2, 2007, a petition was submitted by the Juneau Group of the Sierra Club to revise the List of Endangered and Threatened Wildlife and Plants to designate the Lynn Canal stock of Pacific herring as a threatened or endangered distinct population segment under the Endangered Species Act (ESA). On April 7, 2008, NMFS found “that the listing is not warranted because this population does not constitute a species, subspecies, or distinct population segment (DPS) under the ESA. However, the Lynn Canal population is part of a larger DPS of Pacific herring that may warrant listing under the ESA...” (NMFS, 2008).

3.2.4 Subsistence Land Use Areas

The Tongass Resource Use Cooperative Survey in 1988 remains the most comprehensive subsistence study conducted within the study area, though ADF&G reported 1996 harvest data for Klukwan and Haines. The results of the 1996 study do not indicate any changes in the types of resources harvested by Klukwan and Haines residents described below, and they do not include any information regarding harvest areas. Figures 3-7 through 3-10 in the *2004 Land Use and Coastal Management Technical Report* show subsistence use areas for Klukwan, Haines, and Skagway, respectively. The following information regarding the extent and distribution of subsistence harvest areas in the vicinity of the JAI Project is still accurate and adequate, and the referenced map information is provided in Figures 3-7 through 3-10 in the *2004 Land Use and Coastal Management Technical Report*.

Mapping information on Klukwan, Haines, and Skagway subsistence land use areas is from a joint project of the USFS and ADF&G, entitled the Tongass Resource Use Cooperative Survey, commonly referred to as TRUCS. The 1988 survey consisted of 1,465 interviews conducted in 30 southeast Alaska communities. The purpose of the study was to describe the extent and distribution of harvest of renewable natural resources by rural southeast Alaska residents. The TRUCS data were used to develop the maps (Kruse and Muth 1990, p. iii). The ADF&G Division of Subsistence later interviewed community members to gather review comments on the maps.

This subsistence land use section contains information from the TRUCS dataset-generated maps as well as narrative on additional areas identified by map reviewers. The maps accompanying the text are excerpts from the larger TRUCS maps that include the southeast Alaska region. The map excerpts plus additional narratives are limited to areas that are within the JAI Project area and do not represent all communities' use areas. In addition, identified use areas are a snapshot in time of each community's use of resources. These areas are influenced by hunting and fishing regulations, changes in habitat quality, changes in fish and wildlife population levels, and other factors. Mapping information was collected only for deer, salmon, non-salmon finfish, marine

invertebrates, and marine mammals. No mapped, specific land-use information exists for other species in the JAI Project area.

Since statehood in 1959, ADF&G has managed all sport, subsistence, and personal use salmon harvesting under regulations set by the Alaska Board of Fisheries. Subsistence regulations have been in place for state residents since 1961. The personal use category was adopted for non-rural communities beginning in 1982. Since 1990, in southeast Alaska, salmon harvest under subsistence regulations has been allowed in discreet areas authorized by the Board of Fisheries. Salmon are harvested in other areas of the southeast Alaska region under personal use regulations (ADF&G, 1994a; 1994b). In the JAI Project area, customary and traditional use areas for salmon, Dolly Varden, smelt, and steelhead identified by the Alaska Board of Fisheries include the Chilkat, Chilkoot, and Lutak inlets; the Chilkat River and its tributaries; and Chilkat Lake. Customary and traditional use areas for shellfish, bottom fish, and herring identified by the Alaska Board of Fisheries include almost all of upper Lynn Canal and its inlets to just south of the southern end of Sullivan Island (ADF&G, 1991a; 1991b).

3.2.4.1 Klukwan

Though no new studies were found for subsistence harvest around Klukwan, some recent relevant information about the subsistence hooligan (eulachon) fishery of the Chilkat and Chilkoot rivers is presented below.

According to ADF&G studies conducted in 1982, 1990, and 1991, there is a substantial fishery for hooligan in the Chilkat and Chilkoot rivers, participated in by mostly Tlingits from Klukwan and Haines (Betts, 1994). Approximately 13 households from Klukwan and 21 households from Haines participated in the harvest in 1991 (Betts, 1994). In 1996, 80 percent of the households in Klukwan reporting using hooligan, and more than 70 percent of the households participated in the harvest (ADF&G, 1996). The Chilkat River supports one of the largest hooligan runs in southeast Alaska. The fishery was traditionally concentrated between 2 and 9 miles north of Haines along the Haines Highway (Betts, 1994). The largest hooligan camps were established at Miles 7 and 9 and known as Dúk X'aat'áku and Áanákw'w Noow, respectively. Hooligan were also harvested on the west side of the Chilkat River at the mouth of Kicking Horse River (Goldschmidt and Haas, 1998). Dip nets, basket traps, and fishhooks were used to harvest the hooligan (Betts, 1994). Harvest locations are focused between Mile 4 and Mile 8, but Jones Point is still used intermittently and hooligan camps are still established at the confluence of the Kicking Horse and Chilkat rivers as well (Betts 1994; Goldschmidt and Haas 1998). The 9-mile site is no longer in use, as it is not as productive as it once was (Betts, 1994).

Traditional fishing areas along the Chilkoot River centered at two camp sites: one at the historic Chilkoot Village near the lower reach of the river, and the second at a historic seasonal village located below the mouth of the river (Betts, 1994; Goldschmidt and Haas, 1998). Residents drive to the Chilkoot River, where dip netting still takes place along both banks. The Chilkoot River harvest is concentrated in areas between a bridge and nearby salmon weir at the mouth of the river, and the Tlingit Chilkoot Cultural Camp. During the 1990–1991 study years, the hooligan run appeared in the Chilkoot River some days after the run arrived in the Chilkat River. Some people prefer to move their fishing to the Chilkoot River once the fish arrive there. There tends

to be a preference for the Chilkoot River fishery, as it has clearer water and requires less fishing time for the same quantity of hooligan (Betts, 1994).

The following information regarding the extent and distribution of subsistence harvest areas in the vicinity of Klukwan is still accurate and adequate, and the referenced map information is provided in Figure 3-7 in the *2004 Land Use and Coastal Management Technical Report*:

Klukwan is a Tlingit community located near the confluence of the Chilkat, Klehini, and Tsirku Rivers approximately 30 miles northwest of Haines. Subsistence is important economically and culturally to Klukwan residents, who use much of the JAI Project area for these purposes. Because Klukwan is a major subsistence user community, it is addressed separately in this section.

The accompanying maps (Figure 3-7 in the 2004 Land Use and Coastal Management Technical Report), from the Tongass Subsistence Map Series, (Kruse and Muth, 1990), show where Klukwan residents have hunted and fished in upper Lynn Canal. Mapped information was compiled from a sample of 29 occupied Klukwan households interviewed in 1988. Households were asked to show where they had hunted, fished, and gathered during their lifetimes as residents of Klukwan. Mapped information was grouped into three resource use categories, each shown on one map: deer, salmon, and non-salmon finfish. In addition to use areas illustrated on the figures, comments by reviewers provide information on other areas not shown on the maps (Betts et al., 1994). Information was not collected for marine mammals or shellfish. In 1992, however, Klukwan residents harvested eight harbor seals (ADF&G, 1993).

Deer – *Deer hunting has not occurred in the immediate vicinity of Klukwan because of the scarcity of deer populations in the Chilkat Valley and other mainland areas in northern Lynn Canal. The closest deer hunting area to Klukwan was Sullivan Island. In general, Klukwan hunters must travel widely to access deer hunting areas, most commonly traveling more than 40 miles to hunt (Betts, 1994).*

Deer harvest areas for Klukwan residents occurred in portions of Sullivan, Lincoln, Shelter, and Benjamin islands within the JAI Project area (Betts, 1994). Additional harvest areas not shown on Klukwan maps (Betts, 1994) include the eastern shoreline of Sullivan Island and the entire area of Lincoln and Shelter islands.

Salmon – *Salmon harvest by Klukwan residents traditionally involved gaff or spear and net fishing on the Chilkat River and its tributaries, a large system in which all five salmon species spawn. Harvesters could take salmon in a variety of spawning conditions to suit cultural and individual preferences. Salmon of all species (primarily sockeye, coho, Chinook, and chum) were harvested as they entered the Chilkat River in bright condition, as well as during in-river migration and after spawning in lakes and tributary streams (ADF&G, 1994a; 1994b).*

Residents of Klukwan generally fished for sockeye, pink, and chum salmon in designated subsistence harvest areas near their community.

Salmon harvest maps for Klukwan residents indicate that salmon were fished in Chilkat Inlet from Seduction Point to the mouth of the Chilkat River (ADF&G, 1994). Additional areas not shown on the maps include a large area of Lutak Inlet, as well as Lynn Canal as far south as Bridget Cove (for rod and reel trolling) and William Henry Bay (for rod and reel trolling) (ADF&G, 1994).

Non-Salmon Finfish – *The presence of a large river system with major hooligan, trout, and char stocks has allowed for local harvest of these fishes from early spring until late winter. The Chilkat River is one of the largest sources of hooligan in southeast Alaska. Travel to saltwater is necessary to harvest halibut and other saltwater finfish. Halibut was harvested by rod and reel in the inlets and saltwater of Lynn Canal as far south as Berners Bay. However, freshwater fishing is more common in areas closer to Klukwan (ADF&G, 1994).*

The map depicting non-salmon harvest areas was found to have major inadequacies.

Therefore, the ADF&G Subsistence Division does not include this figure in the TRUCS dataset. However, information collected during map review is included in Figure 3-7 in the 2004 Land Use and Coastal Management Technical Report. Non-salmon harvest (of halibut) for Klukwan residents took place in all waters of Chilkat Inlet, Chilkoot and Lutak inlets, and Lynn Canal from Point St. Mary (entrance to Berners Bay) to Seduction Point, including waters around Sullivan Island and in William Henry Bay (ADF&G, 1994).

Other Wildlife Hunting Areas – *Klukwan residents hunt black bear, brown bear, moose, and mountain goat. No specific mapped use areas have been documented for black bear. Black bear meat composes 5 percent of Klukwan household food harvests (ADF&G, 1990). Brown bear have been harvested by Tlingit of southeast Alaska since before historic contact. However, past studies by the ADF&G Division of Subsistence have not documented any subsistence harvest of brown bear in the JAI Project areas (ADF&G, 1990).*

Historically, Chilkat Tlingit, now Klukwan residents, harvested mountain goat in areas near the Endicott River (ADF&G, 1990).

Moose are relative newcomers to the Chilkat Range, having migrated south from the Chilkat Valley. Harvests range from 6 to 12 moose annually. Two percent of harvests are by Klukwan/Haines residents. Although harvest numbers are low in this area, moose is an important subsistence food resource because of its large size compared to deer, mountain goat, and black bear. A dressed moose will provide an average of 550 pounds of meat (ADF&G, 1990).

3.2.4.2 Haines

No new studies were found for subsistence harvest around Haines. The Chilkat and Chilkoot rivers fishery information presented for Haines is the same presented above for Klukwan, as the two communities utilize the same subsistence fishery resources. The following information regarding the extent and distribution of subsistence harvest areas in the vicinity of Haines is still accurate and adequate, and the referenced map information is provided in Figure 3-8 in the *2004 Land Use and Coastal Management Technical Report*.

Figure 3-8 in the *2004 Land Use and Coastal Management Technical Report*, developed from the Tongass Subsistence Map Series (Kruse and Muth, 1990), indicates where Haines residents have hunted, fished, and gathered resources in the Lynn Canal area. Mapped information was compiled from a sample of 62 occupied Haines households interviewed in 1988. Households were asked to show where they had hunted, fished, and gathered during their lifetimes as residents of Haines. Mapped information was grouped into five resource use categories, each shown on one map: deer, salmon, non-salmon finfish, marine invertebrates, and marine mammals. In addition to use areas illustrated on the maps, a significant number of comments by community reviewers provide information on other areas not shown on the maps.

Deer – As in Klukwan, relatively little deer hunting occurred in the vicinity of Haines because of the scarcity of deer in the upper Lynn Canal area. Haines hunters must travel widely to access deer hunting areas. The average distance traveled from Haines to deer hunting areas was 120 miles. Lower Lynn Canal and Chichagof and Admiralty Islands were most widely used. The closest deer hunting area to Haines was Sullivan Island, where deer were introduced.

Deer harvest maps (shown on Figure 3-8 in the *2004 Land Use and Coastal Management Technical Report*) for Haines residents indicated that deer were hunted in Lynn Canal, the south end of Sullivan Island, portions of Lincoln and Shelter Islands, and the south shore of St. James Bay within the JAI Project area. Additional harvest areas not shown on the figure include the entire area of Sullivan Island, and Boat Harbor north of St. James Bay.

Salmon – Salmon harvest by Haines residents traditionally involved the use of basket traps and gaff or spear fishing on the Chilkoot River; Chilkoot Lake; the lower Chilkat River; and Lutak, Chilkoot, and Chilkat inlets. Since the mid-1960s, the Chilkoot River has been closed by regulation to subsistence harvest, and all species have been taken in set or drift gillnets in the Chilkat River or in the inlets or by rod and reel in the rivers and inlets. During some years, some locations in the inlets, such as Paradise Cove, have been closed to subsistence drift gillnetting. In addition, subsistence drift gillnet users may only fish in saltwater portions of ADF&G District 15 (Upper Lynn Canal) during, and one day before, the commercial gillnet openings (Betts 1994).

In 1991, Haines area permits allowed harvest of sockeye, pink, and chum salmon in Chilkat and Lutak inlets and the Chilkat River.

Salmon harvest maps (Figure 3-8 in the *2004 Land Use and Coastal Management Technical Report*) for Haines residents indicate that salmon were harvested in Lynn Canal from the southern end of Sullivan Island to Seduction Point (Chilkat and Chilkoot inlets), Chilkat Inlet and Chilkat River, and Lutak Inlet (Betts 1994). Additional areas not shown on the figures

include Berners Bay for coho using rod and reel, and Taiya Inlet and St. James Bay for chum, pink, and coho using rod and reel (ADF&G, 1994).

Non-Salmon Finfish – Haines residents generally harvested non-salmon finfish in areas close to the community, generally as far south as the end of Sullivan Island. Areas productive for numerous resources, such as St. James Bay, were frequented by those with larger boats. Halibut and bottom fish were taken with rod and reel primarily in Lutak and Chilkoot inlets and St. James Bay. Dolly Varden and cutthroat and rainbow trout were harvested widely with rod and reels in the main rivers, as well as in tributary creeks and in lakes. These freshwater areas were largely inland and farther north than the JAI Project area. Harvests of herring have been low for years, although increases were noted locally since 1992 (Betts, 1994).

Non-salmon harvest for Haines residents took place in the following locations (shown on Figure 3-8 in the *2004 Land Use and Coastal Management Technical Report*): Lutak, Chilkoot, and Chilkat inlets; waters among the Chilkat Islands; waters off the northwest and southern ends of Sullivan Island; and nearshore waters on the north side of Point Sherman. Additional harvest areas not shown on the maps include St. James Bay for halibut fishing (Betts, 1994).

Marine Invertebrates – Most invertebrate harvest in upper Lynn Canal areas close to Haines involved crab or shrimp harvest. Clams and cockles were harvested in more distant areas (St. James Bay and the inlets of Icy Strait). Trade with residents of other communities for locally unavailable marine invertebrates was common. For example, clams, cockles, and black seaweed have been obtained by exchanging dried bear and goat meat and hooligan oil (Betts, 1994).

Marine invertebrate harvest for Haines residents took place in the following locations, shown on Figure 3-8 in the *2004 Land Use and Coastal Management Technical Report*. These areas were used primarily for setting Dungeness crab or shrimp pots:

- Lutak Inlet
- Chilkoot Inlet from the mouth of the Katzechin River to the entrance to Taiya Inlet
- Flat Bay on the Chilkat Peninsula
- Waters along the western shoreline of the Chilkat Peninsula
- Waters around the Chilkat Islands
- Nearshore waters of Glacier Point
- Waters of Chilkat Inlet from Kochu Island to Pyramid Island.

Additional harvest areas not shown on the [original] Haines maps include:

- Portage Harbor for crab and shrimp
- Mud Bay (the head of Flat Bay) for Dungeness crab and occasional harvest of limpets
- St. James Bay for harvest of Dungeness crab and clams
- Taiya Inlet for harvest of shrimp and king crab

- Waters off Flat Bay for harvest of king crab
- All of the waters of Chilkat Inlet and the waters from the west side of Sullivan Island, and between Sullivan and the Chilkat Islands, to the entrance of the Inlet, for shrimp and crab
- Berners Bay for clams
- Coves of Sullivan Island, and Letnikof and Paradise coves for Dungeness crab
- Locations along the shoreline of the Chilkat Peninsula where waters are deep for shrimp
- Letnikof and Paradise Coves and a location near Tanani Point for harvest of red seaweed (ADF&G, 1994)
- Windy Point and Viking Cove for crab and Viking Cove for red seaweed (Brainard, personal communication 1994).

Marine Mammals – Under the Marine Mammal Protection Act of 1972, only Alaska Natives are allowed to harvest marine mammals in Alaska. Harbor seal was the only marine mammal hunted by Alaska Native Haines residents for subsistence purposes. Haines hunters take harbor seals in specific estuaries and rocky haulouts in upper Lynn Canal, generally close to the community. Seals were hunted both from land and from skiffs or boats. Boats traveled to nearby locations specifically to hunt seal. Hunters also took seals when fishing in the vicinity of the Chilkat Peninsula (Betts, 1994).

In recent years, roads in the Lutak Inlet area have provided access to beaches at the head of the inlet, from which seals were hunted. Lutak Road access was preferred during times of the year when seals were less likely to float when killed, since the shallow flats at the head of the inlet improved success in retrieving seals. Presence of non-harvesters in the area has deterred hunting for some hunters. Seal hunting at the head of Lutak Inlet and at Mud Bay has reportedly declined as a result of the development of private land. Hunters noted in interviews that they are discouraged by homeowners from hunting seals in view of homes; hunters tend to avoid confrontations by finding other places to harvest (Betts, 1994).

Marine mammal harvest for Haines residents took place in Lutak Inlet; Chilkat Inlet at Pyramid Harbor, from Letnikof Cove to Pyramid Island; and Taiyasanka Harbor shown on Figure 3-8 in the 2004 *Land Use and Coastal Management Technical Report* (Betts, 1994).

Additional harvest areas not shown on the (original) map (ADF&G, 1994) include:

- Lutak Inlet from the (Lutak) Ferry Terminal to the extreme head of the inlet
- Taiya Point
- The entire shore of the Chilkat Peninsula
- The Katzechin Flats
- The Eastern upper Lynn Canal shoreline from the mouth of the Katzechin River south to Sea Lion Rock near Eldred Rock
- The Chilkat Islands

- The south end of Sullivan Island
- St. James Bay
- Berners Bay

Other Wildlife Hunting Areas – Haines residents hunt black bear, brown bear, moose, and mountain goats. No specific mapped use areas have been documented for black bear. Black bear meat composes 12 percent of Haines household subsistence food harvests (ADF&G, 1990).

Brown bear have been harvested by the Tlingit of southeast Alaska since before historic contact. However, past studies by the ADF&G Division of Subsistence have not documented any subsistence harvest of brown bear in the JAI Project area (ADF&G, 1990).

Historically, Chilkoot Tlingit (now Haines residents), harvested mountain goat in areas near the Endicott and Katzechin Rivers, Glacier Point, near Dyea, and Taiyasanka Harbor (ADF&G, 1990).

Moose harvests range from 6 to 12 moose annually. Two percent of harvests are by Klukwan/Haines residents. Although the number of animals harvested is low, moose are an important subsistence food resource because of its large size compared to deer, mountain goat, and black bear. A dressed moose can provide an average of 550 pounds of meat (ADF&G, 1990).

3.2.4.3 Skagway

Figures 3-9 and 3-10 of the *2004 Land Use and Coastal Management Technical Report* provide the location of where Skagway residents have hunted, fished, and gathered resources in upper Lynn Canal. Mapped information was compiled from a sample of 60 occupied Skagway households interviewed in 1988. Households were asked to show where they had hunted, fished, and gathered during their lifetimes as residents of Skagway. Mapped information was grouped into four resource use categories: salmon, non-salmon finfish, marine invertebrates and marine mammals. Figure 3-9 of the *2004 Land Use and Coastal Management Technical Report* shows invertebrate and salmon harvest areas, while Figure 3-10 of the *2004 Land Use and Coastal Management Technical Report* shows finfish and marine mammal harvest areas. In addition to use areas illustrated on the maps, a significant number of comments by community reviewers provide information on other areas not shown on the maps (Betts, 1994).

Deer – As with Klukwan and Haines, relatively little deer hunting occurred in the vicinity of Skagway because of the scarcity of deer in the upper Lynn Canal area. Skagway hunters must travel widely to access deer hunting areas. The average distance traveled from Skagway to deer hunting areas was 155 miles. No deer harvesting by Skagway residents occurred in any areas near the JAI Project (Betts, 1994).

Salmon – Most Skagway households conducted subsistence fishing from smaller boats and skiffs and used Taiya Inlet and Burro Creek for harvesting coho. Trolling was an effective means for catching Chinook, coho, and pink salmon. A large proportion of salmon was harvested in saltwater with rod and reel. Few residents were involved in subsistence gillnetting on the Chilkat River, or in dip netting for sockeye salmon locally. The heaviest use area (greater than 25 percent

of households) was shown to be adjacent to the salmon hatchery on the west shoreline of Taiya Inlet opposite Yakatania Point (Betts, 1994).

Residents of Skagway generally use subsistence permits designed for the Haines area, which includes the Chilkat and Chilkoot systems and a write-in authorization for chum salmon at the Taiya River (Betts, 1994).

Salmon harvest maps shown in Figure 3-9 of the *2004 Land Use and Coastal Management Technical Report* for Skagway residents indicate that salmon were fished in the following general locations (Betts, 1994):

- Taiya, Lutak, Chilkoot, and Chilkat inlets
- West Creek and the Taiya River upstream from West Creek
- Burro Creek
- Taiyasanka Harbor
- Chilkat Inlet and Lake system
- Lynn Canal from Seduction Point to Sullivan Island, including waters around the Chilkat Islands (Anyaka, Shikosi, and Kataguni Islands)
- Lynn Canal from Kataguni Island to Point Sherman
- Waters along the western shoreline of Lynn Canal from Glacier Point to St. James Bay
- Waters around Lincoln, Shelter, and Douglas islands

Non-Salmon Finfish – Skagway households conducted subsistence or sport fishing for non-salmon species mostly from smaller boats and skiffs. Bottom fish were taken in shallow waters of bays and stream mouths, as well as the deeper and more open marine waters of the bays, passages, and straits. The primary species harvested was halibut. Skagway residents fished for trout in creeks and lakes near the community (Betts, 1994).

Non-salmon harvest for Skagway residents took place in Taiya, Chilkoot, and Chilkat inlets, shown on Figure 3-10 of the 2006 FEIS. No additional non-salmon finfish harvest areas were identified in the Juneau Access [Improvements] Project alternative areas (Betts, 1994).

Marine Invertebrates – Invertebrate harvesting by Skagway residents was commonly done along the beaches and in the bays and coves near town. In areas close to the community, including Dyea, Nahku Bay, and Taiya Inlet, residents harvested shrimp and crab. Harvest was undertaken from skiffs or on foot along the beaches. In the more distant areas such as Chilkoot Inlet and Lutak Inlet, residents harvested crab offshore. Skagway lacks good clam beaches; therefore, crab was more heavily harvested by Skagway residents (Betts, 1994).

Marine invertebrate harvest for Skagway residents took place in the following locations shown on Figure 3-9 of the 2006 FEIS (Betts, 1994):

- Nearshore and deep waters of Taiya Inlet near Dyea Point
- Nearshore locations of Taiya Inlet

- Deep waters of Lutak and Chilkoot inlets
- Nearshore waters of Nukdik Point, Portage Bay, and Chilkoot Inlet north of the mouth of the Katzehin River
- Waters off the northern end of Sullivan Island

Marine Mammals – Harbor seal was the only marine mammal hunted by Skagway residents for subsistence purposes. Only two households in Skagway were involved in marine mammal harvest in 1985. No additional information was collected (Betts 1994). A more recent statewide study by the ADF&G Subsistence Division reports no harvest of marine mammals by Skagway residents (ADF&G, 1993).

In 1985, marine mammal harvest for Skagway residents took place in Dyea and Nahku Bay and deep waters of Taiya Inlet shown on Figure 3-10 of the 2006 FEIS (Betts, 1994).

Other Wildlife Hunting Areas – Skagway residents hunt black bear, brown bear, moose, and mountain goats. No specific mapped use areas have been documented for black bear. Black bear meat comprises 1 percent of Skagway household food harvests (ADF&G, 1990).

Brown bear have been harvested by the Tlingit of southeast Alaska since before historic contact. However, studies by the ADF&G Division of Subsistence have not documented any subsistence harvest of brown bear in the JAI Project areas (ADF&G, 1990).

According to ADF&G hunting statistics, Skagway residents have consistently harvested mountain goat (ADF&G, 1990). No data are available regarding specific locations. Moose harvests in the Lynn Canal area range from six to 12 animals annually. Less than 1 percent of harvests are by Skagway residents (ADF&G, 1990).

3.2.5 Residential, Commercial, Industrial, and Public Land Use

The sections that follow provide updated information if available.

3.2.5.1 City and Borough of Juneau

The Glacier Highway travels north from the Auke Bay Ferry Terminal to Berners Bay. The CBJ LUDs in this area (Berners Bay to Auke Bay) include Conservation Area, Federal Park (e.g., Auke Village Recreation Area in the Tongass National Forest), Institutional and Public Use, Natural Area Park, New Growth Area, Recreational Resource, Recreational Service Park, Resource Development, Rural Dispersed Residential, Rural Low Density Residential, State Park (e.g., Eagle Beach), Stream Protection Corridor, and Waterfront Commercial Industrial. Management definitions for these are as follows (CBJ, 2013):

- **Conservation Area** – CBJ-owned Parks and Recreation Department-managed lands with recognized high value environmental qualities; set aside for the protection and management of the natural environment with recreation (e.g., fishing, hiking) as a secondary objective; no development permitted other than structures, roads, and trails necessary for the maintenance and protection of the resources or for managed public access for education and passive recreation purposes.

- **Federal Park** – See Recreational Resource below. On Subarea Map D for example, Auke Village Recreation Area (Tongass National Forest) is shown with this designation.
- **Institutional and Public Use** – Lands that are in public ownership and dedicated for a variety of public uses such as University of Alaska Southeast; local, State and federal government uses; and for public facilities (e.g., community gardens, schools, libraries, fire stations, treatment plants, and public sanitary landfills).
- **Natural Area Park** – CBJ-owned lands characterized by areas of natural quality designed to serve the entire community by providing fish and wildlife habitat, open space/natural areas, access to water, and opportunities for passive and dispersed recreation activities; no development permitted other than structures, roads, and trails necessary for the maintenance and protection of the resources or for managed public access for education and passive recreation purposes.
- **New Growth Areas** – Sites in rural areas suitable and available for future urban/suburban or a mixed-use development when specifically approved by the CBJ in accordance with the procedures and criteria set forth for New Growth Areas.
- **Recreational Resource** – Land primarily under federal or State management for a range of resources such as timber, minerals, fish and wildlife, and recreation uses, including recreation cabins; uses may include small-scale, visitor-oriented, seasonal recreation facilities.
- **Recreational Service Park** – CBJ-owned lands with parks developed for active recreation and programmed use and/or community gardens; may be a single use or activity area.
- **Resource Development** – Land to be managed primarily to conserve natural resources until specific land uses are identified and developed. Minimal residential development may occur. Uses may include small-scale, visitor-oriented, seasonal recreational facilities.
- **Rural Dispersed Residential** – Dispersed, very low-density development that has no municipal sewer or water service. Densities are intended to permit one dwelling unit per acre, but larger lot sizes may be appropriate based on existing platting and capability of the land to accommodate on-site septic systems and wells. Uses may include small-scale, visitor-oriented, seasonal recreational facilities.
- **Rural Low Density Residential** – Rural residential land at densities of one to three dwelling units per acre; based on existing platting and capability of the land to accommodate onsite septic systems and wells, or whether the land is served by municipal water and sewer service.
- **State Park** – See Recreational Resource above. On Subarea Map A for example, Eagle Beach is shown with this designation.
- **Stream Protection Corridor** – On CBJ-owned lands, this designation serves to protect anadromous streams and their tributaries from development that could cause pollution, erosion, depletion of groundwater infiltration or otherwise could degrade the stream corridor and its biological functions (approximately 200-foot base protection zone); on publicly owned lands that are not owned by the CBJ, this designation is fixed at 200 feet from the ordinary high water mark of the shorelines of the anadromous fish creeks, streams, and lakes listed in the most recently CBJ-adopted ADF&G inventory of anadromous streams.

- **Waterfront Commercial Industrial** – Land to be used for water-dependent heavy commercial and industrial uses (e.g., marine transportation terminals, large or small boat marinas, boat repair, shipyards, marine freight handling areas, fish buying and processing plants, ice plants, marine hatcheries, and marine parks).

The area from Eagle River north to Echo Cove is designated in the CBJ *Comprehensive Plan* (CBJ, 2013) as Rural with a New Growth Area at Echo Cove. Guidelines for its management are included in the 2013 CBJ *Comprehensive Plan*. The local importance of the Echo Cove vicinity is evidenced by its designation by the CBJ as a potential New Growth Area and Resource Development Lands. The 2013 CBJ *Comprehensive Plan* designates the shorelands around Echo Cove as Resource Development and the inland areas and CBJ lands in Berners Bay as Recreation Resource. An update to the CBJ *Comprehensive Plan* was completed and adopted in 2013.

3.2.5.2 Haines Borough

The Haines Borough covers approximately 2,600 square miles and includes the northern portion of the Lynn Canal area. It is a Home Rule Borough and is the result of consolidation of the City of Haines and the Haines Borough in 2003. The borough revised its comprehensive plan dated April 2, 2004, to reflect this consolidation, and the 2025 *Haines Borough Comprehensive Plan* was adopted in September 2012. The former City of Haines boundaries and Lutak Inlet and Mud Bay retain zoning regulations. All other areas of the borough are zoned general use. Coastal management plans are discussed in Section 3.3.

Chapter 7 of the 2025 *Haines Borough Comprehensive Plan* describes land ownership, discusses current conditions and management, concerns and opportunities, and established Future Growth Maps to guide land use over the next 10–29 years, as well as identifying objectives and implementing actions. The goal of this chapter of the plan is to “Guide infrastructure and land development to provide an adequate supply of land for commercial and industrial development, varied residential living, and diverse recreational opportunities.” Ten future growth land designations are listed, presented on a map, and further described in subsequent sections:

1. Residential
2. Rural Settlement
3. Commercial
4. Industrial/Light Industrial
5. Waterfront Development
6. Park, Recreation or Open Space
7. Remote or Special Areas/Critical Habitat
8. Multiple – Recreation Emphasis
9. Multiple – Resource Use Emphasis
10. Resource Development

Land use implementation objectives and strategies for the goal (Goal 5) are presented in Section 7.13 of the plan.

3.2.5.3 Municipality of Skagway Borough

On June 5, 2007, voters approved dissolution of the City of Skagway, and on June 20, 2007, the Municipality of Skagway Borough was incorporated. Skagway's economy and employment have been closely tied to the transportation industry throughout its history. Skagway seeks to balance its role as a tourist destination, which produces significant revenue and many seasonal jobs, with its role as a year-round transshipment hub, and has instituted the Gateway Project to enhance its port facilities. The port is a deepwater, ice-free (year-round) facility with a strategic location that is used for industry and tourism. The Gateway Project is a cooperative effort among the Municipality of Skagway, the Alaska Industrial Development and Export Authority, and the Government of Yukon, which is intended to better manage industrial and maritime activities in the port area, as well as improve existing pedestrian, vehicle, marine, and train traffic. The Gateway Project area is within the waterfront zoning district and is zoned Waterfront Industrial. Current land use in the Gateway area is a mixture of water-related commercial and industrial activities, pedestrian paths and amenities, shops and restaurants, small boat harbor uses, a staging area for the city transfer bridge, and the Pullen Creek picnic area and anadromous fish stream. Future land use for the Gateway area was established in the *Skagway 2020 Comprehensive Plan* (Skagway, 2009) and the *Skagway Port Development Plan* (Skagway, 2010).

The Municipality is developing a design for improvements to its Small Boat Harbor. These improvements would be completed in phases, with the first phase involving dredging the harbor and replacing the floats and the second phase potentially involving the addition of facilities such as a drive down float and travel lift that will allow the harbor to increase its services.

The Dewey Lakes area is a popular recreational, historic, and scenic area that is owned by the Municipality of Skagway. In 2004, the Municipality adopted the *Dewey Lakes Recreation Area Management Plan* (Skagway Municipal Code 16.12) to maintain its public ownership, preserve its traditional historic and recreational uses, and outline prohibited and allowed uses. This area is designated as a recreation and open space in Skagway's *Comprehensive Plan* (Skagway, 2009).

3.2.6 Recreation, Sport Fishing, and Hunting

The JAI Project is located in the Lynn Canal area, which is popular with visitors from around the world for its rugged beauty, wildlife, and adventure opportunities, as well as with Alaska residents for hiking, camping, fishing, and hunting. The area is within the ADF&G Juneau Management Districts 111 and 115 (fishing) and Game Management Units (GMU) 1C and 1D (hunting/wildlife). Recreation and tourism are also important parts of the economy of the communities on Lynn Canal.

3.2.6.1 U.S. Forest Service Recreation Opportunity Spectrum

The portion of the JAI Project area within the Tongass National Forest lies within or near areas identified by the USFS as areas of recreational use. These areas are included in the USFS Recreation Places Inventory and also addressed in the TLRMP. The TLRMP defines Recreation Places as "Identified geographical areas having one or more physical characteristics that are particularly attractive to people engaging in recreation activities. They may be beaches, streamside or roadside areas, trail corridors, hunting areas (or) the immediate area surrounding a lake, cabin site, or campground."

In addition to identified Recreation Places, the Tongass National Forest lands are classified by the TLRMP under the USFS Recreation Opportunity Spectrum (ROS) for various recreation opportunities. The areas classified under the ROS system are managed by ROS Class Standards and Guidelines in the TLRMP Appendix I to provide direction for recreation opportunities. The ROS standards and guidelines are used in conjunction with recreation forest-wide standards and guidelines and management prescriptions applicable to the specific LUDs. As an inventory tool, ROS is a system for planning and managing recreation resources and classifying recreation opportunities into seven categories of settings, ranging from primitive to urban settings.

The ROS can help identify, quantify, and describe the types of recreation settings that the Tongass provides. The ROS system portrays the combination of activities, settings, and experience expectations along a continuum that ranges from highly modified to primitive environments. Seven classifications are identified along this continuum: Urban (U), Rural (R), Roaded Natural (RN), Roaded Modified (RM), Semi-Primitive Motorized (SPM), Semi-Primitive Non-Motorized (SPNM), and Primitive (P). There are five ROS classes that occur within the JAI Project area: Roaded Natural, Semi-Primitive Motorized, Semi-Primitive Non-Motorized, Roaded Modified, and Primitive (see Figure 3-5). The Primitive ROS classification occurs over large areas primarily at higher elevations removed from the coastline and does not occur in the area of potential project effects. The purpose and uses of the other four ROS classifications are summarized below:

Roaded Natural (RN) – Resource modification and utilization are evident, in a predominantly naturally appearing environment generally occurring within 0.5 mile (greater or less depending on terrain and vegetation, but no less than 0.25 mile) from better-than-primitive roads and other motorized travel routes. Interactions between users may be moderate to high (generally less than 20 group encounters per day), with evidence of other users prevalent. There is an opportunity to affiliate with other users in developed sites but with some chance for privacy. Self-reliance on outdoor skills is only of moderate importance with little opportunity for challenge and risk. Motorized use is allowed.

Semi-Primitive Motorized (SPM) – A natural or natural-appearing environment generally greater than 2,500 acres in size and generally located within 0.5 mile of primitive roads and other motorized travel routes used by motor vehicles; but not closer than 0.5 mile (greater or less depending on terrain and vegetation, but no less than 0.25 mile) from better-than-primitive roads and other motored travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a moderate probability of experiencing solitude, closeness to nature, and tranquility along with a high degree of self-reliance, challenge, and risk in using motorized equipment. Local roads may be present, or along saltwater shorelines there may be extensive boat traffic.

Semi-Primitive Non-Motorized (SPNM) – A natural or natural-appearing environment generally greater than 2,500 acres in size and generally located at least 0.5 mile (greater or less depending on terrain and vegetation, but no less than 0.25 mile) but not farther than 3 miles from all roads and other motorized travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a high probability

of experiencing solitude, freedom, closeness of nature, tranquility, self-reliance, challenge, and risk. There is a minimum of subtle on-site controls. No roads are present in the area.

Roaded Modified (RM) – Vegetative and landform alterations typically dominate the landscape. There is little on-site control of users except for gated roads. There is moderate evidence of other users on roads (generally fewer than 20 group encounters per day), and little evidence of others or interactions at campsites. There is opportunity to get away from others but with easy access. Some self-reliance is required in building campsites and use of motorized equipment. A feeling of independence and freedom exists with little challenge and risk. Recreation users will likely encounter timber management activities.

For recreation and other resources, the TLRMP contains forest-wide goals and objectives, forest-wide standards and guidelines, and management prescriptions specific to LUDs. The forest-wide Recreation and Tourism goal is to:

- Provide a range of recreation opportunities consistent with public demand, emphasizing locally popular recreation places and those important to the tourism industry.

The Forest-wide Recreation and Tourism objectives are to:

- Manage the Forest's recreation settings in accordance with the Recreation Opportunity Spectrum Standards and Guidelines for each LUD.
- Maintain existing USFS system trails to a standard that provides for the health and safety of all users. Construct or reconstruct trails to encourage a healthier lifestyle for the public.
- Emphasize projects that facilitate community use or community connections.
- Maintain existing recreation sites and facilities to provide for the health and safety of all users. Construct or reconstruct facilities in locations where the need for the facilities are supported by either known use, partnerships for long-term maintenance, or repeated safety concerns. Remove facilities that are no longer needed or are not affordable.

The TLRMP Forest-wide recreation Standards and Guidelines includes that Recreation Settings provide for a broad spectrum of outdoor recreation opportunities in accordance with the existing capabilities of the National Forest, and in accordance with the ROS in Appendix I. This Standard directs that recreation use be managed in a manner that is compatible with the long-term objectives of the LUD and that maintains the capability of all LUDs to provide appropriate quality recreation opportunities on a sustained basis. Thus, each LUD includes the recreation-related forest-wide goal and objectives, applicable forest-wide standards and guidelines, and specific management prescriptions.

Figure 3-5 shows the USFS Northern Lynn Canal ROS by class and Recreation Facilities.

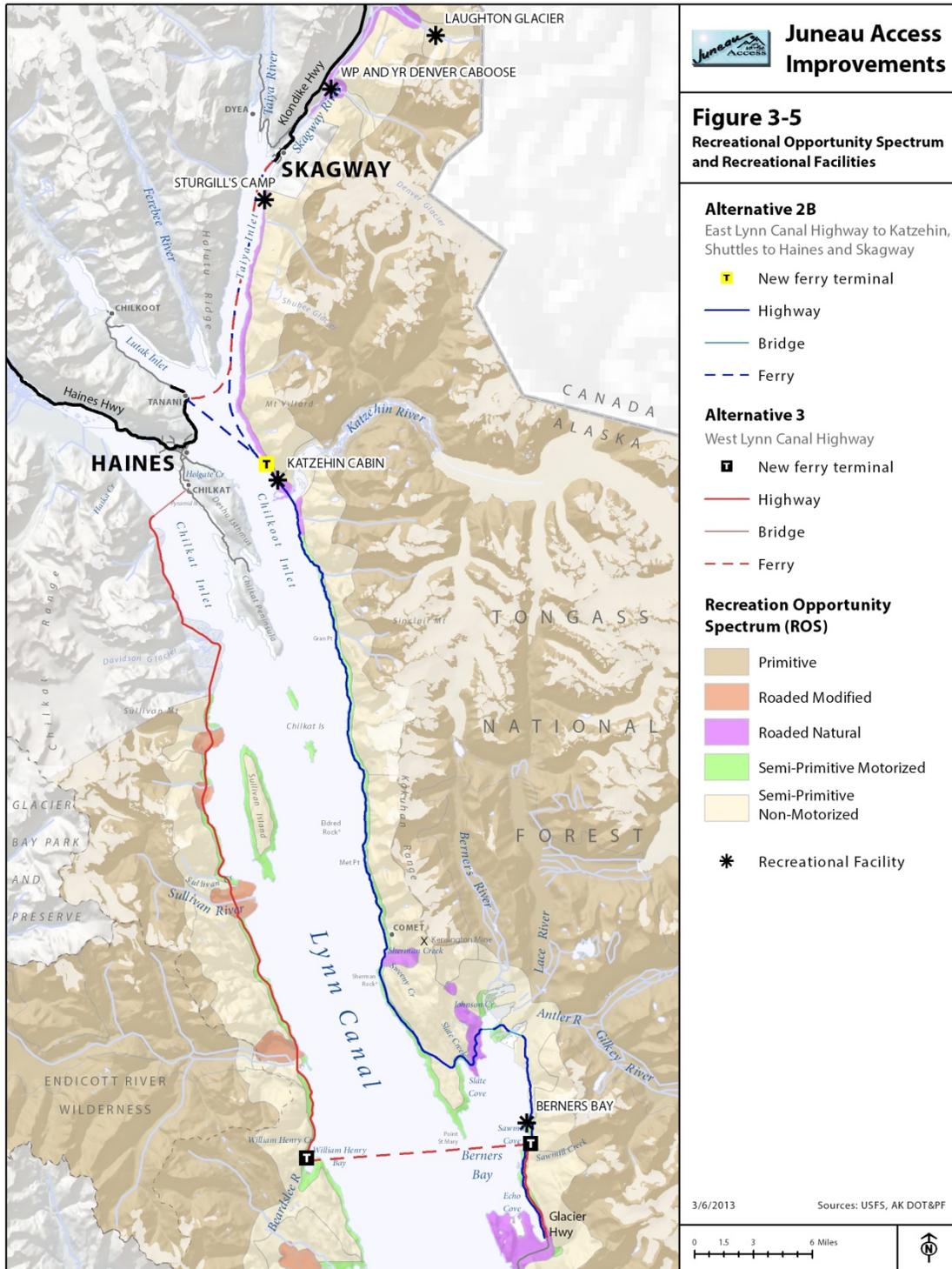


Figure 3-5: Recreational Opportunity Spectrum and Recreational Facilities

3.2.6.2 Recreation Activities within the Juneau Access Improvements Project Area

The Lynn Canal area has high recreational value and annually attracts thousands of visitors from Alaska and all over the world. Over the last several years, Alaska's cruise ship passenger volume has increased, while the highway visitor market has decreased. Most of the terrain in the Lynn Canal area is extremely rugged and undeveloped. Marine wildlife and fish are plentiful. Terrestrial wildlife, including mountain goat, black and brown bear, Sitka black-tailed deer, and moose are distributed throughout the project area. This natural setting combined with the facilities of Juneau, Haines, and Skagway provides residents and visitors with many recreational opportunities such as independent or guided fishing, hiking, camping, hunting, powerboating, sailing, kayaking, canoeing, skiing, and wildlife and scenery viewing within or outside wilderness areas.

In 2010, 5,095 employees (average annual) in the Lynn Canal region were working in the tourism industry. It accounts for 14 percent of all regional employment and 9 percent—\$128 million—of all regional wages. Activities covered under this sector include air transportation, scenic and sightseeing transportation, support activities for transportation, travel agencies, wilderness guiding, and leisure and hospitality.

In Juneau in 2010, approximately 1.26 million passengers disembarked from airplanes, cruise ships, and ferries. While air passengers and ferry passengers increased from 2009 at 5 percent and 6.6 percent, respectively, cruise ship passengers decreased by 14 percent, dropping overall visitor traffic by 8.9 percent for 2010 (Juneau Economic Development Council, 2012).

Skagway's summer tourism industry has continued to grow, in particular the cruise ship sector. According to the Skagway Convention and Visitors Bureau (2012), Skagway cruise ship visits continue to increase with each passing year: from 48,000 passengers in 1983 to upwards of 716,700 by the end of 2011 (including passengers that arrive on shuttles from cruise ships docking in Haines). Passengers arriving by the AMHS ferries have declined from 26,224 in 2002 to 16,393 in 2011¹⁰. People arriving by highway also continued to decline from the 80,000 reported in 2002 to 64,368 in 2011. Passenger arrivals by air, however, have increased from 5,641 in 2002 to 6,419 in 2011 (Skagway News, 2012a). Tourism is Skagway's economic engine.

In Haines, the summer tourism industry continues to decline in the cruise ship sector. Thirty-five ships arrive through the summer, including the Zaandam and Statendam of the Holland America line, which visit Haines once a week carrying a maximum of 1,440 and 1,299 passengers, respectively. In 2012, approximately 31,611 cruise passengers visited Haines, along with some 2,282 crew members. These visits are down from 50,212 passengers in 2008 (Haines Convention and Visitors Bureau, 2012a). Passengers arriving on the AMHS ferry have also declined. In 1992, ferry traffic included 45,300 disembarking passengers and 15,100 vehicles. In 2011, disembarking traffic totaled 39,873 passengers and 12,189 vehicles (DOT&PF, 2011). Passenger

¹⁰ AMHS disembarking passengers are counted locally. The arrival numbers published in the Skagway News include only May through September to reflect visitor/tourist arrivals rather than local traffic (personal communication-e-mail from M. McCluskey, Skagway Convention & Visitors Bureau. January 17, 2013).

arrivals by air, however, have increased in recent years from 5,641 in 2002 to 9,636 in 2011 (BTS 2012), but still not to levels recorded in the 1990s.

Sport Fishing

A license is required to participate in hunting and trapping; sport, commercial, and personal use fishing; and sport fish guiding or hunting guiding. In order to harvest many different species, a harvest tag may also be needed in addition to a hunting or fishing license. ADF&G administers the licensing and tag/permit process.

ADF&G’s Division of Sport Fish is tasked with maintaining, improving, and monitoring sport fish resources and habitats. The Lynn Canal area is within Juneau Management Districts 111 and 115 for commercial and sport fishing. Table 3-5 details the sport fish harvested in Lynn Canal in 2010.

Table 3-5: Number of Sport Fish Harvested in Lynn Canal, 2010

Species	Juneau	Skagway	Haines
Saltwater sea-run Chinook salmon	8,846	494	248
Saltwater Pink salmon	5,568	45	372
Saltwater Chum salmon	1,059	12	15
Saltwater Sea-run Coho salmon	24,285	43	195
Saltwater Dolly Varden/Arctic Char	1,349	78	443
Saltwater Pacific halibut	15,295	38	717
Saltwater King crab	941	0	239
Saltwater Dungeness crab	15,825	291	298
Saltwater Tanner crab	120	597	0
Freshwater Sea-run Chinook salmon	1,239	0	0
Freshwater Pink salmon	149	0	1,340
Freshwater Chum salmon	84	49	177
Freshwater Sea-run Coho salmon	1,687	0	1,017
Freshwater Dolly Varden/Arctic Char	825	48	1,685

Source: ADF&G, Sport Fishing Survey, 2012a

<http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?AFG=region.results>

Hunting

Big game sport hunting within the project area is for brown bear, black bear, moose, Sitka black-tailed deer, and mountain goat. Ducks, geese, other waterfowl, ptarmigan, and other birds are also hunted within the project area. Trapping of beaver, otter, lynx, wolf, wolverine, and marten also occurs. The most productive wildlife areas are the Chilkat River valley, the west side of Chilkat Inlet, Berners Bay, the Endicott River area, and William Henry Bay. Deer are hunted on Sullivan Island. The most productive upland wildlife habitats occur along the coast, in the riparian habitats of river valleys, and streams that support populations of anadromous fish. The habitats that are most productive are also the most accessible and the focus of recreational

pursuits, particularly since inland habitats are often limited by the mountainous terrain surrounding Lynn Canal.

For hunting, the Lynn Canal area is within ADF&G GMUs 1C and 1D. The GMU 1C boundary outlined for analysis includes areas on the east side of Lynn Canal along the proposed road corridor north of Eagle River, and all drainages into Berners Bay, to the Haines Borough boundary, in addition to areas west of Lynn Canal, north to Sullivan Island. In GMU 1D, the boundary goes north of the Haines Borough boundary to include all hunt boundaries on both sides of Lynn Canal that abut the lower Chilkat and Chilkoot inlets, and the hunt boundaries surrounding Lutak and Taiya inlets.

The ADF&G regulates hunting and trapping activities of visitors and residents through tags, tickets, and permits and wildlife conservation measures. At the time this report was prepared, several areas within GMU 1 are closed for hunting of certain species.

ADF&G provided harvest data for GMUs 1C and 1D (ADF&G, 2012f), which are presented in Table 3-6 and Table 3-7, respectively. These tables include preliminary data for various species harvested/trapped in 2007 through 2011. Deer harvest data are not included; typically there is little deer hunting/harvest effort in the area of interest outside of Sullivan Island.

Table 3-6: Successful Harvest/Trapping GMU 1C for 2007 through 2011

Species	2007	2008	2009	2010	2011	5-year average
Successful Harvest						
Black Bear	12	8	15	17	18	14
Brown Bear	1	3	1	1	4	2
Mt. Goat	0	5	4	1	4	3
Moose	0	0	1	0	0	1
Successful Trapping						
Beaver	25	8	18	4	20	15
Lynx	0	1	1	1	0	1
Otter	1	0	3	1	0	1
Wolf	0	1	3	4	0	2
Wolverine	6	1	1	2	3	3
Marten	25	9	11	36	58	28

Source: ADF&G 2012g

Table 3-7: Successful Harvest/Trapping GMU 1D for 2007 through 2011

Species	2007	2008	2009	2010	2011	5-year average
Successful Harvest						
Black Bear	8	6	2	10	20	9
Brown Bear	0	1	6	5	5	3
Mt. Goat	22	14	19	16	15	17
Moose	4	9	4	7	5	6
Successful Trapping						
Beaver	0	0	4	0	1	1
Lynx	None					N/A
Otter	1	1	0	3	0	1
Wolf	0	1	0	0	1	0
Wolverine	2	1	0	1	0	1
Marten	39	2	6	22	80	30

Source: ADF&G 2012f

3.2.7 Coastal Management

The Alaska Coastal Management Program (ACMP; ADNR, 2011a), in force since the approval of the Alaska Coastal Management Act in 1977, expired on July 1, 2011, as provided by AS 44.66.030. The ACMP was administered by the ADNR by districts throughout the state with the intent to preserve, protect, develop, use, and, where necessary, restore or enhance the coastal resources of the state.

Federal lands are excluded from the coastal zone boundary; however, uses and activities on excluded federal lands that affect the coastal area must be consistent with the provisions of Section 307 of the Coastal Zone Management Act of 1972, as amended.

The Alaska Legislature adjourned on May 14, 2011 without passing legislation required to extend the ACMP. “The Alaska Coastal Management Question,” or Ballot Measure 2, appeared on the August 28, 2012, ballot in Alaska as an “indirect initiated State statute” (Ballotpedia, 2012). The measure, which would have established a new coastal management program, was defeated.

However, because the ACMP was implemented by local government by developing and enforcing their own coastal management programs, provisions for resources addressed under the ACMP were incorporated into local plans, and in Juneau’s case, into ordinances. The sections that follow provide an update of coastal management planning efforts in City and Borough of Juneau, Haines Borough, and Municipality of Skagway Borough.

3.2.7.1 Juneau Coastal Management Plan

The *Juneau Coastal Management Plan* dated 1989 and amended through December 1990 is a component of the *Comprehensive Plan of the City and Borough of Juneau*. A *Final Draft Plan Amendment* was developed in July 2006 (CBJ, 2006). In August 2012, it was confirmed that although the ACMP is no longer law, Juneau's Coastal Management Program is reflected in policies in the borough's codes. Further, when the CBJ's comprehensive plan was amended in March 2012, the *Juneau Coastal Management Plan* was specifically included (CBJ, 2012a).

3.2.7.2 Haines Coastal Management Plan

Haines adopted the *Haines District Coastal Management Plan* in 1980 and it was approved by the State of Alaska and Federal Office of Coastal and Resource Management (OCRM). This plan included the Port Chilkoot/Portage Cove AMSA. In 1993, this plan was updated with new information, goals, policies, and implementation revisions. When the Alaska Legislature amended the Alaska Coastal Management Act (AS 46.40) with the passage of House Bill (HB) 191 in 2003, plan revisions were required for all coastal districts; the Haines plan was again updated in 2005, and the Final Plan Amendment was adopted in 2007 (Haines Borough 2007). Although the ACMP is no longer law, the *Haines Coastal Management Plan* is reflected in the recently adopted *2025 Haines Borough Comprehensive Plan*, which incorporates the coastal management plan's enforceable policies (Ritzinger, personal communication 2012).

3.2.7.3 Skagway Coastal Management Plan

The Municipality of Skagway Borough participated in the ACMP since 1980. In 1987 and 1990, Skagway revised the *Skagway Coastal Management Plan* and in 1991, Skagway adopted more specific coastal management plans for the Skagway River and Port of Skagway AMSAs. The *Final Draft Plan Amendment* was prepared to comply with the Alaska Coastal Management Act as amended by the Alaska State Legislature in 2003 (Skagway, 2007) and the ACMP regulations adopted in 2004. The City of Skagway adopted the revised coastal management plan by ordinance on February 2, 2007, and it became effective March 24, 2007. Since the Alaska statutes expired, the Municipality of Skagway Borough has not incorporated coastal management enforceable policies into its comprehensive plan (Van Horn, personal communication 2012). Some elements, however, are codified in its zoning regulation and, according to Skagway officials, are enforced as much as possible during development review (Van Horn, personal communication 2013).

The *Skagway Coastal Management Plan* continues to be listed among "Community Plans" on the official Municipality of Skagway Borough website.

4. Environmental Consequences

4.1 General Land Ownership and Management Considerations

This chapter focuses on three topics:

- Potential impacts of project alternatives on land ownership
- Compatibility of each alternative with land management policies and designations
- Compatibility of each alternative with existing land and resource uses identified in Section 3.2

4.1.1 General Effects of the Alternatives

Alternatives 1 and 1B would result in no change in land ownership and management or land and resource uses. Direct impacts on land ownership and management that would result from construction of most of the other alternatives where ROW acquisition is necessary to cross Tongass National Forest lands, State of Alaska lands managed by ADNR, private lands, mining claims, Native allotments, Mental Health Trust lands, and University of Alaska lands would include the following:

- Impacts on land ownership would include the acquisition of land for a ROW or easement for which the landowners would be compensated at fair market value in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. ROW and/or easement would be required for Alternatives 2B and 3. For Alternatives 4B and 4D, some land would be required to construct an access road and ferry terminal.
- The alternatives with road and terminal construction, particularly Alternatives 2B and 3, would cross Tongass National Forest lands classified as “Inventoried Roadless Areas” and would pass through old growth forest considered to be important habitat for wildlife. Roadless characteristics would be reduced, and old growth habitat and timber would be lost. The USFS has internal requirements particularly regarding OGRs across Tongass National Forest. Per the TLRMP, the USFS has assessed and is likely to rebalance areas of protected old growth habitat, depending on the effects of any given alternative. Affected IRAs would be permanently lost as potential future additions to the National Wilderness Preservation System.
- Construction activities within the proposed alternative alignments and at the ferry terminal sites would result in temporary impacts such as displacement of recreation occurring in the construction area, construction noise, ground disturbing activities, changes in the visual landscape and viewshed, increased air or boat traffic in the project vicinity, and localized disturbance of wildlife and habitat.
- Location-specific, temporary interruption or displacement of some commercial use and subsistence harvest could also occur. Potential effects would result from construction-related noise and potential restrictions on access to areas under construction. Location-specific and temporary residential use associated with construction work camps would comply with pertinent local, State, and federal regulations.

4.1.2 Alternative 1

Alternative 1, the No Action Alternative, would result in no change in land ownership and management or land and resource uses.

4.1.3 Alternative 1B

Alternative 1B, Enhanced Service with Existing AMHS Assets, would result in no change in land ownership and management or land and resource uses. Alternative 1B serves areas within the Haines Borough and the Municipality of Skagway Borough. The Haines Borough 2025 *Comprehensive Plan* (September 2012) nor the Skagway 2020 *Comprehensive Plan* (Skagway, 2009) identify local community preferences related to AMHS alternatives for improving access to the communities. Increased vehicle traffic in Haines and Skagway and on the highways out of these communities would result from improved Haines/Skagway ferry service. However, the existing highways can accommodate this traffic, and an increase in traffic would not present a land use conflict or result in management impacts. More frequent calls at the Skagway ferry terminal would be a continuation of a well-established, water-related transportation/industrial use within the area. More frequent calls at the Lutak Ferry Terminal would be a continuation of a well-established, water-related transportation/industrial use within the area. This alternative would not conflict with Haines Borough or Municipality of Skagway Borough land management goals.

The potential for increased ferry traffic associated with Alternative 1B to interfere with commercial fishing activities is limited by the seasonal and mobile nature of the fishing industry. Commercial fleets' fishing activities are currently adjusted to accommodate the ferry routes. The commercial fleet would adapt their fishing to take into account the new ferry frequency.

4.1.4 Alternative 2B

4.1.4.1 Effects on Land Ownership and Management

Approximate acreages needed for highway ROW for Alternative 2B are presented in Table 4-1. This alternative would result in a change from current land use to a transportation use. Road access would increase use of the areas nearby due to better access and increase the need for management and monitoring, but it would also facilitate access for these purposes by land managers and owners. Effects of this alternative on specific areas are discussed in the following sections. In addition, Sections 4.3 and 4.4 address issues specifically associated with OGR and IRAs on Tongass National Forest Lands.

Table 4-1: Approximate Land Ownership of Required Right-of-Way for Alternative 2B

	Ownership (acres)							Total Acres
	USFS	U.S. Coast Guard	State of Alaska	Mental Health Trust	Goldbelt	Skagway	Private	
2B East Lynn Canal Highway*	1,592	0	0	0	90	0	6	1,688

* 300-foot ROW on federal and State lands and 150-foot ROW on private and municipal lands.

Echo Cove and Berners Bay

Lands surrounding Echo Cove are designated by CBJ for Resource Development. The CBJ *Comprehensive Plan* and JCMP policies support improvement of marine and highway transportation systems in the Echo Cove/Berners Bay region. This alternative is compatible with these policies. The construction of a new highway through the Echo Cove area would be compatible with local land management plans.

Congress has designated a large portion of land surrounding Berners Bay as LUD II, and the USFS has designated the remainder of the land surrounding the bay as Semi-Remote Recreation, Old-Growth Forest, Modified Landscape, and Minerals (Overlay LUD) LUDs (see Section 3.1.2.1 for explanations of USFS LUDs). All of these LUDs have Section 4407 easements running through them (recorded easements are shown in the TLRMP), and these would be managed as TSCs once a road was formally proposed. The LUD II Transportation Standards and Guidelines indicate that “roads...will not be built except to serve...transportation needs determined by the State of Alaska.” If a highway project were formally proposed, the TSC Standards and Guidelines would take precedence over the original LUDs’ Standards and Guidelines. For these reasons, Alternative 2B is compatible with federal land management plans in the area. Figure 3-2 shows the TLRMP LUDs in the project area.

Alternative 2B includes multispan bridges that cross the Antler and Lace rivers. USFS has designated the area as LUD II, which is managed to maintain the wildland characteristics of these congressionally designated unroaded areas. Bridges are allowed if managed, designed, located, and constructed according to Transportation Standards and Guidelines (see Attachments A and B). Tidelands and submerged lands are managed to provide a dispersed recreation experience, wildlife habitat, and harvest opportunities by ADNR. The bridges would be compatible with USFS and ADNR land management plans.

Better access and through-traffic would facilitate development opportunities, including transportation-related activities, recreation and tourism, and residential development for Goldbelt’s Echo Cove lands.

Kensington Gold Project Area

Road access to the Kensington, Jualin, or other mines would facilitate mine development and is compatible with future plans of Coeur Alaska to operate their mine until 2021 or longer. To the extent that these mines are allowed and encouraged by the USFS, the highway would be compatible with proposed USFS management and beneficial to the private owners.

Kensington Mine Area North to Katzehin River

The USFS manages land from the Kensington Mine area to the Katzehin River, currently designated as Semi-Remote Recreation, Modified Landscape, Minerals, and OG Habitat LUDs. Transportation facilities are allowed in these LUDs if managed, designed, located, and constructed according to Transportation Standards and Guidelines (see Attachments A and B). Unlike the upper 10 miles of the Katzehin River, the lower 2-mile segment of the Katzehin River is not managed at the highest and most protective level (eligible for designation as a Wild or Scenic river). An easement granted under Section 4407 of SAFETEA-LU, as amended by the

FAST Act, crosses the lower part of the river and would be subject to TSC Standards and Guidelines. Because the proposed highway corridor would not cross the portion of the Katzeihin River currently recommended for a Wild designation, it would be compatible with USFS LUDs.

Alternative 2B includes a multispan bridge over the Katzeihin River and a ferry terminal north of the Katzeihin River, both on USFS lands. The USFS has designated the area surrounding the lower Katzeihin River as Semi-Remote Recreation LUD, which is managed to provide for recreation and tourism in natural-appearing settings where opportunities for solitude and self-reliance are moderate to high. Although this LUD is designated for recreation and tourism use and activities, non-recreation structures and transportation operations are allowed in this LUD if managed, designed, located, and constructed according to Facilities and Transportation Standards and Guidelines (see Attachments A and B for LUD-specific and Forest-wide Standards and Guidelines). The proposed bridge would not cross the portion of the Katzeihin River currently recommended for a Wild River designation. Tidelands and submerged lands south and north of the mouth of the Katzeihin River and adjacent to the proposed terminal are designated as a wildlife habitat and harvest area by ADNR and are managed to protect sensitive wildlife habitats and areas important to fisheries. Development authorization can be granted by ADNR for ferry terminal construction and use in this area as long as fisheries and wildlife resources, among other resources, are protected. A bridge over the Katzeihin River and ferry terminal north of the Katzeihin River would be compatible with USFS and ADNR land management plans.

Katzeihin River North to Skagway

Under Alternative 2B, the Katzeihin River and Skagway areas would be connected by shuttle ferries. USFS land from Katzeihin River to Skagway is currently designated as Semi-Remote Recreation LUD. As previously discussed, non-recreation structures and transportation operations are allowed in this LUD if managed, designed, located, and constructed according to Transportation Standards and Guidelines (see Attachments A and B). Portions of the area from the Katzeihin River to Skagway are within the Haines Borough and the Municipality of Skagway Borough. Neither the Haines Borough *2025 Comprehensive Plan* (September 2012) nor the Skagway *2020 Comprehensive Plan* (Skagway, 2009) preclude a highway link with Juneau, but they do identify local community preferences related to highway and AMHS alternatives for improving access to the communities. Goal 6.4 of the Skagway *2020 Comprehensive Plan* is “Support the AMHS and private ferry service (for public use) to and from Skagway. Support regular day boat ferry service in Lynn Canal and continue to improve AMHS ferry service and scheduling.”

Increased vehicle traffic in Haines and Skagway, especially on the roads leading to the ferry terminals and on the highways out of these communities, would result from Alternative 2B and the Haines/Skagway ferry service. However, the existing highways can accommodate this traffic, and an increase in traffic would not present a land use conflict or result in management impacts. More frequent calls at the Skagway ferry facilities would be a continuation of a well-established, water-related transportation/industrial use within the area. Construction of Alternative 2B would not represent a conflict with Skagway’s *2020 Comprehensive Plan* (Skagway, 2009).

Katzehin River to Haines

Under Alternative 2B, the Katzehin and Haines areas would be connected by shuttle ferries. USFS land near the Katzehin River is currently designated as Semi-Remote Recreation LUD. The Haines ferry terminal area is not part of the Tongass National Forest and, therefore, has no USFS LUD. The Katzehin area lies within the Haines Borough and is managed through the Haines Borough *2025 Comprehensive Plan* (September 2012). The Haines Borough *2025 Comprehensive Plan* discusses long-range transportation planning for Southeast Alaska and the importance of the State pursuing consistent and daily AMHS service. The plan expresses opposition to a highway on the east side, reaffirming preference for improved AMHS in the Lynn Canal or a highway on the west side of Lynn Canal; however, at the same time, the plan emphasizes how vital the outside link provided by the Haines Highway is to the economy of Haines. Increased traffic on Lutak Road would result from more frequent ferry service from the Katzehin Ferry Terminal under Alternative 2B and from the Haines/Skagway shuttle ferry under this alternative, but the existing highway can accommodate this traffic, and an increase in traffic would present no land use conflict. More frequent calls at the Lutak Ferry Terminal would be a continuation of a well-established, water-related transportation/industrial use within the area. This alternative would not conflict with Haines Borough land management goals.

State-Owned Transportation Easements and Forest Plan Consistency

The State of Alaska believes that use of the State transportation easements granted by Congress under Section 4407 of SAFETEA-LU, as amended by the FAST Act, and located on the east side of Lynn Canal, would not require further evaluation for consistency with the TLRMP. If for some reason DOT&PF could not use all or a portion of this easement or the alignment was forced outside this easement, DOT&PF and FHWA would secure a transportation easement across Tongass National Forest through a federal land transfer process authorized by 23 USC 317. This process would require the USFS to undertake a consistency review, which likely would be based in large part on the JAI Project SEIS. See Section 3.1.3.1 for detail on these easements.

4.1.4.2 Effects on Land and Resource Uses

The following section addresses the effects of Alternative 2B on land and resource uses, as appropriate, for each of the geographic sections following the proposed East Lynn Canal Highway route from south to north.

Timber Removal

Under Alternative 2B, timber removal would occur in the highway ROW. Assuming a 100-foot-wide strip of trees would be cleared within the ROW, approximately 872 acres of timber would be cleared under Alternative 2B from land currently owned or managed by USFS, private landholders, Goldbelt, and DOT&PF. No Skagway lands would be impacted under Alternative 2B. The USFS currently has no plans to harvest timber on East Lynn Canal. Pending approval of Alternative 2B, however, the USFS would harvest and sell timber as allowed in the Juneau Access Settlement (Sandhofer, personal communication 2012).

Mineral Exploration and Development

Alternative 2B would impact an estimated 71 federal mining claim areas, including 41 in the Comet area and 30 in the Slate Cove area. Thirty State mining claims and 668 federal mining

claims are within a 3-mile distance of the proposed ROW. These claims are described in the 2006 FEIS.

Mineral Occurrences and Prospects

The presence of a mineral occurrence or prospect does not in itself give a landowner any surface or subsurface rights to extract minerals. One must locate (stake) a mining claim in order to obtain rights to mine the subsurface estate. However, even without a valid mining claim, a landowner may assert that the presence of a mineral occurrence or prospect contributes to property value. In addition, a landowner could raise objections to a particular route if it appears to preclude future mineral exploration or development.

Mineral Claims

In general terms, a mineral claim gives the claim holder subsurface rights, or the right to mine the minerals (subsurface estate) therein. A project (such as a road or ferry terminal) that crosses over a mining claim could take away the right to mine the subsurface estate if the surface activities prevent or prohibit mineral extraction. If this occurs, the claim holder is due compensation for the loss. Accordingly, it is important to note where valid claims occur along the JAI routes.

If a road or ferry terminal will cross a mineral claim, the claim holder's right to extract the minerals may be negatively affected. Potential loss of the ability to mine must almost always be assessed on State claims, because there is no distinction between types of mineral deposits. Federal claims make a distinction between lode claims, which are generally mined from underground, and placer claims, which are generally mined from the surface. Depending upon the geology of the mineral deposit and the surface configuration of the highway or ferry terminal, the claimant possessing a lode claim that can be mined from underground may not experience a loss in the ability to extract minerals (and thus is not due compensation). By contrast, a road constructed on top of a placer claim would almost certainly prevent mineral extraction, unless mining occurred before, or simultaneously with, construction of the access improvement.

Mineral Patents

When a claim holder receives patent to mineral claims, the land becomes private property. The mineral patent holder has rights to the surface and subsurface estate. If a JAI alternative crosses patented mineral claims, the patent owner's rights must be respected as with any other private land owner. Compensation would be mandatory for any valid surface and subsurface losses.

Commercial Fishing

The potential for the new ferry routes associated with Alternative 2B to interfere with commercial fishing activities is limited by the seasonal and mobile nature of the fishing industry. Commercial fleets' fishing activities are currently adjusted to accommodate the ferry routes. The ferries would establish routes, and the commercial fleet would adapt their fishing to take into account the new ferry routes. Overall, the new ferry routes would affect commercial fishing in a small area for a short period of time.

Subsistence

Alternative 2B would not impact subsistence hunting on Sullivan, Lincoln, Shelter, Chichagof, or Admiralty islands, the lands adjacent to Taiya Inlet, and the south shore of James Bay. It would not impact subsistence fishing in Taiya Inlet or subsistence hunting of marine mammals anywhere in Lynn Canal.

Haines and Skagway residents use the Katzeihin River area for subsistence harvest of marine invertebrates and marine mammals. Alternative 2B, combined with USFS plans for potential public access locations along the highway, would increase access to areas for subsistence harvest activities that previously were accessible only by boat or aircraft. This access could increase competition for subsistence resources from recreational hunting and fishing. These changes to subsistence opportunities would be viewed as beneficial for some subsistence harvesters, but for others the increased competition for resources would be negative.

Juneau is not recognized as a subsistence community under the Alaska National Interest Lands Conservation Act (ANILCA). However, some residents of Juneau use Berners Bay and Lynn Canal for personal use harvests of fish and shellfish.

Based on the 1998 USFS subsistence study, the 1994 ADF&G analysis of subsistence impacts, 2003 scoping comments for the Supplemental Draft EIS, Supplemental Draft EIS hearing and written comments, and an analysis of these sources of information, FHWA determined in the 2006 FEIS that Alternative 2B would not significantly restrict subsistence uses.

Residential, Commercial, Industrial, and Public Land Use

This section discusses potential impacts on residential, commercial, industrial, and public land uses from Alternative 2B. There will likely be more seasonal and year-round residents or increased use of private lands within the project area as a result of improved access. Private property values would likely increase with improved access. Currently, the remote areas between communities receive relatively low levels of use.

New or improved highways and marine routes increase traffic through an area, which can increase demand for certain residential, public, commercial, and industrial resources. Increased traffic to and through public lands can be beneficial because it enables more people to use those lands, but it can be considered a negative impact if the increased traffic results in a disruption to or overuse of public lands. Increased traffic through land used for commercial and industrial development can improve business and/or conflict with industrial traffic.

A new highway generally opens land for use, and adjacent communities look to their plans and ordinances, such as the comprehensive plan and zoning regulations, for guidance on what types of land use are appropriate in a newly accessible area. Improved access generally raises the value of nearby land. On the east side of Lynn Canal, the federal government owns most of the lands affected by Alternative 2B. Federal management guidelines, along with CBJ and Haines Borough land use regulations, will largely determine the extent to which residential, commercial, industrial, and public land uses are allowed or encouraged in this area.

Recreation, Sport Fishing, and Hunting

This section discusses potential impacts on recreation, sport fishing, and hunting from Alternative 2B. General impacts due to operations of any of the alternatives would include varying degrees of enhanced access for sport fishing and hunting and improved opportunities for recreational activities such as hiking, camping, sightseeing, rafting, canoeing, kayaking, and, where allowed, touring in off-road vehicles. Such opportunities could provide benefits for residents and visitors and spread out recreation, sport fishing, and hunting activities that currently occur along the existing road systems in Juneau, Haines, and Skagway. However, improved access to previously remote, undeveloped lands could diminish the recreational experience for wilderness tour operators, flight-seeing tourists, and recreationists who previously sought or depended on wildland characteristics. This may result in some activities being displaced to other areas that are removed from the development corridor.

The immediate impacts to existing recreation facilities in the communities of Juneau, Haines, and Skagway due to improved access would be an increase in the number of visitors during summer months and an increase in the use of recreation facilities and resources. The DOT&PF and the USFS have identified recreation opportunities at sites along the East Lynn Canal Highway, including converting the cabin at Berners Bay to a road-accessible cabin and creating highway pullouts near Antler and Lace Rivers, Slate Cove, Comet, Brown Point, Eldred Rock, Yeldagalga Creek, and south and north of the Katzehin River. DOT&PF would create the pullouts, which would provide suitable areas for construction of trailheads by others to occur. In addition, paved shoulders suitable for bicyclist and pedestrian use will be constructed along the highway.

The USFS has concurred with FHWA that the Berners Bay cabin is a specific recreational site on USFS land within the project study area, though Alternative 2B would not take land from this recreation site and therefore would not require use of land protected by Section 4(f) of the Department of Transportation Act. The USFS determined that a handicap-accessible cabin on the Juneau road system would be a desirable development and requested that DOT&PF design the alignment of applicable alternatives such that a handicap-accessible trail could be constructed from the highway to the cabin. In its April 2006 ROD for the JAI Project identifying Alternative 2B as the selected alternative, the FHWA stated:

The highway will be located as far from the USFS cabin in Berners Bay as the topography allows, but no less than 100 feet from mapped use areas. A handicap-accessible trail will be constructed from the highway parking area to the cabin.

DOT&PF and FHWA still intend to provide a trail from the highway to the cabin. However, since the ROD was issued, the alignment of Alternative 2B has been shifted farther east and uphill from the cabin. The nearest point of disturbance (the toe of the highway fill slope) now would be more than 400 feet from discernible use areas (e.g., trails, outbuildings, cleared areas) at the cabin. The centerline of the alignment is approximately 1,000 feet east of the cabin at an elevation approximately 500 feet above the cabin, making construction of a handicap-accessible trail from the highway to the cabin impractical.

DOT&PF and FHWA also agreed to provide a new water-accessed cabin as a general mitigation for impacts to Berners Bay users desiring a remote, water-access experience (DOT&PF, 2005). Improved access to the existing Berners Bay cabin would be desirable to many recreationists. Building the second cabin to assure water-access values are sustained would maintain more remote recreation values. DOT&PF would construct the new remote-access cabin for the USFS at a location selected by the USFS.

Opening up recreation opportunities of the coastline along the east side of Lynn Canal would be perceived as a negative impact to the quality of the experience by those who enjoy the existing remote nature of the region, including some outfitters who currently provide wilderness trips there. Current users of Berners Bay who travel there by kayak, canoe, small boat, or float plane would find the experience there different.

Access from the East Lynn Canal Highway would result in more nonresident visitors arriving in Juneau, Haines, or Skagway by personal vehicle. The numbers of overall visitors to Juneau would increase because the highway would offer a previously untapped visitor population a more independent, flexible, and economic access option. The forecasted increased percentage of nonresident visitors to Skagway and Haines is less than that predicted for Juneau. This is because Skagway and Haines are already on the road system. In contrast to Juneau, a new access mode and traveler market is not being created.

Increased demand for harbor slips could be generated by charter operators vying for the opportunity to serve the expanded visitor market, and by Alaskans from the interior who would be able to drive to Juneau with Alternative 2B. This demand for harbor slips could create pressure to expand the existing boat harbors and create new ones. Observations from similar access projects (when road connections were improved between Anchorage and Valdez and between Anchorage and Seward) showed that demand for recreational boat harbor slips increased dramatically.

An increase in visitors could stimulate the demand for more RV parks in the three main Lynn Canal cities. Currently, some visitors leave their RVs in Skagway or Haines rather than paying to bring them to Juneau on the ferry. Access from the East Lynn Canal Highway under Alternative 2B would increase the number of RVs arriving in Juneau, thereby increasing demand for RV camping space, dump stations, and related infrastructure. Juneau has six RV camping areas: two private and four on public land. Although there is little excess capacity, these facilities could accommodate more campers (Juneau Visitors and Convention Bureau, 2012).

Skagway currently has three private RV parks and one public facility (Skagway Convention and Visitors Bureau 2012) all of which are near capacity. Capacity may increase as more people choose to drive to Juneau rather than leave their RV in Skagway.

There are four private RV parks and two State parks that have RV facilities in and near Haines. These sites are busy during the summer. However, except for the annual Southeast Alaska State Fair and the annual Kluane to Chilkat Bike Relay weeks in June and July, these facilities have additional capacity available (Haines Convention and Visitors Bureau, personal communication 2012b).

Alternative 2B would not create any major conflicts with sport fishing in the area. Anglers who prefer a wilderness experience will find fishing areas away from the road system, while other anglers will take advantage of the increased access to freshwater streams and marine shorelines. Sport fishing charter operators would continue to serve tourists, and Alternative 2B could facilitate increased operations for fishing charters due to increases in the number of visitors.

Generally the construction of highways in previously inaccessible areas leads to increased human access and, in turn, increased hunting and trapping pressure on local wildlife populations. Alternative 2B could facilitate the hunting of mountain goats, black bear, and brown bear. Trappers, hunters, and fishermen could benefit from the improved access. Sport-hunting impacts to moose would likely be minimal because the moose harvest in the Berners Bay area is already strictly regulated. Sport fisherman, hunters and trappers could experience increased competition and pressure on some fish and wildlife resources. As a result of the increased access, ADF&G would consider management actions to ensure sustainable harvests. Possible management actions could include shortening of seasons, reduction in bag limits, the use of drawing permits, and more active monitoring and enforcement duties by State and federal agencies (ADF&G, 2012f).

As presented above, the DOT&PF and the USFS have identified recreation opportunities at sites along the East Lynn Canal Highway including converting the existing cabin at Berners Bay to a road-accessible cabin, constructing a new remote access cabin in Berners Bay, and creating highway pullouts near Antler and Lace Rivers, Slate Cove, Comet, Brown Point, Eldred Rock, Yeldagalga Creek, and south and north of Katzehin River. DOT&PF would create the pullouts, which would provide suitable areas for construction of trailheads to occur by others. In addition, paved shoulders suitable for bicyclist and pedestrian use will be constructed along the highway.

4.1.5 Alternative 3

4.1.5.1 Effects on Land Ownership and Management

Current ownership of the land that would be required for the highway ROW and new ferry terminal facilities for Alternative 3 is presented in Table 4-2. The entire West Lynn Canal Highway corridor and William Henry Bay Ferry Terminal are within the Haines Borough general use zoning district until the highway reaches Mud Bay (Haines Borough, 2008). Impacts specific to geographic areas from south to north along Alternative 3, the West Lynn Canal Highway route, are discussed in the following paragraphs. In addition, Sections 4.3 and 4.4 address issues specifically associated with OGR and IRAs on Tongass National Forest Lands.

Table 4-2: Land Ownership of Needed Right-of-Way for Alternative 3

USFS	Ownership (acres)					Total (acres)*
	State of Alaska	Alaska Native Allotment	Goldbelt	University of Alaska	Private	
960	281	11	90	34	44	1,419

Note: 300-foot ROW on federal and State lands and 150-foot ROW on private and municipal lands.

*Due to rounding, numbers may add up to more than the total shown.

Echo Cove to Sawmill Cove

Under Alternative 3 (see Figure 3-2), an access road would be upgraded from the current northern terminus of Glacier Highway to Cascade point and extended from there to Sawmill Cove in Berners Bay where an AMHS ferry terminal site would be located. Aside from the taking of or an easement across land for ROW and temporary disruption during construction activities, no impacts on land ownership and management from construction and operation of this access road are anticipated.

The USFS has designated the Sawmill Cove area as Semi-Remote Recreation LUD. As previously discussed, non-recreation structures and transportation operations are allowed if managed, designed, located, and constructed according to Facilities and Transportation Standards and Guidelines (see Attachments A and B). Additionally, the alignment for Alternative 3 is included in the TLRMP as a Proposed State Road Corridor; therefore, this alternative is consistent with the TLRMP. In the event that a highway is formally proposed on the Alternative 3 alignment, the highway corridor would be managed under TSC Standards and Guidelines.

State tidelands and submerged lands near the Sawmill Cove area are managed to provide a dispersed recreation experience, wildlife habitat, harvest opportunities, and waterfront development by ADNR. The CBJ *Comprehensive Plan* designates the shorelands around the potential Sawmill Cove Ferry Terminal as Resource Development, with the potential to create a marine terminal that could serve mining, ferries, commercial watercraft, and tourist-related recreational use. The CBJ *Comprehensive Plan* and the CBJ codes that include enforceable coastal management policies support the improvement and expansion of marine and highway transportation systems in the Echo Cove/Berners Bay region. A ferry terminal at Sawmill Cove would be compatible with USFS, ADNR, and CBJ management plans.

William Henry Bay to Sullivan River

The area from William Henry Bay north to Sullivan River is owned and managed by the USFS. The USFS land in the area is currently designated as Modified Landscape, Semi-Remote Recreation, and Scenic Viewshed and includes a Proposed State Road Corridor. Structures and transportation operations are allowed in these LUDs if managed, designed, located, and constructed according to Transportation Standards and Guidelines (see Attachments A and B). With increased access, the USFS would need to evaluate resources required to meet increased management demands. The Endicott River lies mostly within the Endicott River Wilderness Area (a USFS designation), which serves to protect the river's remarkable values and free-flowing characteristics. The lower 2.5-mile segment of the river is outside of the Wilderness Area. The Alternative 3 West Lynn Canal Highway would not cross any part of the Endicott River Wilderness Area and therefore would not directly conflict with this LUD.

The State of Alaska owns land along the shore of William Henry Bay. ADNR manages State tidelands north and south of the ferry terminal site for shoreline use and wildlife habitat. Construction of a ferry terminal at William Henry Bay would be compatible with ADNR State land management plans.

Sullivan River North to Haines

In the Sullivan River area, the Alternative 3 highway alignment would cross one certified Native allotment: USS 12382—Certificate 50-2006-0064 from BLM to the Heirs, Devisees and/or Assigns of Austin P. Hammond within Sections 10 and 15. This deed is the homestead of the allottee and his heirs in perpetuity. This is a restricted allotment. Allotment USS 12382 has been subdivided and sold as individual lots. If the JAI Project alternative that is ultimately chosen affects a Native allotment, the Central Council of Tlingit and Haida Indian Tribes of Alaska will work with the owner and the State on the appraisal, survey, and easement location. Improved access to the Native allotments would likely benefit the private owners by increasing property accessibility and value.

Two other certified Native allotments (USS 2162, USS 1884) are located away from the highway on the seaward side, and also a private parcel USS 801—Homestead Claim of W.H. Marrett. These parcels would not be directly impacted. The improved access to the Native allotment may benefit the private owners by increasing property accessibility and value.

Tongass National Forest land north of the Sullivan River is designated as Modified Landscape and Old-growth Habitat and includes a Proposed State Road Corridor. Transportation facilities are allowed in these LUDs if managed, designed, located, and constructed according to Transportation Standards and Guidelines (see Attachments A and B). At the Sullivan Mountain area, the Tongass National Forest gives way to the Haines State Forest. The majority of land between Sullivan Mountain and Pyramid Harbor is owned by the State and managed by the ADNR under the Haines State Forest Management Plan (ADNR, 2002b).

The University of Alaska owns lands near Glacier Point and Pyramid Harbor. Three of these parcels would be crossed by the Alternative 3 highway alignment. A highway would likely increase the value of university lands. The university has no restrictions in place for land use in these parcels, other than the general direction that the land is to be used to generate revenue for the university or for educational purposes.

The AMHT owns a small parcel south of the Davidson Glacier near the coast. Mental Health Trust land is managed to maximize revenue for the trust. A highway near this land would likely increase its value and allow easier access to its natural resources. There are several private parcels at Glacier Point on the delta at the mouth of the Glacier River that contain small private cabins or sheds. One parcel is being used by a commercial guide business, which consists of guided canoe trips on the lake near Davidson Glacier (Chilkat Guides, 2012).

The highway would cross the Chilkat River/Inlet at Green Point just north of Pyramid Harbor and within the boundary of the Haines State Forest. This parcel at Green Point is patented to the State as a school selection. The area between Green Point, Pyramid Harbor, and Haines is Haines State Forest. The Haines State Forest Plan states that Haines State Forest lands are managed for their scenic and recreational values. Scenic values are high because the area is visible from the City of Haines, Mud Bay Road, and Chilkat State Park. Remote cabins and commercial timber harvest are prohibited; however, the State is in the process of re-evaluating potential timber sales within the Haines State Forest. Cut-and-fill activities related to highway construction could conflict with management for scenic values.

Pyramid Island, located in Chilkat Inlet, is managed under the NSEAP (ADNR, 2002a). The NSEAP area-wide land management policies that apply to Pyramid Island include the following resource categories: Cultural Resources; Shorelines, Stream Corridors, and Coastal Areas; and Public Access (ADNR, 2002a). The island is managed as Unit H-21, with LUDs of Public Recreation and Tourism-Undeveloped and Habitat, and the adjacent tidelands are managed as Unit HT-11, with LUDs of Habitat (ADNR, 2002a). These designations serve to protect the island's waterfowl and seabird habitat and compatible recreation uses. The NSEAP notes that recreational activities must avoid disturbance of seabirds and marine mammals and that introduced species, including predators and livestock, are not allowed on the island. The NSEAP also notes two prehistoric shell middens located in the surrounding area (ADNR, 2002a).

A Special Use Designation (SUD) (ADL 106859) applies to Pyramid Island uplands and adjacent tidelands, which requires that the lands be managed to maintain public use of the tidelands and limit or prohibit commercial and motor vehicle operations without a permit (ADNR, 2002a). This SUD works in combination with a similar SUD applied in the Haines State Forest Plan (ADNR, 2002b). ADL 106859 is limited to the general State lands, and because many of the recreational uses that concern to DNR occur on lands within the State Forest, the Haines State Forest Plan assigned another SUD to this area (ADNR, 2002b).

Alternative 3 would pass through three parcels in the NSEAP: LT02, H28, and HT11. Parcel LT02 is a large tract of intertidal and submerged land in William Henry Bay, designated as land for Shoreline Use and Habitat. HT11 is the intertidal area around Pyramid Island in Chilkat Inlet, designated as land for Transportation and Habitat use. H28 is a parcel of uplands north of William Henry Bay (SEIS Figure 3-2), designated for General use. None of these lands are designated for or function for recreation other than dispersed activities. With regards to the land use policies mentioned above, the proposed bridge crossing of Chilkat Inlet under this alternative would not conflict with current management of Pyramid Island.

Haines

The Alternative 3 bridge-crossing to the Chilkat Peninsula would connect with the existing Mud Bay Road. This area is within Haines Borough but outside of the Mud Bay Land Use Service Area. This area is zoned General Use. Minor ROW or easement acquisition may be required at the bridge landfall on Chilkat Peninsula, representing takings and change in land ownership. Property owners would be compensated at fair market value. The existing Mud Bay Road is adequate to accommodate projected traffic and therefore no improvements are planned. All of the land from Chilkat River along Mud Bay Road to where it intersects Haines Highway is private, except for a narrow strip between the highway and the water, which belongs to the State.

Land management intent within the Haines Borough is expressed in the Haines Borough *2025 Comprehensive Plan* (2012), the HCMP (2005 and 2007), and the City of Haines Land Use Code (Title 18; Haines Borough, 2012d) for planning and zoning. The comprehensive plan discusses long-range transportation planning for Southeast Alaska and the importance for the State to pursue consistency and daily AMHS service. The plan considers new highway construction that might occur in the Lynn Canal area, and expresses opposition about a highway on the east side, preference for improved AMHS service in the Lynn Canal, and preference for an highway on the

west side of Lynn Canal (Alternative 3), should a highway alternative be selected. At the same time, the plan emphasizes how vital the link provided by the Haines Highway to the outside is to the economy of Haines.

Traffic is likely to increase on Lutak Road as a result of more frequent service from the Haines/Skagway shuttle ferry. However, the existing highway can accommodate this traffic, and an increase in traffic would present no land management conflict. Expanded use of the Lutak Ferry Terminal would be a continuation of a well-established, water-related transportation/industrial use within the area. This would create no conflict with Haines Borough land management goals.

Alaska Chilkat Bald Eagle Preserve

Although the Alaska Chilkat Bald Eagle Preserve lies outside of the immediate project area, the proposed highway may affect the preserve. The State manages the preserve with the intent to allow visitor access to the preserve and to eagle concentration areas without creating traffic hazards or significantly impacting the eagles. Contrary to this goal, safety problems currently occur along the Haines Highway when large numbers of vehicles stop during periods of high eagle concentrations, as viewing and parking areas along the highway corridor are inadequate. Increased visitation that could result from improved access could exacerbate this problem. Alternative 3 could affect the Lower Haines Highway Subunit and southern portion of Upper Haines Highway Subunit of the preserve. The Alaska Chilkat Bald Eagle Preserve Management Plan calls for coordination between the DOT&PF and the Division of Parks and Outdoor Recreation to address these common concerns (ADNR, 2002c).

State-Owned Transportation Easements and Forest Plan Consistency

The State of Alaska believes that use of the State transportation easements granted by Congress under Section 4407 of SAFETEA-LU, as amended by the FAST Act, and located on the east and west sides of Lynn Canal, would not require further evaluation for consistency with the TLRMP. If for some reason DOT&PF could not use all or a portion of these easements or the alignment was forced outside this easement, DOT&PF and FHWA would secure a transportation easement across Tongass National Forest through a federal land transfer process authorized by 23 USC 317. This process would require the USFS to undertake a consistency review, which likely would be based in large part on the JAI Project SEIS. See Section 3.1.3.1 for detail on these easements.

4.1.5.2 Effects on Land and Resource Uses

The following paragraphs discuss the effects of Alternative 3 on land and resource uses, along the proposed West Lynn Canal Highway route.

Timber Removal

The west side of Lynn Canal has a more complex pattern of land ownership and management than the east side. Approximately two-thirds of the Alternative 3 highway alignment occurs within the boundary of the Tongass National Forest, and one-third of the highway alignment is within the Haines State Forest. A number of private in-holdings, as well as specially designated State lands such as University of Alaska and Mental Health Trust lands, are within these

jurisdictions. The following discussion is organized by impacts to major landowners (federal, State, and private).

Federal Lands

The most direct impact from the construction of Alternative 3 would be the removal and sale of the timber cleared from the highway ROW. The USFS has specific procedures for such sales and would undertake such a sale prior to construction. Assuming a 100-foot wide cut, it is estimated that 365 acres of timber would be removed from the approximately 30-mile highway ROW crossing federal lands (including 2.1 miles of new highway alignment on federal lands on the east side of Lynn Canal in the approach to a Sawmill Cove Ferry Terminal). There is other mileage within the existing ROW that passes through public lands, but does not expand the ROW. Timber removed to widen the road in this existing ROW would not be timber removed from federal lands. Timber removal from the Alternative 3 ROW could yield approximately 9 million board feet (MMBF) based on an average of 27,000 board feet per acre for the west side of Lynn Canal.

Tongass National Forest lands on the west side of Lynn Canal that are available for commercial timber harvesting include lands designated as Scenic Viewshed and Modified Landscape along William Henry Bay and on the mainland west of Sullivan Island. The USFS currently has no plans to harvest timber in West Lynn Canal. However, pending approval of Alternative 3, the Juneau Access Settlement would be terminated and another settlement would be developed, allowing the USFS to sell the harvested timber (Sandhofer, personal communication 2012). If future timber sales occur, the presence of highway access in the area would decrease the operating expenses and provide a beneficial impact on commercial timber uses.

State Lands

Haines State Forest – The construction of a highway along West Lynn Canal under Alternative 3 would impact State lands through the sale of the timber in approximately 15 miles of ROW across the Haines State Forest. The affected area of removal would be approximately 120 acres if a 100-foot-wide area were cleared for highway construction. The timber removed could total 2.4 MMBF, based on an average of 20,000 board feet per acre for State Forest lands.

The impact on timber removal from improved access to potential timberlands would be limited under current State management plans and policies. An annual allowable harvest of 5.88 MMBF of timber would allow the forest to be commercially productive for the next 120 years. This annual allowable harvest is not a static figure and could change if noncommercial forest lands within the forest become commercial. In 2009, the Division of Forestry requested funding for an inventory update for the Haines State Forest. The 2011 update of the division's strategic plan reports that the inventory was funded in 2011, is in progress in 2012, and is expected to be complete in June 2013. When this inventory is completed, the annual allowable harvest will be updated (ADNR, 2011b).

Although improved access would decrease the cost of removing and transporting timber from State lands adjacent to the Alternative 3 highway, it is unlikely that the presence of the highway would cause management policies and plans to be changed to allow commercial timber harvest. A limited amount of personal use timber harvest could likely occur if highway access were provided in this area.

University Lands – The proposed ROW for Alternative 3 would cross approximately 2.5 miles of University of Alaska lands at Glacier Point and Pyramid Harbor. Portions of these areas have been harvested in the last few decades, but there is also mature timber in the highway ROW, which would be removed if a highway were built. Approximately 45 acres of ROW could be cleared, but the amount of commercial timber present in the affected area is unknown. The University of Alaska manages its lands to maximize revenues and could sell its commercial timber. Improved access to these lands could increase the net value of the timber by decreasing harvest operation and transportation costs, thereby providing a beneficial impact. Improved access may increase the relative value of these lands for other uses, such as remote subdivisions and recreation and tourism facilities.

The presence of a highway near Pyramid Harbor is unlikely to affect the prospects for commercial timber harvest in the Kicking Horse area, where a large block of University land is present. The 2002 Haines State Forest Plan’s Management Guidelines for the Takhin/Kicking Horse Unit (Unit 5) states that commercial timber harvesting is not allowed within this area (ADNR 2002b). The University currently has a timber management plan for these parcels (Kelly 2012).

Mental Health Trust Lands – Alternative 3 would have negligible impacts on Mental Health Trust lands. There is a small parcel of Mental Health Trust land near Glacier Point east of the Alternative 3 highway alignment. The trust has no specific timber harvest plans for this parcel, but its land holdings are generally managed for economic returns.

Private Lands

The various private landowners along the West Lynn Canal Highway alignment would receive proceeds from the sale of timber removed within approximately 3 miles of ROW across private lands. In addition, the improved access to their property would likely decrease the cost of transport, thus increasing the net value of any future commercial timber harvest from those private lands. Timber has been harvested previously from much of the private lands at Glacier Point and from some of the other private property that would potentially be affected by Alternative 3.

Mineral Exploration and Development

Mining claim information is shown on Figure 3-2 of the 2006 FEIS. No active mining claims are affected by Alternative 3. Alternative 3 would cross the Endicott River fan, an unnamed outwash, and the Davidson Glacier outwash, which contain sand and gravel resources that could be mined for highway construction and maintenance according to mineral investigations in the Juneau Mining District (USDOJ Bureau of Mines, 1989).

Commercial Fishing

The potential for the new ferry route associated with Alternative 3 to interfere with commercial fishing activities is limited by the seasonal and mobile nature of the fishing industry. The commercial fleets’ fishing activities are currently adjusted to the ferry routes. The Sawmill Cove/William Henry Bay ferry would establish a route, and the commercial fleet would adapt

their fishing to take it into account. The new ferry route would affect commercial fishing in a small area for a short period of time.

Subsistence

Alternative 3 would not impact subsistence hunting on Sullivan, Lincoln, Shelter, Chichagof, or Admiralty islands, the lands adjacent to Taiya Inlet, and the south shore of St. James Bay. It would not impact subsistence fishing in Taiya Inlet or subsistence hunting of marine mammals in Lynn Canal.

Alternative 3 would have no direct effects on subsistence uses. Improved access to subsistence use areas along the Alternative 3 alignment in the Sullivan River area could indirectly affect the intensity of subsistence harvest and the availability of resources. Alternative 3, together with USFS plans for potential public access locations along the highway, would make Lynn Canal more accessible for other hunters. Alternative 3 could increase competition for subsistence resources from recreational hunting and fishing. These changes to subsistence opportunities would be viewed as beneficial for some subsistence harvesters, but others would perceive the increased competition for resources as a negative impact.

Areas currently known for subsistence land use in the West Lynn Canal corridor include the following:

- Endicott River for moose harvesting by Haines residents
- Sullivan Island for deer harvesting by Klukwan and Haines residents
- Nearshore waters of western Chilkat Inlet and western coves of Sullivan Island for marine invertebrate and nonsalmon finfish harvesting by Klukwan and Haines residents
- William Henry Bay for coho and halibut fishing by Klukwan residents

Some subsistence resource use would be temporarily displaced in William Henry Bay due to the movement of the ferry through areas used for harvesting crabs with pot gear. However, as with the commercial fleet, subsistence users would adapt their activities to accommodate the ferry route.

Based on the 1998 USFS subsistence study, the 1994 ADF&G analysis of subsistence impacts, the 2003 scoping comments for the Supplemental Draft EIS, the Supplemental Draft EIS hearing and written comments, and an analysis of these sources of information, FHWA determined in the 2006 FEIS that Alternative 3 would not significantly restrict subsistence uses.

Impacts to Residential, Commercial, Industrial, and Public Land Use

This section discusses potential impacts on residential, commercial, industrial, and public land uses from Alternative 3. Improved access will likely result in more seasonal and year-round residents or increased use of private lands within the project area. Private property values would likely increase with improved access. Currently, the west side of Lynn Canal receives relatively low levels of use.

New or improved highways and marine routes increase traffic through an area, which can increase demand for certain residential, public, commercial, and industrial resources. Increased

traffic to and through public lands can be beneficial because it enables more people to use public lands. Increased traffic can also be considered a negative impact if it results in a disruption to or overuse of public lands. Increased traffic through land used for commercial and industrial development can improve business and/or conflict with industrial traffic.

A new highway generally opens land for use, and adjacent communities look to their plans and ordinances, such as the comprehensive plan and zoning regulations, for guidance on what types of land use are appropriate in a newly accessible area. Improved access generally raises the value of nearby land. The west side of Lynn Canal is primarily undeveloped federal and State land with some privately owned lots and recreational cabins.

Federal management guidelines along with CBJ, Haines Borough, and State land use regulations will largely determine the extent to which residential, commercial, industrial, and public land uses are allowed or encouraged along the Alternative 3 route.

Recreation, Sport Fishing, and Hunting

General construction impacts of Alternative 3 are discussed in Section 4.1.1. This section discusses the potential impacts on recreation, sport fishing, and hunting from Alternative 3. General impacts due to operations of any of the alternatives would include varying degrees of enhanced access for sport fishing and hunting and improved opportunities for recreational activities such as hiking, camping, sightseeing, rafting, canoeing, kayaking, and where allowed, touring in off-road vehicles. Such opportunities could provide benefits for residents and visitors and spread out the recreation, sport fishing, and hunting activities that currently occur along the existing road systems in Juneau, Haines, and Skagway. However, improved access to previously remote, undeveloped lands could diminish the recreational experience for wilderness tour operators, flight-seeing tourists, and recreationists who previously sought or depended on wildland characteristics. This could cause some activities to be displaced to other areas that are removed from the development corridor.

The immediate impacts to existing recreation facilities in the communities of Juneau and Haines due to improved access would be an increase in the number of visitors during summer months and an increase in the use of recreation facilities and resources. The USFS and DOT&PF have identified seven recreation opportunities along the West Lynn Canal Highway alignment. The joint development plans include trailheads, pullouts, or overlooks at the William Henry Bay Ferry Terminal, Lance Point, the Endicott River, north of the Cant geodetic marker near the Sullivan River, and near the Gen and Deep geodetic markers. DOT&PF would construct the pullouts, which would provide suitable areas for construction to occur by the USFS. The USFS has indicated it may develop trails at some of the pullouts in the future. In addition, the highway would include paved shoulders for bicyclist and pedestrian use.

A West Lynn Canal Highway alternative would result in more nonresident visitors arriving in Juneau and Haines by personal vehicle, but is not expected to impact the number of cruise ship visitors to southeast Alaska ports. The numbers of overall visitors would increase because a highway would offer a more independent, flexible, and economic access option to a previously untapped visitor population.

Increased demand for harbor slips could be generated by charter operators vying for the opportunity to serve the expanded visitor market, and by Alaskans from the interior who would be able to drive to Juneau with Alternative 3. This demand for harbor slips could create pressure to expand the existing boat harbors and create new ones. Observations from similar access projects (when road connections were improved between Anchorage and Valdez and between Anchorage and Seward) showed that demand for recreational boat harbor slips increased dramatically.

An increase in visitors could stimulate the demand for more RV parks, thereby increasing demand for RV camping space, dump stations, and related infrastructure. Although there is little excess capacity, these facilities could accommodate more campers (Juneau Visitors and Convention Bureau, 2012). Skagway currently has three private RV parks and one public facility (Skagway Convention and Visitors Bureau, 2012), all of which are near capacity. There are four private RV parks and two State parks that have RV facilities in and near Haines. These sites are busy during the summer. Except for the Southeast Alaska State Fair and the Kluane to Chilkat Bike Relay weeks in June and July, these facilities have additional capacity available (Haines Convention and Visitors Bureau, personal communication 2012b).

Alternative 3 would not create any major conflicts with sport fishing in the area. Anglers who prefer a wilderness experience will find fishing areas away from the road system, while other anglers will take advantage of the increased access to freshwater streams and marine shorelines. Sport fishing charter operators would continue to serve tourists, and Alternative 3 could facilitate increased operations for fishing charters due to increases in the number of visitors.

The construction of highways in previously inaccessible areas, such as the Dalton Highway in the North Slope of Alaska, has shown that increased human access to such areas leads to increased hunting and trapping pressure on local wildlife populations. Both hunters and trappers could benefit from the improved access. Improved access would be expected to attract increased numbers of hunters and fishers.

Sport fisherman and hunters could experience increased competition and pressure on some fish and wildlife resources. As a result of the increased access, ADF&G would consider management actions to ensure sustainable harvests. Possible management actions could include shortening of seasons, reduction in bag limits, the use of drawing permits, and more active monitoring and enforcement by State and federal agencies (ADF&G, 2012f).

4.1.6 Alternatives 4A through 4D – Marine Options

4.1.6.1 Effects on Land Ownership and Management

General impacts from the construction of Alternatives 4A through 4D, the marine alternatives, are addressed in Section 4.1.1. The land impacts of these alternatives focus on ferry terminal facilities, including parking and circulation areas, plus any extension of road needed to gain access to the ferry terminals from existing roads. Impacts specific to ferry terminal locations are discussed in the following subsections. In addition, Sections 4.3 and 4.4 address issues specifically associated with OGR and IRAs on Tongass National Forest Lands.

Existing Auke Bay Ferry Terminal

The Auke Bay Ferry Terminal area is designated for Waterfront Commercial/Industrial development in the 2013 CBJ *Comprehensive Plan*, which incorporates the JCMP. The State owns adjacent property that could be impacted by construction of new berths. The Juneau State Land Plan (ADNR, 1993) notes that the land in the area is a transportation corridor and designates it for habitat, fish and wildlife harvest, and public facilities (specifically those that non-State public entities can acquire). Expansion of ferry facilities at Auke Bay would be an improvement to an existing, well-established, water-related transportation/industrial use within the area and compatible with plans for the area.

New Sawmill Cove Ferry Terminal and New Road to Sawmill Cove

Alternatives 4B and 4D would construct a road over USFS and Goldbelt lands and create a Sawmill Cove Ferry Terminal. The USFS has designated the area from the head of Echo Cove to Sawmill Cove as Semi-Remote Recreation LUD. Non-recreation structures and transportation operations are allowed in this LUD if they are managed, designed, located, and constructed according to Facilities and Transportation Standards and Guidelines (see Attachments A and B). Additionally, this LUD includes a TSC overlay for a Proposed State Road Corridor. At this time, the land is managed according to the Semi-Remote Recreation LUD. If a highway were formally proposed, the land within the highway corridor would be managed according the TSC. ADNR manages State tidelands and submerged lands near the Sawmill Cove area to provide a dispersed recreation experience, wildlife habitat, harvest opportunities, and waterfront development.

The CBJ *Comprehensive Plan* designates the lands around the proposed Sawmill Cove Ferry Terminal as Resource Development. Mineral extraction and commercial fishing are important local economic resources. To sustain the commercial fishing industry, maritime support businesses and facilities must have access to/be provided with docks, harbors, vessel, and gear repair facilities, marine gear sales and supply outlets, and seafood processing and shipping facilities. It also requires the protection of resources such as quality of headwaters, upland spawning and rearing habitats, associated watersheds and wetlands, and conveyance water bodies linking upland habitat to the sea (CBJ, 2013:137-138).

Coordination with State and federal agencies to promote resource development and permitting that is compatible with the policies in the CBJ *Comprehensive Plan* is noted in the guidance. The plan's map showing the Resource Development designation surrounding Echo Cove and continuing to Sawmill Cove also depicts the general location of a potential arterial roadway linking the southern end of Echo Cove to the southern end of Sawmill Cove. The CBJ *Comprehensive Plan* states that marine transportation is critical to their economy; thus, it promotes marine facilities for passenger and vehicle transportation in addition to freight transport, the commercial fishing industry, and recreation/tourism. The CBJ *Comprehensive Plan* and enforceable coastal management policies incorporated into CBJ codes account for the improvement and expansion of marine and highway transportation systems in the Echo Cove/Berners Bay region. A ferry terminal at Sawmill Cove would be compatible with USFS, ADNR, and CBJ management plans.

Existing Lutak Ferry Terminal

None of the marine alternatives (4A through 4D) or highway alternatives includes new construction at the Lutak Ferry Terminal in Haines, but they do incorporate elements of the No Action Alternative such as improved vehicle and passenger staging areas to optimize traffic flow, and modification of the Lutak Ferry Terminal to include a new double bow berth. The ferry terminal in Lutak Inlet has sufficient shoreside facilities to accommodate both the current mainline service and other ferry shuttles. However, further ferry facility or dock improvements may be needed to address the requirements of smaller shuttle ferries or new vessels entering the AMHS fleet in the future. The Haines Borough *2025 Comprehensive Plan* (September 2012) advocates daily day-boat service, use of the ACF for the Upper Lynn Canal (Alternatives 4C and 4D use Day Boats ACFs), and for AMHS to homeport or overnight a ferry in Haines. As noted in Chapter 3, the Enforceable Policies of the Haines CMP were incorporated into the *2025 Comprehensive Plan*.

Traffic would increase on Lutak Road as a result of more frequent ferry service. However, the existing highway can accommodate this traffic. No road expansion would be required, and increased traffic would present no land management conflict. Expanded use of the Lutak Ferry Terminal would be a continuation of a well-established, water-related transportation/industrial use within the area. Increased use of the dock might increase the value of adjacent properties.

Skagway Ferry Terminal

The Skagway *2020 Comprehensive Plan* (Skagway, 2009) supports the AMHS and private ferry service (for public use) to and from Skagway, regular day boat ferry service in Lynn Canal, and continued improvements of AMHS ferry service and scheduling. Alternatives 4C and 4D would expand the Skagway Ferry Terminal to provide a new bow berth.

More traffic would result from more frequent ferry service. However, the existing highway can accommodate this traffic, and increased traffic would present no land management conflict. Expanded use of the Skagway ferry facilities service would be a continuation of a well-established, water-related transportation/industrial use within the area.

4.1.6.2 Effects on Land and Resource Uses

Timber Harvest

None of the marine alternatives would have foreseeable impacts on the timber harvest in the Lynn Canal area. Alternatives 4B and 4D would result in a potential timber salvage operation along the 2.3 miles of ROW for the new highway to the Sawmill Cove Ferry Terminal site. This small segment of highway construction would entail timber harvest on approximately 30.3 acres and produce approximately 0.82 MMBF of salvaged timber, assuming 27,000 board feet per acre.

Commercial Fishing

The potential for the new ferry routes associated with Alternatives 4B and 4D to interfere with commercial fishing activities is limited by the seasonal and mobile nature of the fishing industry. The commercial fleets' fishing activities are currently adjusted to the ferry routes. The ferries

providing service from Berners Bay in the summer would establish a route, and the commercial fleet would adapt their fishing to take it into account. The new ferry routes would affect commercial fishing in a small area for a short period of time.

Subsistence

Alternatives 4A through 4D would not increase access to areas where subsistence harvests currently occur.

Residential, Commercial, Industrial, and Public Land Use

Alternatives 4A and 4C would not provide any new opportunities for residential, commercial, industrial, or public land use. Alternatives 4B and 4D could provide opportunities for commercial and industrial development in the Sawmill Cove Ferry Terminal area because the State and CBJ management plans allow for waterfront and recreation development.

Recreation, Sport Fishing, and Hunting

All marine alternatives include continuing mainline service to Juneau, Skagway, and Haines. Among the marine options, the Sawmill Cove alternatives (4B and 4D) are projected to result in more traffic than their Auke Bay-based counterparts (4A and 4C). The FVF alternatives (4A and 4B) are projected to result in more traffic than their monohull counterparts (4C and 4D). Alternative 4B is forecast to have the highest marine alternative trip generation with an initial average annual daily traffic of 264 vehicles and 436 vehicles daily during the summer in 2050 (Fehr & Peers, 2013). Continued or slightly increased traffic levels would result in a minimal change in recreation use surrounding Juneau, Haines, and Skagway.

Under Alternatives 4A and 4C, no new access to public or private lands and subsequent opportunities would occur. Recreation, sport fishing, and hunting surrounding these communities would remain relatively unchanged. The Sawmill Cove Ferry Terminal proposed under Alternatives 4B and 4D would result in improved access to CBJ, Goldbelt, and federal lands, which could result in increased recreation in the areas adjacent to the highway connection and ferry terminal. This increased access would be viewed as beneficial to those who gain highway access to recreation, sport fishing, and hunting opportunities. However, users looking for more remote and semiprimitive qualities would be forced to move further north, away from the ferry terminal, for their semiremote experience.

4.2 Consistency with Coastal Management Plans

The ACMP, in force since the approval of the Alaska Coastal Management Act in 1977, expired on July 1, 2011, as provided by AS 44.66.030. The ACMP was administered by the ADNR by districts throughout the state with the intent to preserve, protect, develop, use, and where necessary, restore or enhance the coastal resources of the state.

The Alaska Legislature adjourned on May 14, 2011, without passing legislation required to extend the ACMP. “Alaska Coastal Management Question,” or Ballot Measure 2, appeared on the August 28, 2012, ballot in Alaska as an “indirect initiated State statute.” The measure, which would have established a new coastal management program, was defeated.

However, because the ACMP was implemented by local government by developing and enforcing their own coastal management programs, provisions for resources addressed under the ACMP have been incorporated into local plans. In the JAI Project area, three districts administered these plans: City and Borough of Juneau, Haines Borough, and Municipality of Skagway Borough. The sections that follow provide an update of planning efforts in these areas. Federal lands are excluded from the coastal zone boundary; however, uses and activities on excluded federal lands that affect the coastal area must be consistent with the provisions of Section 307 of the Coastal Zone Management Act of 1972, as amended.

The State could determine that the JAI project would be considered “uses of State concern.” Federal coastal management laws specify that uses of State concern may not be arbitrarily or unreasonably restricted by districts. Specifically, the Federal Coastal Zone Management Act regulations (15 Code of Federal Regulations 932) direct State coastal programs to assure that district policies do not unreasonably restrict or exclude uses of regional benefit.

The Juneau, Haines, and Skagway Coastal Zone Management Plans were prepared in compliance with the expired ACMP. In Juneau’s case, the enforceable policies are now within the borough’s comprehensive plan. Official determination of consistency with CBJ’s coastal management policies would occur during the borough’s review of permit applications and authorizations required to construct roads, ferry terminals, or other improvements and modifications needed to implement the JAI Project. Haines Borough also incorporated several enforceable policies of their CMP within the recently adopted *Haines Borough 2025 Comprehensive Plan*. For example, the new Haines plan includes management policies on waterfront properties, fill below mean high water, tideland viewshed, floating facilities, maintenance of public access to coastal waters, protection of recreation and tourism values such as fishing, beach use, hiking area, and bird habitats; and underground utilities in scenic or recreation areas. The Municipality of Skagway Borough has not incorporated coastal management enforceable policies into its comprehensive plan, but some elements are codified in its zoning regulation and, according to Skagway officials, are enforced as much as possible during development review (Van Horn, personal communication 2013).

4.2.1 Alternative 1

The No Action Alternative, Alternative 1, would result in continued ferry service, and any ferry terminal improvements or modifications would require a review of consistency with the comprehensive plans in Juneau and Haines. Skagway is not requiring consistency with their plan’s policies because much of its language applies to the former State program; some elements, however, are codified in its zoning regulation and are enforced as much as possible during the development review process.

4.2.2 Alternative 1B

Alternative 1B, Enhanced Service with Existing Assets, would result in continued ferry service, and any ferry terminal improvements or modifications would require the comprehensive plans in Juneau and Haines. Skagway is not requiring consistency with their plan’s policies because much of its language applies to the former State program; however, some elements are codified in its zoning regulation and are enforced as much as possible during the development review process.

4.2.3 Alternative 2B

Alternative 2B would need to comply with the enforceable policies of the coastal management plans that have been incorporated in the Juneau and Haines borough plans and codes. Under this alternative, ferry service would be established between the Katzehin Ferry Terminal and Haines and Skagway. Construction of this alternative would need to address Juneau and Haines comprehensive plan policies that are based on their coastal management plans such as shoreline development, intertidal habitat alterations, water quality; and protection of coastal resources and uses. Skagway is not requiring consistency with their plan's policies because much of its language applies to the former State program; however, some elements are codified in its zoning regulation and are enforced as much as possible during the development review process.

4.2.4 Alternative 3

Alternative 3 ferry terminal construction at Sawmill Cove and William Henry Bay, shuttle ferry service between Sawmill Cove and William Henry Bay, and improvements or modifications to the ferry terminals in Haines and Skagway to accommodate modified ferry service between these communities would be required to comply with the enforceable policies of the coastal management plans that have been incorporated in the borough plans and codes of Juneau and Haines. Development of Alternative 3 would need to address Juneau and Haines comprehensive plan policies that are based on their coastal management plans such as shoreline development, intertidal habitat alterations, water quality; and protection of coastal resources and uses. Skagway is not requiring consistency with their plan's policies because much of its language applies to the former State program; however, some elements are codified in its zoning regulation and are enforced as much as possible during the development review process.

4.2.5 Alternatives 4A through 4D

Marine Alternatives 4A through 4D would necessitate construction of a new double-stern berth at Auke Bay. Ferry terminals at Haines and Skagway would also need modifications or improvements. Alternative 4A and 4C activities would need to address Juneau and Haines comprehensive plan policies that are based on their coastal management plans such as shoreline development, intertidal habitat alterations, water quality; and protection of coastal resources and uses. Skagway is not requiring consistency with their plan's policies because much of its language applies to the former State program; however, some elements are codified in its zoning regulation and are enforced as much as possible during the development review process.

Alternatives 4B and 4D would necessitate construction of a new double-stern berth at the Auke Bay Ferry Terminal, extension of the Glacier Highway from Echo Cove to Sawmill Cove, and construction of a ferry terminal at Sawmill Cove. During the winter, ferry service would run from Auke Bay to Haines and Skagway. Ferry terminals at Haines and Skagway would also require modifications or improvements to accommodate FVF or improved AMHS service. Alternative 4B would include activities in or travel through the Juneau, Skagway, and Haines former coastal districts and would need to address Juneau and Haines comprehensive plan policies that are based on their coastal management plans such as shoreline development, intertidal habitat alterations, water quality; and protection of coastal resources and uses. Skagway is not requiring consistency with their plan's policies because much of its language applies to the former State program; however, some elements are codified in its zoning regulation and are enforced as much as possible during the development review process.

4.3 USFS Old-Growth Reserves

4.3.1 Alternative 1

Alternative 1 (No Action) would not use land from any Non-Development LUD that serves as medium or large old-growth forest reserve and would not impact any mapped small old-growth forest habitat reserves (also known as OG Habitat LUDs).

4.3.2 Alternative 1B

Alternative 1B would not use land from any Non-Development LUD that serves as a medium or large old-growth forest reserve and would not impact any small old-growth forest habitat reserves.

4.3.3 Alternative 2B

Alternative 2B would pass through old-growth forested areas within lands designated as Non-Development LUDs that are presumed to function as medium and/or large OGRs. Alternative 2B would reduce the amount of old-growth forest habitat in all VCUs, as well as create a separation of some old-growth forest habitat areas into downslope and upslope areas. Alternative 2B would remove approximately 618 acres of forest habitat, of which approximately 412 acres would be old-growth forest. These 412 acres come from 103,501 acres of old-growth forest mapped along the east side of Lynn Canal¹¹.

As part of this overall effect, Alternative 2B would impact the following mapped OG Habitat LUDs that are reserves established under the OGR system: LUDs attributed to VCU 160 and VCU 200 in the area of Slate Cove and Point Saint Mary Peninsula, and a LUD within VCU 190 that runs from north of Comet to approximately Met Point (see Figure 3-2).

According to the interagency review team's report referenced in Section 3.1.2 (Brockmann et al., 2015), Alternative 2B would impact the following national forest OG Habitat LUDs:

- Old-Growth Habitat LUD #10 (VCU 160). Approximately 104 acres of the LUD (1,282 acres total size) would be transferred to TSC status and would result in this OGR not meeting the Forest Plan minimum total acre criteria. Within the 104 acres, construction would eliminate 40 acres of forest (i.e., approximately 64 acres of forest would remain standing within the highway ROW, but this forest would not be protected). Of 1,173 acres of productive old-growth forest in the LUD, 91 acres would be transferred to TSC status, and 31 acres actually would be eliminated/cleared. The road would divide the reserve and its old-growth habitat into inland and seaward portions, and the road would lie within the beach buffer at Berners River; the beach buffer is considered some of the most important habitat for wildlife because it provides corridors along the beach, winter habitat, and bald eagle nesting habitat.
- Old-Growth Habitat LUD #9 (VCU 190). Approximately 114 acres of the LUD (1,744 acres total size) would be transferred to TSC status and would result in this OGR not meeting the Forest Plan minimum total acre criteria. Within the 114 acres, construction would eliminate

¹¹ USFS, Tongass National Forest Geographical Information System data for "Cover Type," 2007.

46 acres of forest (i.e., approximately 68 acres of forest would remain standing within the highway ROW, but this forest would not be protected). Of 732 acres of productive old-growth forest in the LUD, 56 acres would be transferred to TSC status, and 23 acres would be eliminated/cleared. The road would divide the reserve and its old-growth habitat into inland and seaward portions, and the road would lie entirely within the beach buffer, which is considered some of the most important habitat for wildlife because it provides corridors along the beach, winter habitat, and bald eagle nesting habitat.

- Old-Growth Habitat LUD #11 (VCU 200). Approximately 63 acres of the LUD (3,312 acres total size) would be transferred to TSC status. The OG Habitat LUD would continue to meet Forest Plan minimum total acre criteria. Within the 63 acres, construction would eliminate 20 acres of forest (i.e., approximately 43 acres of forest would remain standing within the highway ROW, but this forest would not be protected). Of 1,450 acres of productive old-growth forest in the LUD, 17 acres would be transferred to TSC status, and 7 acres would be eliminated/cleared. The road would divide the reserve and its old-growth habitat into inland and seaward portions, and some of the road would lie within the beach buffer, which is considered some of the most important habitat for wildlife because it provides corridors along the beach, winter habitat, and bald eagle nesting habitat.

The loss of old-growth forest would affect wildlife, and wildlife impacts are addressed more completely in a separate *Wildlife Technical Report* (Appendix Z, 2017 Update to Appendix Q).

To comply with USFS policy, the USFS has examined these impacts in conjunction with ADF&G and USFWS, and the interagency team has recommended that the boundaries of OG Habitat LUDs #9 and #10 should be adjusted to help retain the viability of the OG Habitat LUDs to function as links in the overall old-growth habitat conservation strategy for the national forest. The interagency team described a biologically preferred alternative for modifying the boundaries of these to reserves (Brockmann et al., 2015; Attachment C). Despite the likely adjustment to the boundaries, the OG Habitat LUDs would be compromised under Alternative 2B because of increased road miles, reduced acreage of productive old-growth forest in the VCUs overall, impacts to connectivity, and fragmentation of large blocks of productive old-growth forest. The USFS likely would implement the boundary change through its own NEPA decision and Forest Plan amendment. Such a change would not directly affect approval of a final ROW for this alternative, but would be necessary for management of Tongass National Forest in light of the project. The interagency team did not recommend any change for OG Habitat LUD #11.

4.3.4 Alternative 3

Alternative 3 would pass through old-growth forested areas within lands designated as Non-Development LUDs that are presumed to function as medium and/or large OG forest reserves. Alternative 3 would reduce the size of the old-growth forest stands in all VCUs, as well as create a separation of some old-growth forest areas into downslope and upslope areas. Alternative 3 would remove 308 acres of forest habitat, of which 52 acres would be old-growth forest. These 308 acres come from predominantly the west side of Lynn Canal which has 51,963 acres of old-growth forest.

As part of this overall old-growth effect, Alternative 3 would impact one mapped OG Habitat LUD that is a reserve established under the old-growth reserve system. This LUD (LUD #1) occurs in VCU 950 on the west side of Lynn Canal near the forest's boundary with Haines State Forest (see Figure 3-2). Approximately 97 acres of the LUD (3,385 acres total size) would be transferred to TSC status. The OG Habitat LUD would continue to meet Forest Plan minimum total acre criteria. Within the 97 acres, construction would eliminate 30 acres of forest (i.e., approximately 67 acres of forest would remain standing within the highway ROW, but this forest would not be protected). Of 836 acres of productive old-growth forest in the LUD, 75 acres would be transferred to TSC status, and 24 acres would be eliminated/cleared. The road would divide the reserve and its old-growth habitat into inland and seaward portions, and the road would impact most of the beach buffer, which is considered some of the most important habitat for wildlife because it provides corridors along the beach, winter habitat, and bald eagle nesting habitat.

The loss of old-growth forest would affect wildlife, and wildlife impacts are addressed more completely in a separate *Wildlife Technical Report* (2017 Update to Appendix Q in Appendix Z of the Final SEIS).

To comply with USFS policy, the USFS has examined these impacts in conjunction with ADF&G and USFWS, and the interagency team has recommended that the boundaries of the OG Habitat LUD should remain as they are. The interagency team did not find suitable patches of productive old-growth forest in the VCU to justify boundary changes and did not recommend any changes to the boundaries of this OG Habitat LUD (Brockmann et al., 2015). The OG Habitat LUD would be compromised under Alternative 3 because of increased road miles, reduced acreage of productive old-growth forest, impacts to connectivity, and fragmentation of large blocks of productive old-growth forest. However, it would remain consistent with Forest Plan acreage prescriptions and would continue to function as a link in the overall OG habitat conservation strategy for the national forest.

4.3.5 Alternatives 4A through 4D

Alternatives 4A and 4C would not impact land from any Non-Development LUD that serves as medium or large old-growth forest reserve and would not impact any mapped OG Habitat LUDs.

Alternatives 4B and 4D would remove approximately 38 of 103,501 acres of old-growth forest mapped along the east side of Lynn Canal¹². The highway segment for these alternatives from Echo Cove to Sawmill Cove would pass through old-growth forested areas within lands designated as Non-Development LUDs that function as medium and/or large old-growth forest habitat reserves (see Figure 3-2). Alternatives 4B and 4D would reduce the amount of the old-growth forest habitat in this area, as well as create a separation of some old-growth forest areas into downslope and upslope areas. These alternatives would not impact any small old-growth reserves (Old Growth Habitat LUDs). As important habitat, the loss of old-growth forest would affect wildlife, which is addressed in a separate *Wildlife Technical Report* (2017 Update to Appendix Q in Appendix Z of the Final SEIS).

¹² USFS, Tongass National Forest Geographical Information System data for "Cover Type," 2007.

4.3.6 Impacts Associated with Multiple Alternatives

As mentioned in the preceding subsections, in accordance with the TLRMP, the USFS, in consultation with the ADF&G and USFWS, has determined that some of the affected OG Habitat LUDs would no longer meet criteria. In those cases, the USFS would adjust the boundaries of affected OG Habitat LUDs in accordance with OGR standards in the TLRMP. This effort to adjust boundaries would be an administrative impact to the agency and would be meant to reestablish small OGRs that met criteria and, therefore, sustain the forest's overall conservation strategy. Shifting the boundaries would protect other areas of old-growth habitat that previously were part of a development LUD. Based on the interagency review, Alternatives 2B and 3 would require such adjustments.

In addition, USFS review of the forest's overall conservation strategy may be necessary if a project alternative were selected that would affect medium and large OGRs or would affect multiple OGRs. Alternatives 2B, 3, 4B, and 4D would affect multiple medium and large OGRs protected in non-development LUDs.

4.4 USFS Inventoried Roadless Areas

4.4.1 Alternative 1

The No Action Alternative (1) would not use any land from inventoried roadless areas.

4.4.2 Alternative 1B

Alternative 1B Enhanced Ferry Service would not use any land from inventoried roadless areas.

4.4.3 Alternative 2B

Table 4-3 reports the acreages of loss from inventoried roadless areas for Alternative 2B. The table also reports in general the expected impacts to roadless area characteristics. The "Roadless Area Characteristics" portion of the table principally cross-references to other sections of the Final SEIS for greater detail. The direct effect of reduced roadless area would be permanent.

Table 4-3: Impacts to Inventoried Roadless Areas—Alternative 2B

Direct Effects to IRA 301 and 305 ^a	Impact—IRA 301	Impact—IRA 305
IRA lands incorporated into ROW	1,345 acres / 0.11% of IRA	86 acres ^a / 0.09% of IRA
IRA land affected (1,200 ft buffer) ^b around project components within the IRA	8,647 acres / 0.73% of IRA	648 acres / 0.64% of IRA
Linear distance of IRA lands traversed	38.1 miles	2.4 miles ^a
Total area of IRA no longer roadless ^c	11,524 acres (of 1.2 million acres in this IRA) ^c	736 acres (of 101,567 acres in this IRA) ^c
Roadless area characteristics	Impact	
High quality or undisturbed soil, water, and air (physical characteristic)	To construct the project, disturbance to soils is expected. Low impact to water courses and water quality is expected, although many streams will cross under the alignment via culverts and bridges. Changes to air quality are expected based on increased automobile traffic along Lynn Canal and relative decreases in marine traffic. Geology, water quality, and air quality are addressed respectively in Sections 4.3.8, 4.3.9, and 4.3.10 of the SEIS.	
Sources of public drinking water (physical characteristic)	No impact expected, although recreationists may use surface water downstream of the highway for drinking.	
Reference landscapes (physical characteristic)	No impact anticipated.	
Natural appearing landscapes with high scenic quality (physical characteristic)	Alteration of natural appearing landscapes is anticipated, mostly by insertion of a horizontal line in an otherwise natural appearing landscape. Visual quality objectives likely would not be met on LUDs adjacent to the TUS LUD, particularly for rock cuts and bridges. Visual effects are addressed in Section 4.3.3 of the SEIS.	
Diversity of plant and animal communities (biological characteristic)	No impact anticipated to <i>diversity</i> . Other wildlife impacts are addressed in Sections 4.3.15, 4.3.16, and 4.3.17 of the SEIS, and vegetation is addressed in Sections 4.3.12 and 4.3.14.	
Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land (biological characteristics)	No impact to threatened or endangered species of plants or animals within these IRAs is expected, although impacts to large mammal habitat, including direct habitat loss and fragmentation, are expected. Section 4.3.14 addresses vegetation in general, including sensitive species, and Section 4.3.17 addresses sensitive species of wildlife.	

Roadless area characteristics	Impact
Primitive, semiprimitive nonmotorized and semiprimitive motorized classes of dispersed recreation (social characteristic)	The proposed highway ROW would impact the following (total within all affected IRAs): Primitive: 0 ac. Semiprimitive non-motorized: 282 ac. Semiprimitive motorized: 1,068 ac. The balance is Roaded Natural: 89 ac. Section 4.3.1.3 addresses Land and Resource Use impacts, including recreation. Section 4.9.2 addresses cumulative recreation impacts, and Chapter 6 addresses potential impacts to park and recreation areas and facilities.
Traditional cultural properties and sacred sites (social characteristic)	No traditional cultural properties or sacred sites occur within the IRAs. Potential impacts to historic mining districts or other historic properties are addressed in Section 4.3.4 and in Chapter 6.

^a There would be no impacts to other IRAs under this alternative. The project includes improvements to the northern end of Glacier Highway. Because a ROW exists in this area, these improvements are not included in the first or third rows as impacts to IRA 305; only impacts of a new road in a new ROW are included in these rows. However, the second and fourth rows indicate more diffuse impacts that occur in part outside the ROW, so these rows report impacts of the existing Glacier Highway *and* the proposed extension. Impacts of the Glacier Highway extension (0.7 mi in this IRA) have in part already occurred, but the USFS still maps this as an IRA.

^b The USFS considers the affected area to be all areas within 1,200 feet of project components. The acreage presented is created by buffering the limits of construction of the highway and other project components by 1,200 feet. Because portions of the alignment are within 1,200 feet of the coast, the full buffer does not exist over the entire alignment.

^c The highway would sever portions of the IRA downhill of the alignment from the rest of the IRA. Acreage reported is the 1,200 foot buffer area uphill of the highway (reported in the row above) and any IRA area that lies between the highway and the coast. This approximates the area that would no longer be an isolated roadless area. The total acreage of National Forest land within the IRA is provided in this row for comparison.

4.4.4 Alternative 3

Table 4-4 reports the acreages of loss from inventoried roadless areas for the Alternative 3. The table also reports in general the expected impacts to roadless area characteristics. The “Roadless Area Characteristics” portion of the table principally cross-references to other sections of the Final SEIS for greater detail. The direct effect of reduced roadless area would be permanent.

Table 4-4: Impacts to Inventoried Roadless Areas—Alternative 3

Direct effects to IRAs 303, 304, & 305 ^a	Impact— IRA 303	Impact— IRA 304	Impact— IRA 305
IRA lands incorporated into ROW	567 acres / 0.84% of IRA	215 acres / 0.11% of IRA	72 acres ^a / 0.07% of IRA
IRA land affected (1,200 ft buffer) ^b around project components within the IRA	3,557 acres / 5.28% of IRA	1,244 acres / 0.62% of IRA	612 acres / 0.60% of IRA
Linear distance of IRA lands traversed	16.1 miles	5.9 miles	2.1 miles ^a
Total area of IRA no longer roadless ^c	3,703 acres (of 67,363 acres in this IRA) ^c	1,399 acres (of 199,858 acres in this IRA) ^c	699 acres (of 101,567 acres in this IRA) ^c
Roadless area characteristics	Impact		
High quality or undisturbed soil, water, and air (physical characteristic)	To construct the project, disturbance to soils is expected. Low impact to water courses and water quality is expected, although many streams will cross under the alignment via culverts and bridges. Changes to air quality are expected based on increased automobile traffic along Lynn Canal and relative decreases in marine traffic. Geology, water quality, and air quality are addressed respectively in Sections 4.4.8, 4.4.9, and 4.4.10 of the SEIS.		
Sources of public drinking water (physical characteristic)	No impact expected, although recreationists may use surface water downstream of the highway for drinking.		
Reference landscapes (physical characteristic)	No impact anticipated.		
Natural appearing landscapes with high scenic quality (physical characteristic)	Alteration of natural appearing landscapes is anticipated, mostly by placement of an engineered ferry terminal near Sawmill Bay. Visual quality objectives likely would not be met on LUDs adjacent to the TUS LUD, particularly for the ferry terminals and bridges. Visual effects are addressed in Section 4.4.3 of the SEIS.		
Diversity of plant and animal communities (biological characteristic)	No impact anticipated to <i>diversity</i> . Other wildlife impacts are addressed in Sections 4.4.15, 4.4.16, and 4.4.17 of the SEIS, and vegetation is addressed in Sections 4.4.12 and 4.4.14.		
Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land (biological characteristics)	No impact to threatened or endangered species of plants or animals within these IRAs is expected, although impacts to large mammal habitat, including direct habitat loss and fragmentation, are expected. Section 4.4.14 addresses vegetation in general, including sensitive species, and Section 4.4.17 addresses sensitive species of wildlife.		

Roadless area characteristics	Impact
Primitive, semiprimitive nonmotorized and semiprimitive motorized classes of dispersed recreation (social characteristic)	The proposed highway ROW would impact the following (total within all affected IRAs): Primitive: 0 ac. Semiprimitive non-motorized: 68 ac. Semiprimitive motorized: 752 ac. Roaded Motorized: 62 ac. The balance is Roaded Natural: 8.4 ac. Section 4.4.1.3 addresses Land and Resource Use impacts, including recreation. Section 4.9.2 addresses cumulative recreation impacts, and Chapter 6 addresses potential impacts to park and recreation areas and facilities.
Traditional cultural properties and sacred sites (social characteristic)	No traditional cultural properties or sacred sites occur within the IRAs. Potential impacts to historic mining districts or other historic properties are addressed in Section 4.4.4 and in Chapter 6.

^a The project includes improvements to the northern end of Glacier Highway. Because a ROW exists in this area, these improvements are not included in the first or third rows as impacts to IRA 305; only impacts of a new road in a new ROW are included in these rows. However, the second and fourth rows indicate more diffuse impacts that occur in part outside the ROW, so these rows report impacts of the existing Glacier Highway *and* the proposed extension. Impacts of the Glacier Highway extension (0.7 mi in this IRA) have in part already occurred, but the USFS still maps this as an IRA.

^b The USFS considers the affected area to be all areas within 1,200 feet of project components. The acreage presented is created by buffering the limits of construction of the highway and other project components by 1,200 feet. Because portions of the alignment are within 1,200 feet of the coast, the full buffer does not exist over the entire alignment.

^c The highway would sever portions of the IRA downhill of the alignment from the rest of the IRA. Acreage reported is the 1,200 foot buffer area uphill of the highway (reported in the row above) and any IRA area that lies between the highway and the coast. This approximates the area that would no longer be an isolated roadless area. The total acreage of National Forest land within the IRA is provided in this row for comparison.

4.4.5 Alternatives 4A, 4B, 4C, and 4D (Marine Alternatives)

The ferry alternatives using new vessels from existing ports (4A and 4C) would not use land from IRAs at all. Ferry Alternatives 4B and 4D would use IRA lands to extend a new road (same alignment for both alternatives) to Sawmill Cove and to establish a new ferry terminal there.

Table 4-5 reports the acreages of loss from IRAs for Alternatives 4B and 4D only. The table also reports in general the expected impacts to roadless area characteristics for these alternatives. The “Roadless Area Characteristics” portion of the table principally cross-references other sections of the Final SEIS for greater detail. The direct effect of reduced roadless area would be permanent.

Table 4-5: Impacts to Inventoried Roadless Areas—Alternatives 4B and 4D

Direct effects to IRA 305^a	Impact—IRA 305
IRA lands incorporated into ROW	72 acres ^a / 0.07% of IRA
IRA land affected (1,200 ft buffer) ^b around project components within the IRA	612 acres / 0.60% of IRA
Linear distance of IRA lands traversed	2.1 miles ^a
Total area of IRA no longer roadless ^c	699 acres (of 101,567 acres in this IRA) ^c
Roadless area characteristics	Impact
High quality or undisturbed soil, water, and air (physical characteristic)	To construct the project, disturbance to soils is expected, although lower than Alt. 2B and 3. Low impact to water courses and water quality is expected, although streams will cross under the alignment. Changes to air quality are expected based on changed driving patterns and increased marine ferry traffic along Lynn Canal. Geology, water quality, and air quality are addressed respectively in Sections 4.6.8, 4.6.9, and 4.6.10 of the SEIS.
Sources of public drinking water (physical characteristic)	No impact expected, although recreationists may use surface water downstream of the highway for drinking.
Reference landscapes (physical characteristic)	No impact anticipated.
Natural appearing landscapes with high scenic quality (physical characteristic)	Alteration of natural appearing landscapes is anticipated. Visual quality objectives likely would not be met on LUDs adjacent to the TSC, particularly for the ferry terminal. Visual effects are addressed in Section 4.6.3 of the SEIS.
Diversity of plant and animal communities (biological characteristic)	No impact anticipated to <i>diversity</i> . Other wildlife impacts are addressed in Sections 4.6.15, 4.6.16, and 4.6.17 of the SEIS, and vegetation is addressed in Sections 4.6.12 and 4.6.14.
Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land (biological characteristics)	No impact to threatened or endangered species of plants or animals within these IRAs is expected, although limited impacts to large mammal habitat, including direct habitat loss and fragmentation, are expected. Section 4.6.14 addresses vegetation in general, including sensitive species, and Section 4.6.17 addresses sensitive species of wildlife.

Direct effects to IRA 305 ^a	Impact—IRA 305
Primitive, semiprimitive nonmotorized and semiprimitive motorized classes of dispersed recreation (social characteristic)	The proposed highway ROW would impact the following: Primitive: 0 ac. Semiprimitive non-motorized: 28 ac. Semiprimitive motorized: 51 ac. Section 4.6.1.3 addresses Land and Resource Use impacts, including recreation. Section 4.9.2 addresses cumulative recreation impacts, and Chapter 6 addresses potential impacts to park and recreation areas and facilities.
Traditional cultural properties and sacred sites (social characteristic)	No traditional cultural properties or sacred sites occur within the IRAs. Potential impacts to historic mining districts or other historic properties are addressed in Section 4.6.4 and in Chapter 6.

^a There would be no impacts to other IRAs under this alternative. The project includes improvements to the northern end of Glacier Highway. Because a ROW exists in this area, these improvements are not included in the first or third rows as impacts to IRA 305; only impacts of a new road in a new ROW are included in these rows. However, the second and fourth rows indicate more diffuse impacts that occur in part outside the ROW, so these rows report impacts of the existing Glacier Highway *and* the proposed extension. Impacts of the Glacier Highway extension (0.7 mi in this IRA) have in part already occurred, but the USFS still maps this as an IRA.

^b The USFS considers the affected area to be all areas within 1,200 feet of project components. The acreage presented is created by buffering the limits of construction of the access road and ferry terminal by 1,200 feet. Because the alignment is within 1,200 feet of the coast, the full buffer does not exist over the entire alignment.

^c The highway would sever portions of the IRA downhill of the alignment from the rest of the IRA. Acreage reported is the 1,200 foot buffer area uphill of the highway (reported in the row above) and any IRA area that lies between the highway and the coast. This approximates the area that would no longer be an isolated roadless area. The total acreage of National Forest land within the IRA is provided in this row for comparison.

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ATTACHMENT A

2016 TONGASS NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN

LAND MANAGEMENT PRESCRIPTIONS WITHIN THE JUNEAU ACCESS IMPROVEMENTS PROJECT AREA

Note: Transportation Systems Corridors (TSC) is one of the most relevant parts of the TLRMP for transportation projects. TSC Standards and Guidelines are identified beginning on Page A-77.

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3 Management Prescriptions

Wilderness and National Monument Wilderness Land Use Designations
Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH1	All
Facilities	FAC	All
Fire	FIRE1	All
Fish	FISH	All
Forest Health	HEALTH1	I (B,C)
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND1, 3, 4, 6	All
	LAND2	I(A:1-10),VII,IX
	LAND5	I(A)
Minerals and Geology	MG1	All
	MG2	I,III,VI,VII,VIII
Plants	PLA1, 2, 3	All
Recreation and Tourism	REC1	All
	REC2	I,II(A),III
	REC3	I,II,III(B),IV-VII
Riparian	RIP1	All
	RIP2	I,II(A-D)
Rural Community Assistance	RUR	All
Scenery	SCENE1	All
	SCENE2	I,II(A,E)
Soil and Water	SW1, 2, 4	All
	SW3	I(A:1-4,B-F),II
Subsistence	SUB	All
Timber	TIM1	All
	TIM6	I(A-C;E)
Trails	TRAI1,2	All
Wetlands	WET	All
Wildlife	WILD1	All
Wildlife	WILD1	I,II,VII,VIII, IX(A,B,C,E), X,XI, XII(A,B),XIII,XIV(A), XV(A),XVI, XVIII(A),XIX(A)
	WILD4	All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	All	None
Renewable Energy Direction	All	All
Transportation Systems Corridors Direction	All	All
Forest-wide Plan Components	All	All

3 Management Prescriptions

WILDERNESS AND NATIONAL MONUMENT WILDERNESS

Goals (Wilderness)

Manage all designated Wilderness to maintain the enduring resource of Wilderness as directed by the Wilderness Act of 1964, subject to the special provisions and exceptions in the Alaska National Interest Lands Conservation Act of 1980 (ANILCA); as amended.

Protect and perpetuate natural biophysical and ecological conditions and processes. Ensure Wilderness ecosystems are substantially free from the effects of civilization.

Provide a high degree of remoteness from the sights and sounds of humans, and opportunities for solitude or primitive recreation activities consistent with Wilderness preservation.

Keep Wilderness untrammelled and free from human control or manipulation, including actions taken to manage Wilderness.

Protect the undeveloped character of Wilderness by following legislative guidelines regarding permanent improvements or human occupation, including mechanized transport and motorized equipment.

Goals (National Monument Wilderness)

To manage the Wilderness portions of Admiralty Island and Misty Fiords National Monuments to maintain an enduring Wilderness resource, while providing for public access and uses consistent with the Wilderness Act of 1964, and ANILCA. These units were designated as National Monuments to protect objects of ecological, cultural, geological, historical, prehistorical, and scientific interest.

Objectives (Wilderness)

Apply a multi-disciplinary focus to Wilderness management; consider stewardship of Wilderness in the annual program of work by all resources.

Manage recreation activities so that the levels of social encounters, on-site developments, methods of access, and visitor impacts indicated for the Primitive Recreation Opportunity Spectrum (ROS) Class are emphasized (see Chapter 4, Recreation and Tourism and Appendix I). Areas managed as Semi-Primitive within a Wilderness are an exception and not encouraged.

Provide for public uses of Wilderness as authorized in the Wilderness Act, but subject to ANILCA provisions for motorized and non-motorized access and travel, including reasonable traditional subsistence use by rural residents, and provisions of other applicable Wilderness designation acts.

Maintain trails and primitive facilities that are in harmony with the natural environment and that promote primitive recreation opportunities. Feature facilities designed primarily to provide resource protection and encourage smaller group size, and emphasize challenge and risk instead of convenience.

Maintain the Wilderness capacity to provide information on natural ecological processes.

Preserve and perpetuate biodiversity.

Inventory, reduce, and, when possible, eliminate non-native species in Wilderness.

Manage Wilderness as a place where self-reliance and primitive skills are needed and can be honed.

Objectives (National Monument Wilderness)

Inventory, research, protect, and interpret National Monument resources as directed by Monument designation consistent with Wilderness management practices.

Management Prescriptions 3

Make resource and research information about the National Monuments available to other forest units where it may be beneficial for management of multiple use lands.

Desired Condition (Wilderness)

All designated Wilderness on the Tongass National Forest is characterized by extensive, unmodified natural environments. Ecological processes and natural conditions are not measurably affected by past or current human uses or activities. Users have the opportunity to experience independence, closeness to nature, solitude and remoteness, and may pursue activities requiring self-reliance, challenge, and risk. Motorized and mechanized use is limited to the minimum needed for the administration of the Wilderness. Allow for access to state and private lands, subsistence uses, and public access and other uses to the extent provided for by ANILCA.

Desired Condition (National Monument Wilderness)

The purposes of National Monument designation are fulfilled by protecting and learning more about the special resources they contain. Appropriate research is encouraged and supported within the constraints of wilderness designation, and contributes to both the purposes of the Wilderness National Monuments and improved management of other forest lands. Appropriate interpretive and educational efforts allow the public to better understand the resources of these special areas and to appreciate how these areas fit into the local, regional, and even global context of geology, ecology, and human history.

The Wilderness portions of Admiralty Island and Misty Fiords National Monuments are characterized by extensive, unmodified natural environments. Ecological processes and natural conditions are not measurably affected by past or current human uses or activities. Users have the opportunity to experience independence, closeness to nature, solitude and remoteness, and may pursue activities requiring self-reliance, challenge, and risk. Motorized and mechanized use is limited to the minimum needed for the administration of Wilderness. Allow for access to state and private lands, subsistence uses, and public access and other uses to the extent provided by ANILCA. If not specifically provided through an ANILCA exception, the resources within a designated Wilderness shall be administered in accordance with the applicable provisions of the Wilderness Act.

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Apply the following LUD Standards and Guidelines:

AIR

Air Resource Inventory: AIR1

- A. Air Quality monitoring will be accomplished in accordance with specific District- or Forest-level plans and strategies.

FACILITIES

Administrative Facilities: FAC1, FAC2, FAC3, and FAC4

- A. Construct no new permanent administrative facilities in Wilderness, except as consistent with ANILCA, Sections 1303, 1306, 1310, and 1315, and other applicable Wilderness designation acts.
- B. Allow the continued operation and maintenance of permanent administrative facilities for which there is an ongoing need (ANILCA, Section 1306 (b)).
 1. When reconstruction of existing permanent administrative structures is necessary, reconstruct or replace them with structures of compatible design.
 2. During reconstruction and maintenance activities:
 - a) Paint or stain structure to blend with the environment;
 - b) Keep clearing of vegetation to the minimum feasible; and
 - c) Select materials natural in appearance.
- C. Allow temporary facilities and crew barges for administration.
 1. Temporary administrative camps used by Wilderness rangers, trail crews, or for other administrative activities should avoid areas used for camping by the general public and should be screened from view.
 2. Temporary administrative camps may remain in place only during periods required for the administrative activity. All equipment and materials will be removed or collapsed and laid flat at the end of the field season or during other extended periods of non-use.
 3. Temporary camps will seek to achieve minimum impact on the land. There will be no permanent foundations or anchors, and only minimal clearing of vegetation at campsites.
 4. Crew barges should be located in unobtrusive locations. They may be periodically moved and relocated to support administrative needs.
- D. Allow administrative use of public cabins and shelters in Wilderness. When scheduling, avoid conflict with public use.
- E. When necessary, allow radio repeaters to provide essential communications for the health and safety of employees involved in the administration of the area. Allow permanent radio repeaters currently located in Wilderness to remain.

FIRE

Fire Suppression: FIRE1

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Emphasize suppression tactics resulting in the least possible disturbance or evidence of human presence.
 1. Use of mechanized equipment requires approval by the Forest Service officer with delegated authority.
 2. Suppression tactics will avoid human/bear conflicts and existing policy will be emphasized to leave no trash or any other kinds of bear attractants in the area.

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3. Rehabilitation of all campsites, suppression lines, and other evidence of human presence will occur as soon as it is safe, but within one year after the fire occurs.

Fuel Improvements: FIRE2

Prescribed Fire

- A. As a general management practice, do not use management-ignited prescribed fire. Should it become necessary to consider the use of management-ignited prescribed fire, Forest Service Manual (FSM) 2324 provides direction.
- B. As a general management practice, allow natural fires in accordance with fire management plans specific to the area (consult FSM 5142.)

FISH

Fish Habitat Planning: FISH2

Planning

- A. Plan for fisheries in Wilderness consistent with ANILCA, Section 1315(b), which recognizes the goal of restoring and maintaining fish production in the State of Alaska to optimum sustained yield levels and in a manner that adequately ensures protection, preservation, enhancement, and rehabilitation of the Wilderness resource. Subject to reasonable regulations, permanent improvements and facilities such as fishways, fish weirs, fish ladders, fish hatcheries, spawning channels, stream clearance, egg planting, and other accepted means of maintaining, enhancing, and rehabilitating fish stocks may be permitted. For this purpose, optimum sustained yield levels will be considered synonymous with the long-term harvest goals documented in the State of Alaska Comprehensive Salmon Plans and other state fisheries plans. (Consult R-10 supplements to FSM 2632 and FSM 2320 for further details.)
- B. Determine the need for Wilderness aquaculture projects (as described in ANILCA, Section 1315(b)) on a broad basis that includes the potential of private, state, and federal non-wilderness projects.
- C. Evaluate fish habitat improvement during project planning by considering: 1) availability of suitable non-wilderness opportunities that should be used first; 2) effects on Wilderness conditions, in general; 3) effects resulting from the introduction of species not indigenous to the watershed; 4) the appropriateness of structures both in type and scale to the desired future condition for the Wilderness and the ROS class setting; and 5) the need to provide well-distributed fisheries that support sport and commercial fisheries, subsistence, and community stability.
- D. In planning, stress protection of fish habitat to prevent the need for mitigation.

Fish Habitat Improvement: FISH3

- A. Construct facilities in a rustic manner to blend into the natural character of the area and limit facilities to those essential to the project (ANILCA, 1315(b)). Methods for the installation of any feature or facility will apply the minimum requirement concept to management activities that affect the Wilderness resource and character by conducting a minimum requirements analysis (FSM 2322.03).
- B. Permit reasonable access, including the temporary use of motorized equipment, subject to reasonable regulation to maintain the Wilderness character, water quality, and fish and wildlife values of the area.

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- FOREST HEALTH** **Forest Health Management: HEALTH1**
 A. Allow natural occurrences to play their normal role in ecological succession.
- Forest Insect and Disease Survey and Inventory: HEALTH2**
 A. Survey and inventory visible insect and disease outbreaks.
- HERITAGE** **Heritage Resource Activities: HSS1**
Enhancement
 A. Heritage resources are available for scientific study to the extent that the study is consistent with 1) the preservation of Wilderness; 2) the intent of the Wilderness Act; and 3) heritage resource management objectives.
 B. Heritage resources are available for recreational, scenic, scientific, educational, conservation, and historic uses, consistent with management of Wilderness.
 1. Provide interpretive information concerning heritage resources to users in the form of exhibits and publications outside of the Wilderness.
Evaluation
 A. Develop priorities and schedule management activities to implement heritage resource inventory, evaluation, and protection within the Wilderness.
 1. Identify heritage properties to be nominated to the National Register of Historic Places.
 2. Identify, classify, and evaluate known heritage resources.
 3. Identify heritage properties that require stabilization or other protective measures.
- INVASIVE SPECIES** **Invasive Species Monitoring and Treatment: INV2 and INV3**
 A. Non-native, invasive species monitoring and treatment will be accomplished in accordance with specific District- or Forest-level plans and strategies.
- KARST AND CAVES** **Cave Management Program: KC2**
 A. Identify opportunities for interpretation of caves for public education and enjoyment. A cave management plan will be developed prior to the authorization of appropriate, allowed activities inside caves. Activities include agency interpretation, commercial use, or scientific investigation.
 B. Manage caves as Class 1 (Sensitive) or Class 3 (Undeveloped) as described in the Karst and Cave Resources Forest-wide Standards and Guidelines.
- LANDS** **Special Use Administration (non-recreation): LAND2**
 A. Authorize only activities that are consistent with the Wilderness Act or specifically allowed by ANILCA, or other applicable Wilderness designation acts, and are otherwise in compliance with management direction of this plan (Consult FSM 2700, FSM 2320, and Regional Supplements).
 1. Analyze proposals on a case-by-case basis.
 2. Authorize only activities consistent with the goals, objectives, and desired conditions for Wilderness.
 3. Integrate special use management with the ROS so that approved uses and activities emphasize the most primitive ROS class setting.

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4. Avoid authorizing uses that are not dependent upon Wilderness resources or uses for which reasonable alternative locations exist outside the Wilderness.
5. Use cost-recovery direction to process applications.
- B. New special use cabins and related structures may be authorized by the Forest Service officer with delegated authority in accordance with Section 1303(b)(1) of ANILCA under the conditions described below.
 1. The authorization is nontransferable and limited to a 5-year term.
 2. The determination is made that the proposed use, construction, and maintenance of the structure(s) are consistent with the goals, objectives, and desired conditions for Wilderness.
 3. The determination is made that the proposed cabin is either directly related to the administration of the Wilderness or the continuation of an ongoing use otherwise allowed in the Wilderness, where a) the applicant has no reasonable alternative site for constructing a cabin; and b) the cabin is not to be used for private recreational use.
 4. The United States shall retain ownership of the cabin and related structures.
 5. To qualify, an applicant must:
 - a) Agree to vacate the structure(s) and remove all personal property upon nonrenewal or revocation of the authorization within a reasonable time period established by the District Ranger or Monument Ranger;
 - b) Acknowledge in writing that they have no interest in the real property on which the structure(s) are constructed and that any cabin or related structure constructed under the authority of the special use authorization shall be the property of the United States; and
 - c) Submit with their applications a sketch or photograph and a map of the proposed structure(s) showing the specific geographical location.
 6. Special Use Permits will contain the following provision: "Chainsaws, generators or other motorized equipment shall not be used in the permit area unless specifically approved by the Regional Forester."
- C. Cabins and related structures that were in place on December 2, 1980, for which a valid authorization does not exist, may be authorized with a non-transferable renewable 5-year special use authorization for traditional and customary uses if the use is compatible with the Wilderness. No authorizations shall be issued for private recreational use. These authorizations shall be renewed until the death of the last immediate family member using the cabin as a dwelling. Revocation of the authorization must be by the Regional Forester, after notice and hearing establish that continued use is causing, or may cause, significant harm to the Wilderness (ANILCA, 1303(b)).
 1. To qualify for an authorization, the applicant must:
 - a) Demonstrate by affidavit, bill of sale, or other documentation, proof of possessory interests or rights of occupancy in the cabin;
 - b) Submit a list of all immediate family members;
 - c) Submit a sketch or photograph and a map of the cabin and related structures showing its geographic location;
 - d) Agree to vacate all structures and remove all personal property within a reasonable time period established by the District Ranger or Monument Ranger; and

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- e) Acknowledge, in writing, that there is no interest in the real property on which the cabin and structures are located.
 2. The use of motorized ground equipment, not designed for personal transport use, is authorized in and about authorized structures and facilities in the authorized area for a period not to exceed the termination or the revocation of the authorization. Authorized ground equipment includes chainsaws, generators, power brushcutters, and other hand-held tools and appliances, but do not include all-terrain vehicles, motorcycles, or other types of off-highway vehicles (OHVs), except snowmachines. Power lawnmowers, rototillers, and other power garden equipment may be used only on existing lawns and gardens that were established prior to the designation of the area as Wilderness.
 3. Cabins and associated structures that do not qualify for a special use authorization shall be removed by the owner unless accepted as a donation to the United States. Cabins that remain will be posted as property of the United States. Cabins that may be useful for emergency shelter may be designated by the Forest Service officer with delegated authority as public use cabins or posted for use as emergency public shelters.
- D. Renew existing valid special use authorizations for cabins, home sites, or similar structures, which were in effect on December 2, 1980, unless the Forest Service officer with delegated authority finds, following notice to the permittee and after the permittee has had a reasonable opportunity to respond, that the permitted structure constitutes a direct threat or a significant impairment to the Wilderness (ANILCA, Section 1303(d) and Section 101 (b)).
1. Authorizations in effect on December 2, 1980, will be considered for renewal in accordance with provisions of the existing authorization and reasonable regulations that may be prescribed.
 2. The structures authorized by these authorizations may be maintained, rehabilitated, modified, replaced, or removed, but not enlarged.
 3. All modifications and replacement plans will require form, color, and materials that blend and are compatible with the immediate and surrounding Wilderness landscape.
 4. In the case of conflicts that could lead to termination of the special use authorization, the permit holder will be offered reasonable opportunity to correct the conflict.
 5. The special use authorization may be transferred at the election or death of the original permit holder. The original permit holder is the one of record on December 2, 1980. This is a transfer of the authorization in effect on December 2, 1980—not the issuance of a new special use authorization. The transfer may be accomplished following the normal procedures except that the special use authorization will be amended to change the name of the permit holder instead of issuing a new authorization.
 6. The amendment will also contain the following tenure clauses:
 - a) This permit is nontransferable, and a new permit will not be issued to any subsequent owner of the improvements or to any person holding any interest in the improvements.
 - b) If the present permittee, herein named, ceases to have personal need for, or to make personal use of, the site for the purpose for which the permit is issued, this permit will terminate and the structures on the area shall be disposed of as provided in the conditions of the permit.

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- c) No additional improvements shall be constructed without prior written approval by the Forest Service officer with delegated authority.
 - d) The use of motorized ground equipment, not designed for personal transport use, is authorized in and about authorized structures and facilities on the permitted area for a period not to exceed the termination or the revocation of this authorization. Authorized ground equipment includes chainsaws, generators, power brushcutters, and other hand-held tools and appliances, but do not include all-terrain vehicles, motorcycles, or other types of OHVs, except snowmachines. Power lawnmowers, rototillers, and other power garden equipment may be used only on existing lawns and gardens that were established prior to the designation of the area as Wilderness.
- E. Provide for the continuance of existing and future establishment and use of temporary campsites, tent platforms, shelters, and other temporary facilities and equipment directly related to and necessary for the taking of fish and wildlife in accordance with ANILCA (Section 1316). Regulate these temporary facilities as follows:
- 1. Special use authorizations are limited to a period not to exceed 5 years, but may be renewed.
 - 2. Authorized facilities and/or equipment must be directly and necessarily related to the taking of fish and wildlife. Special use authorizations will only be issued when the following conditions are met:
 - a) The facilities are needed as a practical necessity to conduct legal hunting, trapping, and fishing activities that occur either within the Wilderness or in adjacent waters.
 - b) The applicant has no feasible alternative location outside the Wilderness.
 - 3. Does not include cabins.
 - 4. Does not include motorized forms of transportation other than snowmachines, motorboats, or fixed-wing airplanes.
 - 5. The specific location of temporary facilities will not cause physical resource damage, and should be located and designed to minimize conflicts with other users.
 - 6. Tent platforms, toilets, or other constructed facilities should be located approximately 0.5 mile, or more, from popular beaches, lakes, recreational boat anchorages (both developed and undeveloped), or other special recreation places. Consider season of use, compatibility of activities, core use areas, the goals, objectives, and desired conditions for the Wilderness, consistency with the ROS setting, and other factors in assessing the 0.5-mile guideline.
 - 7. Temporary camp facilities in Wilderness will include at least the following conditions:
 - a) The time of occupancy will be limited to coincide with the hunting or fishing season for the species for which the temporary facility is being used.
 - b) At the end of the specified occupancy, tents will be taken down and tent platforms laid flat. Unnecessary equipment will be removed from the site.
 - c) Temporary structures will be built with materials that blend with and are visually compatible with the surrounding landscape.

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- d) Temporary facilities will be screened from the water, and located so that they are unobtrusive as seen from trails and areas of public use.
- 8. The Forest Service officer with delegated authority may determine, after adequate public notice, that the establishment and use of new facilities or equipment would constitute a significant expansion of existing facilities or uses that would be detrimental to the purposes for which the Wilderness was established, including its wilderness character. Upon such determination, the Forest Service officer with delegated authority may deny the use or establishment of new facilities and equipment in accordance with ANILCA, Section 1316 (b).
- F. Allow reasonable access to, and operation and maintenance of existing air and water navigation aids, communication sites, and related facilities, as well as existing facilities for national defense purposes, weather, climate, and fisheries research and monitoring. Allow the continuation of necessary motorized access at existing sites (ANILCA, Section 1310(a)). New facilities proposed for these activities and purposes, except communications sites, shall be permitted: 1) following consultation between the head of the federal agency undertaking the establishment, operation, or maintenance, and the Forest Service officer with delegated authority; and 2) in accordance with such terms and conditions as may be mutually agreed upon in order to minimize the adverse effects of such activities on the Wilderness resources (ANILCA, Section 1310).
 - 1. Perform environmental analysis to evaluate the effects of such proposals on Wilderness resources and to provide the basis for determining the necessary terms and conditions under which the use will be permitted.
 - 2. Mechanized transport and motorized equipment may be authorized where no other feasible alternative exists.
 - 3. Forest Service officer(s) with delegated authority will consult with the permittees and jointly develop an operating plan, documenting procedures that will minimize impacts on the Wilderness resources without unreasonably limiting the operation and maintenance of the proposed facilities.
- G. The resorts discussed below were under permit prior to the establishment of the Monument Wildernesses. They will be administered in accordance with ANILCA provisions as follows:
 - 1. Thayer Lake Lodge. Section (see ANILCA, Sections 503(j) of ANILCA provides that the Special Use Permit for Thayer Lake Lodge shall be renewed, as necessary, for the longest of either: 1) 15 years after December 2, 1980; or 2) the lifetime of the permittee, as designated in such permit as of January 1, 1979, or the surviving spouse or child of such permittee, whoever lives longer, so long as the management of the lodge remains consistent with the purposes of the Admiralty Island National Monument.
 - 2. Humpback Lake Chalet. The resort Special Use Permit in existence on December 2, 1980, authorized one rental cabin and appurtenant structures on Humpback Lake within Misty Fiords National Monument Wilderness. The continuation of this use is authorized by ANILCA, Section 1307(a). The existing improvements may be maintained, rehabilitated, modified, replaced, or removed, but not enlarged. New cabin construction will not be allowed. Approval of exterior color schemes, materials, and designs shall use criteria that keep the improvements unobtrusive and compatible with the surroundings. The Special Use Permit may be revised as

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appropriate, but the permittee must remain Sportsman Paradise Tours, the permittee on December 2, 1980. The use shall continue to be permitted so long as it remains a public recreation rental cabin, provides adequate public service, does not significantly threaten any resource, and other terms and conditions of the permit are met.)).

- H. Allow reasonable access to, operation, and maintenance of existing air and water navigation aids, communication sites, and related facilities, as well as existing facilities for national defense purposes, weather, climate, and fisheries research and monitoring. Allow the continuation of necessary motorized access at existing sites (ANILCA, Section 1310(a)). New facilities proposed for these activities and purposes, except communications sites, shall be permitted 1) following consultation between the head of the federal agency undertaking the establishment, operation, or maintenance, and the Forest Service officer with delegated authority; and 2) in accordance with such terms and conditions as may be mutually agreed upon in order to minimize the adverse effects of such activities on the National Monument Wilderness resources.
 - 1. Conduct environmental analysis to evaluate the effects of such proposals on Monument Wilderness resources and to provide the basis for determining the necessary terms and conditions under which the use will be permitted.
 - 2. Mechanized transport and motorized equipment may be authorized where no other feasible alternative exists.
 - 3. Forest Service officers with delegated authority will consult with the permit holder and jointly develop Operating Plans, documenting procedures that will minimize impacts on the Monument Wilderness resources without unreasonably limiting the operation and maintenance of the proposed facilities.
- I. Transportation and utility systems may be located in the Wilderness (see ANILCA Title XI). ANILCA (Section 506) includes specific exceptions for Admiralty Island National Monument Wilderness regarding the right to develop hydroelectric resources and public access and use.
- J. Onshore facilities such as waterlines, storage areas, and shoreties for mariculture shall not be authorized in Wilderness.

Landline Location and Maintenance: LAND4

- A. Provide adequate marking for the public and Forest Service employees to distinguish land ownership.
 - 1. Survey, mark, and post property lines of inholdings and adjacent private lands. Give highest priority to those landlines that are adjacent to private lands where activities or occupancies are likely to encroach into the Wilderness. The next priority is adjacent to trails, canoe routes, and other Wilderness transportation corridors or areas of frequent human use.
- B. Provide adequate marking of Wilderness boundaries to prevent encroachment of non-compatible activities from adjacent public lands.
- C. Determine survey, marking, and posting priorities by the degree to which adjacent land management is compatible with the adjacent Wilderness.

Land Ownership Adjustments: LAND6

- A. Acquire private inholdings as opportunities arise.
 - 1. Acquisition of private inholdings within the Wilderness is a continuing high priority.
 - 2. As opportunities arise, acquire private inholdings through donation, exchange, or purchase.

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MINERALS AND GEOLOGY

Minerals and Geology Administration: MG1 and MG2

Forest Lands Withdrawn from Mineral Entry

- A. Forest lands within Wilderness are withdrawn from mineral entry subject to valid existing rights.
- B. Claimants with valid claims located within the Wilderness retain valid existing rights if such rights were established prior to the date that Wilderness lands were withdrawn from mineral entry.
- C. Permit reasonable access to mining claims in accordance with the provisions of approved Plan of Operations (ANILCA, Section 1110(b)).
- D. Section 1010 of ANILCA provides for the assessment of oil, gas, and other mineral potential on all public lands in Alaska. Core and test drilling for geologic information purposes, but excluding exploratory oil and gas test wells, may be authorized within Wilderness. Air access shall be permitted for such assessment activities. Sections 503, 504, and 505 of ANILCA provide specific direction for minerals management in the National Monument.
- E. Encourage use of state-of-the-art techniques for developing mineral resources to reduce impacts to Wilderness values to the extent feasible. Include mitigation measures that are compatible with the proposed development and commensurate with potential resource impacts.
- F. The use of motorized equipment may be authorized. Apply appropriate Transportation Forest-wide Standards and Guidelines to the location and construction of mining roads (ANILCA, Section 1110 (b)).

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Management and Operations

- A. To the degree consistent with the Wilderness designation, provide a spectrum of wildland recreation opportunities that reflects the inherent ecological, cultural, historical, prehistorical, scientific, and sociological conditions found within the Wilderness.
- B. Emphasize the management of the Primitive ROS setting that acknowledges existing opportunities, while recognizing exceptions due to ANILCA or other authorizations and development activities outside of Wilderness. Provide for the appropriate activities throughout the Wilderness. Protect the integrity of the Wilderness character through integrated project planning and implementation.
 1. Manage for the adopted ROS class where established through Wilderness plans. If adopted ROS classes do not exist for the specific Wilderness, emphasize management for the Primitive ROS class, unless activities and practices allowed by ANILCA are authorized by the Forest Service officer with delegated authority and cause change in the ROS setting(s). Seek to minimize the changes through project design and mitigation. Commercial services may be performed within the Wilderness to the extent necessary for activities that are proper for realizing the recreational or other Wilderness purposes of the area.
 2. Seek to minimize changes to the setting through project design and mitigation. Maintain the capability of the Wilderness to emphasize quality primitive recreation on a sustained basis.
- C. Manage recreation activities to meet appropriate levels of social encounters, on-site development, methods of access, and visitor impacts indicated for either the adopted ROS class or emphasizing the more

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Primitive ROS class (see "B" above). (Consult national and regional handbooks.)

1. Group size is limited to no more than 12 persons for commercial or general public use of a Wilderness unless otherwise approved by the appropriate line officer. Exceptions may be approved by the District Ranger or Monument Ranger in response to unusual circumstances. Recurring exceptions should be justified in local area analyses or decision documents. Exceptions for general public use authorized by the Forest Plan include:
 - a) The Stikine River Valley and tidal estuary below 100 feet elevation, not including Shakes Valley upstream from the outlet of Shakes Lake.
 2. Length of stay at any one location is limited to 14 days with the exception of uses approved through a special use authorization.
 3. At no time will caches or storage of equipment be allowed unless approved by the line officer with the delegated authority by a special use authorization.
 4. Management restrictions on visitor behavior will be primarily for resource protection and to minimize conflicts.
 5. Work to preserve outstanding opportunities for solitude or a primitive, unconfined type of recreation experience. Use will not be encouraged into more pristine areas as a means of resolving conflicts in areas of concentrated use.
 6. Do not authorize commercial services in Wilderness with more than two groups of 12 people from a single vessel or other means of transport or access. These groups will be required to disperse out of sight and sound from each other when using National Forest System lands to minimize impacts to a specific site or other groups who may want to use an area.
 7. Encounters should be less than three groups per day to maintain the more primitive experience.
- D. Where applicable, provide for general public use of the Wilderness in accordance with ANILCA provisions for the use of snowmachines (during periods of adequate snow cover), motorboats, fixed-wing airplanes, and nonmotorized surface transportation methods for traditional activities that are legal and for travel to and from villages and home sites (ANILCA, Section 1110). Designation of motorized routes for OHVs in Wilderness areas is not allowed except for instances where documented local traditional use for subsistence activities has occurred prior to ANILCA (1980), or the area is designated as a Wilderness.
1. Traditional activities include, but are not limited to, recreation activities such as sport fishing, sport hunting, boating, sightseeing, and hiking.
 2. Legal traditional activities shall be allowed to continue where such use has previously occurred. No proof of pre-existing use will be required in order to use a snowmachine, motorboat, or fixed-wing airplane. No permits will be required for the general public to use these specific types of motorized transport or any nonmotorized surface transportation methods for traditional activities that are legal, unless an area is specifically closed to public use. Such use is subject to reasonable regulation by the Forest Service officer with delegated authority to protect Wilderness resources and other values from damage.
 3. Restrictions or closures of specific areas within the Wilderness to transportation methods listed in "D" above, may be invoked by the Forest Service officer with the delegated authority following adequate

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- public notice and public hearing, and the determination that such use would be detrimental to Wilderness resources and values. Closure of broad areas is not contemplated.
4. Fixed-wing airplanes will be allowed to land on all suitable lakes, beaches, and icefields without authorization unless the activity (i.e., commercial use) requires a special use authorization.
 5. The landing of helicopters for access by the general public is prohibited.
- E. Maintain existing public use cabins and shelters at present or improved condition. Consider additional public use cabins and/or shelters only when needed for health and safety purposes (ANILCA, Section 1315(d)).
1. Base new cabin or shelter locations on an analysis of public health and safety needs. The analysis shall include at least the following factors:
 - a) Difficulty of access, particularly in regard to timely pick-up of users by floatplane or boat, or for emergency situations;
 - b) Presence of natural hazards including weather, brown bears, and dangerous tide and currents;
 - c) History of fatalities and life-threatening incidents in the area; and
 - d) Natural attractions that entice people to use a particular area.
 2. Design of new or replacement cabins or shelters will use drawings approved for use in Wilderness.
 3. Appurtenant structures to the cabin or shelter will be limited to a toilet, a woodshed, and minimum structures necessary for resource protection and accessibility.
 4. All structures shall be built of materials that blend with, and are compatible with, the foreground and middleground landscape surrounding the site.
 5. Decisions to construct new cabins or relocate or move existing cabins must be supported by an environmental analysis.
 6. The Forest Supervisor will inform Congress regarding any proposed public use cabin or shelter removal or additions (ANILCA, Section 1315(d)).
 7. Report Wilderness managed to standard through INFRA each year.
- F. All users will be encouraged to follow "Leave No Trace" practices. With the help of user groups, develop ways to distribute information for "Leave No Trace" practices.
- G. Maintain the recreation campsite inventories to help determine changes to Wilderness character and to meet minimum stewardship levels as provided through national direction.

Outfitter/Guide Operations

- A. Special Use Authorizations permitting individuals or organizations to provide visitor services in Wilderness may be issued if there is demonstrated need for the service(s) and they are deemed appropriate for the area proposed. District Rangers and Monument Rangers will maintain a record of currently active authorizations.
1. In selecting persons to provide new visitor services, except for guided hunting and sport fishing, preference shall be given to: 1) the Native corporation most directly affected by the establishment of the subject Wilderness, and 2) local residents defined by the Secretary of Agriculture (ANILCA, Section 1307).consult ANILCA, Section 1307.
 2. Outfitter and guide permit holders may be authorized the use of assigned temporary campsites for specific dates within a use

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season. Assigned campsites shall not include structures such as tent platforms or equipment caches (except as in 3. below).

3. Outfitter and guide services for the taking of fish and wildlife may be allowed certain temporary camp facilities by ANILCA, Section 1316 (see Lands section).
4. Authorize a party size of no more than 12 persons for any one site or activity. District Rangers or Monument Rangers may approve exceptions to this party size limitation in response to extremely unusual circumstances. Recurring exceptions should be justified in local area analyses or decision documents.
5. Outfitter and guide operating plans for Wilderness direct permit holders to model appropriate Wilderness practices and incorporate appreciation for Wilderness values in their interaction with clients and others.

Recreation Special Uses

- A. Major and minor developments other than those specifically provided for in ANILCA or other applicable Wilderness designation acts are illegal or not consistent with agency policy and regulations. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.

SCENERY

Scenery Operations: SCENE1

- A. Design activities to not be visually evident to the casual observer.
 1. Apply Forest-wide Standards and Guidelines for the Very High or High Scenic Integrity Objective. This objective defines the maximum limit of allowable change to the visual character of the area. Less visible evidence of activities, such as those compatible with the Very High Scenic Integrity Objective, is preferred.
 2. Design allowed structures, campsites, and constructed trails to meet the Moderate Scenic Integrity Objective.

SOIL AND WATER

Watershed Resource Improvements: SW4

- A. Undertake watershed improvements only where deteriorated soil and hydrologic conditions caused by humans or their influences create a threat or loss of Wilderness values, or where such conditions could cause serious depreciation of important environmental qualities outside of the Wilderness. For exceptions, see the Fish section.
- B. Whenever possible, use indigenous plant species and materials in implementing watershed improvements.

SUBSISTENCE

Subsistence: SUB

- A. Rural residents engaged in subsistence uses shall have reasonable access to subsistence resources. Appropriate use of snowmachines, motorboats, and other means of surface transportation traditionally employed for such purposes by local residents shall be permitted, subject to reasonable regulation to protect Wilderness resource values (ANILCA Section 811). The use of other mechanical/motorized equipment, such as chainsaws, is allowed by special use authorization only.

TIMBER

Timber Resource Planning: TIM4

- A. Forested land in the Wilderness is classified as not suitable for timber production and withdrawn from the timber base.

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- B. The following types of public uses may be authorized if done in a manner that minimizes impacts on the Wilderness (the use of mechanical/motorized equipment, such as chainsaws, is allowed by special use authorization only):
1. Commercial beach log salvage on Wilderness coastlines may be authorized in accordance with ANILCA, Section 1315(f). Require that the recovery of logs above mean high tide be conducted from the water without roads or use of vehicles on uplands. Beach log salvage is defined as the recovery of logs that have been lost in transit and washed up on beaches.
 2. Traditional personal use wood harvesting activities, primarily: a) beach logs on coastlines that can be removed without roads or use of vehicles on uplands, and b) firewood, subject to reasonable regulations to protect Wilderness resources and values. The cutting of down trees in navigable rivers (sweepers) and removal of trees from the banks is incompatible with Wilderness objectives (the main channel of the Stikine River, which is a treaty river, is an exception). Cutting of green trees (except for emergency cutting of trolling poles) will be by permit only. (Consult ANILCA, Section 1315(f) and 36 CFR 223.10.)
 3. Removal or use of trees cut as part of some other authorized administrative use within the Wilderness (e.g., clearing for a fish ladder).
 4. Trees may be cut for use in construction and maintenance of authorized structures when it is not feasible to obtain the necessary material from outside the Wilderness.

TRAILS

Trail Activities: TRAI1

- A. Provide for a diversity of outdoor recreation trail and waterway opportunities that emphasizes the Primitive ROS class, or are the minimum standard necessary to protect Wilderness values and resources. Emphasize nonmotorized and nonmechanized participation in activities such as hiking, mountaineering, spelunking, cross-country skiing, canoeing, and kayaking.
- B. Emphasize primitive recreation opportunities that are in harmony with the natural environment and consistent with the intent and purposes of the Wilderness Act and ANILCA or other applicable Wilderness designation acts.
- C. Consider trail systems that:
 1. Reconstruct and maintain trails so that they appear to be part of the Wilderness environment;
 2. Create connected, multi-day trip opportunities for both land trails and water trails;
 3. Situate trailheads and access points away from concentrated use areas;
 4. Loop trail systems in connection with public use cabins;
 5. Primarily use signs for resource protection, as necessary;
 6. Install signs identifying the area as Wilderness, only as necessary, at trail junctions or trailheads; and
 7. Provide Wilderness boundary signs, where necessary, at entries to inform users of the change in management or conditions.

Trail Administration: TRAI2

- A. Trails and associated waterways leading to and within Wilderness and National Monument Wilderness often become the principal management

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tools for achieving management objectives. Construct and maintain trails, bridges, and signs, so they:

1. Contribute to Wilderness management goals and objectives;
2. Emphasize the Primitive ROS setting;
3. Appear to be part of the Wilderness environment and not an intrusion upon it (Consult the Forest Service Trails Management Handbook and the Alaska Region Trails Construction and Maintenance Guide); and
4. Provide protection to resources (e.g., streambanks, soils, etc.).

TRANSPORTATION **Transportation Operations: TRAN**

- A. New roads, new motorized trails, and new airstrips are not permitted in the Wilderness, except where authorized by ANILCA and to access surrounded state and private land and valid mining claims subject to stipulations to protect Wilderness resources and values. Any transportation development in association with minerals operations will be in accordance with an approved Plan of Operations, and subsequent annual work plans.
- B. Any existing roads in the Wilderness are closed to motorized uses unless authorized under ANILCA or other applicable Wilderness designation acts.
- C. Allow use of snowmachines (during periods of adequate snow cover), motorboats, fixed-wing airplanes, and non-motorized methods of surface transportation for legal traditional activities and transportation to and from villages and homesites, subject to reasonable regulation. (Consult ANILCA, Section 1110(a), and Wilderness and Recreation and Tourism Sections.)
- D. Provide reasonable access to owners of land, including subsurface rights to land, valid mining claims, or other valid occupancies that are effectively surrounded by Wilderness.
 1. The routes and types of access shall be practical in an economic sense, but do not necessarily have to be the most economically feasible alternative.
 2. District Rangers or Monument Rangers will work with the landowner, or their authorized representative, to work out solutions that will meet the intent of ANILCA (Sections 1110(b) and 1323), while minimizing adverse impacts on Wilderness resources and values.

WILDERNESS

Wilderness Resource Administration: WILDER

Wilderness Resource Management

- A. Manage all designated Wilderness and National Monument Wilderness to maintain an enduring Wilderness resource as provided by the Wilderness Act of 1964, while providing for public access and uses specifically allowed by ANILCA (P.L. 96-487) or other applicable Wilderness designation acts. Consult Alaska Region Supplement to FSM 2320, as amended. Activities and practices authorized by ANILCA will be regulated or restricted in accordance with the special provisions of ANILCA.
 1. Per ANILCA (Section 506 (a)), any right or interest in land granted or reserved in paragraph (3)(A, B, and C) shall not be subject to the provisions of the Wilderness Act.
- B. Identify inventory needs for all Wilderness and National Monument Wilderness to meet minimum stewardship levels per the Wilderness Act

Management Prescriptions 3

of 1964. Accomplish baseline inventory needs commensurate with other forest inventory efforts.

- C. Use available opportunities to encourage and enlist public and private sector interest groups to work together in meeting Wilderness management objectives. Emphasize programs that help in educating the public in the appropriate conduct of activities and uses within Wildernesses (e.g., "Leave No Trace").
- D. To the extent feasible, minimize the impacts of administrative activities on the Wilderness resources and visitors. Administrative activities include authorized use and Wilderness resource-related work being done by other agencies and cooperators. In developing project plans, follow FMS 2300, R10 ID 2300-2006-1, FMS 2322.03 or most current version, and the guidelines described below.
 - 1. Encourage permit holders and cooperators to minimize the use of mechanized vehicles and equipment to make their presence in the Wilderness as unobtrusive as possible even though authorized.
 - 2. The use of mechanized transport and motorized equipment by the Forest Service and other federal, state, and local agencies for the administration of the Wilderness should be carefully considered to determine if it is necessary. Mechanized transport and motorized equipment use is subject to the following conditions:
 - a) Aircraft
 - ♦ Fixed-wing airplanes may land on all suitable lakes, rivers, beaches, and icefields.
 - ♦ The administrative use of helicopters may be allowed on a case-by-case basis after evaluation of the need and full consideration of all alternative options for access. Approval by the Forest Service officer with delegated authority is required for administrative use.
 - ♦ Established air routes will be used to the extent feasible.
 - ♦ Low flights and continuous circling should be avoided.
 - ♦ Work logistics will be planned to minimize the number of aircraft flights over the Wilderness and landings within a specific area.
 - b) Motorboats on Rivers
 - ♦ Motorboats may be used on rivers for all administrative purposes under the same conditions that public use is allowed.
 - c) Motorboats on freshwater lakes
 - ♦ Outboard motors of 10 horsepower or less may be used for administering the Wilderness, gathering firewood for public use cabins, and transporting crews and equipment on lakes. Exceptions for a larger motor may be allowed when use is approved by the District Ranger or Monument Ranger (Consult FSM 2322.03).
 - d) Chainsaws and Power Brushers
 - ♦ Use of chainsaws and power brushers is allowed for trail and cabin maintenance and firewood cutting when specially authorized in writing by the Forest Service officer with delegated authority (consult FSM 2322.03).
 - ♦ Use of chainsaws and power brushers is allowed for trail construction and reconstruction projects when specifically authorized in writing by the Forest Service officer with delegated authority (consult FSM 2322.03).
 - e) Generators and Other Motorized Tools

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- ♦ Generators and other motorized tools may be used for construction/reconstruction projects only when use has been specifically authorized in writing by the Forest Service officer with delegated authority. They may not be used for typical maintenance work or in field camps, except where specifically authorized by the Forest Service officer with delegated authority.
- f) Snowmachines
 - ♦ Snowmachines may be used to administer Wilderness under the same snow conditions that public use is allowed.
- g) Exceptions
 - ♦ Aircraft and mechanized equipment may be authorized by the Forest Service officer with delegated authority as needed for search and rescue purposes and law enforcement.
 - ♦ The temporary use of motorized equipment may be allowed for fisheries research, management, rehabilitation, and enhancement activities, when such use is authorized in the project environmental assessment or Decision Notice approved by the Forest Service officer with delegated authority.
 - ♦ The use of chainsaws and power winches is allowed for clearing of navigational hazards along the Stikine River. All other administrative activities must be completed using primitive nonmotorized/nonmechanized methods when specifically authorized by the Forest Service officer with delegated authority (consult FSM 2322.03).

Wilderness Planning

- A. Protect and perpetuate Wilderness character. Using the following four qualities, evaluate whether or not Wilderness character is degrading, stable, or improving over time:
 1. Untrammelled,
 2. Natural,
 3. Undeveloped, and
 4. Outstanding opportunities for solitude or primitive and unconfined recreation.
- B. A minimum requirements analysis will be used for all management proposals and activities (consult FSM 2320).
- C. All mechanized transportation or motorized equipment is reported annually by all other agencies if authorized using minimum requirements analysis.
- D. Update individual Wilderness plans if inconsistent with this Plan.
- E. Wilderness plans may be developed or updated for an individual Wilderness in response to issues and concerns. All Wilderness plans for individual areas will be consistent with the Wilderness Act, ANILCA, other applicable Wilderness designation acts, and the Forest Plan.
- F. ROS classes may be adopted through Wilderness planning.
- G. As needed and consistent with direction in this Forest Plan, update Wilderness Implementation Schedules and any other area plans, analyses, or decision documents applicable to a Wilderness.
- H. Establish subunit management zones within the Wilderness to deal with unique situations, or to integrate local issues and concerns with management activities, where necessary, to better accomplish Wilderness objectives.

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1. The boundaries of subunits should generally be located on identifiable topographic features and/or coincide with existing ROS classification areas.

WILDLIFE

Wildlife Habitat Planning: WILD1

- A. Wildlife management activities will be consistent with Wilderness objectives, and will protect and maintain natural processes and Wilderness values.
- B. Address issues regarding management, introduction, and re-introduction of wildlife species consistent with national and regional policy.

Wildlife Habitat Improvement: WILD2

- A. Conduct wildlife habitat improvement projects only when the principal objective is to protect or restore the Wilderness resource, or to assist in the recovery of a federally listed threatened or endangered species.

Management Prescriptions **3**

Old-Growth Habitat Land Use Designation

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH	All
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH	All
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC	All
Riparian	RIP1 RIP2	All All
Rural Community Assistance	RUR	All
Scenery	SCENE	All
Soil and Water	SW	All
Subsistence	SUB	All
Timber	TIM	All
Trails	TRAI	All
Transportation	TRAN	All
Wetlands	WET	All
Wildlife	WILD1 WILD2,3,4	I-III; V-XIX All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	All	All except DC-YG-05, and S-YG- SCENE-01
Renewable Energy Direction	All	All except S-RE-LAND-01 and S-RE-TRAN-01
Transportation Systems Corridors Direction	All	All except S-TSC-LAND-01
Forest-wide Plan Components	All	All

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OLD-GROWTH HABITAT

Goals

Maintain areas of old-growth forests and their associated natural ecological processes to provide habitat for old-growth associated resources.

Manage early seral conifer stands to achieve old-growth forest characteristic structure and composition based upon site capability. Use old growth definitions as outlined in Ecological Definitions for Old-growth Forest Types in Southeast Alaska (R10-TP-28).

Objectives

Provide old-growth forest habitats, in combination with other LUDs, to maintain viable populations of native and desired non-native fish and wildlife species and subspecies that may be closely associated with old-growth forests.

Contribute to the habitat capability of fish and wildlife resources to support sustainable human subsistence and recreational uses.

Maintain components of flora and fauna biodiversity and ecological processes associated with old-growth forests.

Allow existing natural or previously harvested early seral conifer stands to evolve naturally to old-growth forest habitats, or apply silvicultural treatments to accelerate forest succession to achieve old-growth forest structural features. Consider practices such as thinning, release and weeding, pruning, and fertilization to promote accelerated development of old-growth characteristics.

To the extent feasible, limit roads, facilities, and authorized uses to those compatible with old-growth forest habitat management objectives.

Desired Condition

All forested areas within this LUD have attained old-growth forest characteristics. A diversity of old-growth habitat types and associated species and subspecies and ecological processes are represented.

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Apply the following LUD Standards and Guidelines:

FACILITIES	<p>Facilities Improvements: FAC2 and FAC3</p> <p>A. Allow administrative and recreational facilities when compatible with LUD objectives.</p>
FIRE	<p>Fire Suppression: FIRE1 <i>Suppression Action</i></p> <p>A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.</p> <p>B. Suppression tactics are limited only by the standards for this LUD, such as soil and watershed concerns.</p> <p>Fuel Improvements: FIRE2 <i>Prescribed Fire</i></p> <p>A. Allow management-ignited prescribed fire only where its use maintains old-growth characteristics.</p> <p>B. As a general management practice, do not use prescribed natural fire. (Consult FSM 5142.)</p>
FISH	<p>Fish Habitat Planning: FISH2</p> <p>A. Emphasize the protection and restoration of fish habitat, fish production, and aquatic biodiversity. Enhancement projects that may change the natural distribution of fish species within a watershed are consistent with LUD objectives.</p>
FOREST HEALTH	<p>Forest Health: HEALTH1</p> <p>A. Insect and disease management measures consistent with this LUD may be implemented to protect the old-growth forest component and adjacent resources.</p> <p>Forest Insect and Disease Survey and Inventory: HEALTH2</p> <p>A. Survey and inventory visible outbreaks.</p>
HERITAGE	<p>Heritage Resource Activities: HSS1 <i>Inventory/Evaluation</i></p> <p>A. Develop priorities and schedule management activities to implement heritage resource inventory, evaluation, protection, and interpretation.</p> <ol style="list-style-type: none"> 1. Identify, classify, and evaluate known heritage resources. 2. Identify heritage properties to be nominated to the National Register of Historic Places. 3. Identify heritage properties that require stabilization or other protective measures. 4. Identify opportunities for interpretation of heritage resources for public education and enjoyment.
KARST AND CAVES	<p>Cave Management Program: KC2</p> <p>A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation may occur inside or outside of this LUD.</p>

Management Prescriptions **3**

LANDS	<p>Special Use Administration (Non-Recreation): LAND2</p> <p>A. Permit only improvements (such as tent platforms, fish weirs, minor waterlines, minor powerlines, etc.) that are compatible with LUD objectives.</p>
MINERALS AND GEOLOGY	<p>Minerals and Geology Resource Preparation: MG1 <i>Resource Preparation</i></p> <p>A. Prepare geologic, paleontologic, and historic mining interpretations, where appropriate.</p> <p>Minerals and Geology Administration: MG2 <i>Forest Lands Open to Mineral Entry</i></p> <p>A. Forest lands within this LUD are open to mineral entry.</p> <p>B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980 (ANILCA), and Forest Service Mining Regulations 36 CFR 228.</p> <p>C. Permit reasonable access to mining claims, leases, and material sites and authorization of orderly mineral resource development with the provisions of an approved Plan of Operations in accordance with Forest Service Mineral Regulations 36 CFR 228 and FSM 2800.</p>
RECREATION AND TOURISM	<p>Recreation Use Administration: REC3 <i>Recreation Management and Operations</i></p> <p>A. Manage recreation and tourism use to meet LUD objectives for fish and wildlife resources and habitat.</p> <p style="padding-left: 20px;">1. Design and locate recreation-related structures to be compatible with habitat needs of old-growth associated species.</p> <p>B. Generally provide for Semi-Primitive ROS settings, recognizing that more developed settings may be present due to authorized activities, existing use patterns, and activities in adjacent LUDs.</p> <p>C. Designation of motorized routes for off-highway vehicles is generally not allowed. Designation may only occur where documented local traditional use has occurred and the route does not degrade water quality or flow.</p> <p><i>Recreation Special Uses</i></p> <p>A. Minor recreation and tourism developments may be compatible with the LUD objectives depending on the scope, purpose, and magnitude of the proposal. Proposals will be evaluated on a case-by-case basis. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.</p>
SCENERY	<p>Scenery Operations: SCENE1</p> <p>A. Apply Forest-wide Standards and Guidelines for High Scenic Integrity Objective. Design activities to not be visually evident to the casual observer.</p> <p>B. Exceptions for small areas of non-conforming developments, such as recreational developments, transportation developments, log transfer facilities, and mining development, may be considered on a case-by-case basis. Use designs and materials that are compatible with forms, colors, and textures found in the characteristic landscape.</p>

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SOIL AND WATER

Watershed Resource Improvements: SW4

- A. Undertake watershed improvements only where deteriorated soil and hydrologic conditions create a threat to the goals and objectives for which the old-growth habitat is managed. Rehabilitation or stabilization projects will seek to enable the area to retain its natural appearance.

TIMBER

Timber Resource Planning: TIM4

- A. Old-growth forest land is classified as not suitable for timber production.
- B. Beach log salvage is compatible with this LUD.
- C. Avoid Old-growth Habitat areas when other feasible locations for personal use sawtimber, firewood, and Christmas tree cutting are available. If personal (free) use timber harvest is allowed, personal use permit requirements must satisfy LUD objectives (refer to Chapter 4, Personal Use Program, Section TIM4). Personal use timber harvest will be regulated and its cumulative effects monitored in LUDs that are unsuitable for timber harvest to ensure that the LUD objectives are fulfilled.
- D. Harvest of bridge stringer logs is allowed.

Timber Sale Preparation: TIM5

- A. Salvage of dead or down material is permitted, but is limited to roadside windfall and hazard trees immediately adjacent to existing permanent roads and catastrophic windthrow events or large insect or disease outbreaks (generally exceeding 100 acres). Limited standing undamaged timber (up to 20 percent of total salvage) may be removed only for safety reasons or for feasibility of salvage operations. Salvage sales must be compatible with LUD objectives as determined through the environmental analysis process. Stands once salvaged will be managed to achieve old-growth habitat characteristics. During the environmental analysis, consider the scale of the affected area salvaged. If reserve design criteria are no longer met, adjust reserve locations to better meet reserve size, spacing, and composition criteria if lands are available (see Wildlife Habitat Planning, section B below, and Appendix K).

TRANSPORTATION

Transportation Operations: TRAN

- A. New road construction is generally inconsistent with Old-growth Habitat LUD objectives, but new roads may be constructed if no feasible alternative is available.
 1. Perform integrated logging system and transportation analysis (including Access and Travel management planning) to determine if other feasible routes avoiding this LUD exist during the project environmental analysis process. If no feasible alternative routes exist, locate, design, and construct roads in a manner that minimizes adverse impact to fish and wildlife resources to the extent feasible, and will be compatible with LUD objectives. Keep clearing widths to the minimum feasible. Consider enforcement costs of road closures in the integrated logging system and transportation analysis.
 2. If reserve design criteria are no longer met, adjust reserve locations to meet reserve size, spacing, and composition criteria if lands are available (see Wildlife Habitat Planning, section B below, and Appendix K).
 3. For timber salvage, use logging systems that do not require additional permanent road construction.

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- B. Manage existing roads to meet LUD objectives.
 1. In Old-growth Habitat LUDs with existing roads, develop or update road management objectives to meet LUD objectives (see Wildlife [brown bear and wolf] and Transportation Forest-wide Standards and Guidelines). Use of existing roads may continue pending the update of the access and travel management plan.
 2. Road management objectives may include temporary or permanent road closures, and may be specific to individual road specification types (e.g., keep mainlines open, close arterial and spur).
 3. Road maintenance and reconstruction may be permitted if consistent with road management objectives.
- C. Sites for log transfer facilities are generally not appropriate in this LUD. If no other feasible alternative sites exist, locate, design, construct, and manage these facilities in a manner that will be compatible with LUD objectives. Consider the Log Transfer Facility Guidelines (Appendix G) when making the selection for the facility.

WILDLIFE

Wildlife Habitat Planning: WILD1

- A. Maintain contiguous blocks of old-growth forest habitat in a forest-wide system of old-growth reserves to support viable and well-distributed populations of old-growth associated species and subspecies.
- B. A system of large, medium, and small old-growth habitat reserves has been identified and mapped in the Forest Plan as part of the Old-growth Habitat Conservation Strategy. The mapped large and medium reserves generally achieve reserve strategy objectives, and few major modifications are anticipated. The small mapped reserves have received differing levels of ground-truthing and integration of site-specific information in their design. During project-level environmental analysis, for projects areas that include or are adjacent to mapped old-growth habitat reserves, the size, spacing, and habitat composition of mapped reserves may be further evaluated (consult Appendix K).
 1. Adjust reserves not meeting the minimum criteria to meet or exceed the minimum criteria.
 2. Reserve location, composition, and size may otherwise also be adjusted. Alternative reserves must provide comparable achievement of the Old-growth Habitat LUD goals and objectives. Determination as to comparability must consider the criteria listed in Appendix K.
 3. Adjustments to individual reserves described in 1 and 2 above are not expected to require a significant plan amendment. Adjustments Forest-wide shall be monitored yearly to assess whether a significant plan amendment is warranted on the basis of cumulative changes.
- C. Allow previously harvested or natural early seral stands to develop into old-growth, or provide young-growth management to accelerate attainment of old-growth characteristics (see WILD2, below).

Wildlife Habitat Restoration: WILD2

- A. Manage early seral forest stands for purposes of wildlife habitat development. Allow techniques such as thinning, pruning, and planting to accelerate development of advanced seral stand structure, including maintenance of shrub and forb understory.

Management Prescriptions **3**

Semi-Remote Recreation Land Use Designation

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH1 BEACH2	All I(A:1-6, 10, 11)
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH	All
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC	All
Riparian	RIP RIP2	All II(A-D,F)
Rural Community Assistance	RUR	All
Scenery	SCENE1 SCENE2 SCENE3	All I,II(A,E) I(A,B)
Soil and Water	SW1, 2, 4 SW3	All I(A:1-4,6-7),II,III
Subsistence	SUB	All
Timber	TIM1,7 TIM4 TIM6	All VII I(A-C;E),III
Trails	TRAI	All
Transportation	TRAN1, 2, 3, 4, 5, 6	All
Wetlands	WET	All
Wildlife	WILD1 WILD2 WILD3, 4	I-III;VI-XIX I(A,B,C,D) All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	All	None
Renewable Energy Direction	All	All except S-RE-LAND-01 and S-RE-TRAN-01
Transportation Systems Corridors Direction	All	All except S-TSC-LAND-02
Forest-wide Plan Components	All	All

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SEMI-REMOTE RECREATION

Goals

To provide predominantly natural or natural-appearing settings for semi-primitive types of recreation and tourism, and occasional enclaves of concentrated recreation and tourism facilities.

To provide opportunities for a moderate degree of independence, closeness to nature, and self-reliance in environments requiring challenging motorized or non-motorized forms of transportation.

Objectives

Manage recreation and tourism use and activities to meet the levels of social encounters, on-site developments, methods of access, and visitor impacts indicated for the Semi-Primitive Recreation Opportunity Spectrum (ROS) classes. Enclaves of concentrated recreation and tourism developments within the LUD or management activities in adjacent LUDs may cause the ROS setting to become Rural.

Determine on a case-by-case basis whether roads, trails, and other areas should be closed to motorized recreation activities. If so, update the Access and Travel Management Plan (ATM). If not, the use of boats, aircraft, and snowmachines for traditional activities is allowed.

Permit small-scale, rustic recreation and tourism facilities, and occasional enclaves of concentrated recreation and tourism facilities.

Apply the Moderate Scenic Integrity Objective to any developments, facilities, or structures.

Fish enhancement and wildlife habitat improvement may occur.

Desired Condition

Areas in the Semi-Remote Recreation LUD are characterized by generally unmodified natural environments. Ecological processes and natural conditions are only minimally affected by past or current human uses or activities. Users have the opportunity to experience a moderate degree of independence, closeness to nature, solitude, and remoteness, with some areas offering motorized opportunities and others non-motorized opportunities (except for the traditional uses of boats, aircraft, and snowmachines). Interactions between users are infrequent. Facilities and structures may be minimal or occasionally may be larger in scale, but will be rustic in appearance, or in harmony with the natural setting.

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Apply the following LUD Standards and Guidelines:

FACILITIES

Facilities Improvements: **FAC2 and FAC3**

- A. Design and locate administrative and non-recreation structures to reduce adverse effects on recreation and tourism opportunities.

FIRE

Fire Suppression: **FIRE1**

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Emphasize suppression tactics that result in the least possible disturbance or evidence of human presence.
 1. Suppression tactics will avoid human/bear conflicts and existing policy will be emphasized to leave no trash or any other kinds of bear attractants in the area.
 2. Rehabilitation of all campsites, suppression lines, and other evidence of human presence will occur as part of rehabilitation activities, but within one year after the fire occurs.
 3. Mechanized fireline construction will avoid important wildlife habitat areas such as meadows, bogs, and riparian areas.

Fuel Improvements: **FIRE2**

Prescribed Fire

- A. Management ignitions may be used as an acceptable means of fuels management and wildlife habitat improvement so long as its use is compatible with LUD objectives.
- B. As a general management practice, do not use prescribed natural fire (consult Forest Service Manual [FSM] 5142).

FOREST HEALTH

Forest Health Management: **HEALTH1**

- A. Insect and disease management measures consistent with LUD objectives may be implemented to protect recreation and tourism opportunities, and adjacent resources.

Forest Insect and Disease Survey and Inventory: **HEALTH2**

- A. Survey and inventory visible outbreaks.

HERITAGE

Heritage Resource Activities: **HSS1**

Enhancement

- A. Heritage resources are available for recreational, scenic, scientific, educational, conservation, and historic uses.
 1. Provide interpretive information concerning heritage resources located within this LUD to users in the form of exhibits and publications.
 2. Heritage resources are available for scientific studies that are consistent with the semi-primitive settings and activities, and heritage resource management objectives for the specific site.

Inventory/Evaluation

- A. Develop priorities and schedule management activities to implement heritage resource inventory, evaluation, protection, and interpretation.
 1. Identify, classify, and evaluate known heritage resources.

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2. Identify heritage properties to be nominated to the National Register of Historic Places.
3. Identify heritage properties that require stabilization or other protective measures.
4. Identify opportunities for interpretation of heritage resources for public education and enjoyment.

KARST AND CAVES Cave Management Program: KC2

- A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation may occur inside or outside of this LUD.

LANDS

Special Use Administration (Non-Recreation): LAND2

- A. Authorize facilities and uses consistent with Semi-Remote Recreation LUD objectives.

MINERALS AND GEOLOGY

Minerals and Geology Resource Preparation: MG1

Resource Preparation

- A. Prepare geologic, paleontologic, and historic mining interpretations, where appropriate.

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- A. Forest lands within this LUD are open to mineral exploration and development.
- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980 (ANILCA), and Forest Service Minerals Regulations 36 CFR 228.
- C. Permit reasonable access to mining claims, leases, and material sites and authorization of orderly mineral resource development with the provisions of an approved Plan of Operations in accordance with Forest Service Minerals Regulations 36 CFR 228 and FSM 2800.

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Management and Operations

- A. Generally, manage for Semi-Primitive ROS settings. Enclaves of concentrated recreation and tourism developments within the LUD or management activities in adjacent LUDs may cause the ROS setting to become Roded Natural, Roded Modified, or Rural.
- B. Designation of motorized routes for OHVs in Semi-Remote Recreation is allowed and will be planned in accordance with 36 CFR 212.
 1. Manage roads for Maintenance Level 2, except when Maintenance Level 3 roads provide access to or through the LUD. Occasional enclaves of concentrated recreation and tourism developments could warrant higher service levels in those areas.
- C. Where roads, trails, and other areas are closed to motorized recreation activities or vehicles, provide Semi-Primitive Non-Motorized recreation opportunities.
 1. Permit use of snowmachines, motorboats, and aircraft for traditional activities.

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- D. Permit small scale, rustic recreation and tourism facilities such as recreation cabins, shelters, docks, and enclaves of concentrated recreation and tourism development.
 - 1. During all construction activity:
 - a. Minimize site modification,
 - b. Minimize vegetation clearing adjacent to the site, and
 - c. Use colors found in the natural environment.

Recreation Special Uses

- A. Major and minor developments are compatible with this LUD. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.

SCENERY

Scenery Operations: SCENE1

- A. Design resource activities to remain visually subordinate to the characteristic landscape. Activities may repeat form, line, color, or texture common to the landscape. New form, line, color, or texture will be subordinate to the characteristic landscape.
 - 1. Apply Forest-wide Standards and Guidelines for the Moderate Scenic Integrity Objective.
 - 2. There may be cases where facilities associated with a concentrated recreation or tourism development may not feasibly meet the Moderate objective. After analysis of the proposal and public involvement, the NEPA decision document for this project should determine the specific Scenic Integrity Objective for the development. The environmental analysis shall also prescribe design guidelines necessary to meet this scenery objective. During the project's design phase, the Forest Service shall be closely involved in the review of design work as it evolves.
 - 3. Design visitor facilities to blend, to the extent feasible, with the natural setting.
- B. Rehabilitation techniques may be used to restore disturbed landscapes to be compatible with the Semi-Primitive setting.

TIMBER

Timber Resource Planning: TIM4

- A. Forested land is classified as not suitable for timber production.
- B. The following types of uses may be authorized when they meet LUD objectives.
 - 1. Removal or use of trees for improvement of recreation and tourism opportunities, such as clearing for vistas, campsites, or trails.
 - 2. Removal or use of trees cut as a part of some other authorized use within this LUD (e.g., clearing for a fish ladder or road).
 - 3. Trees may be cut for use in construction and maintenance of authorized structures when it is not feasible to obtain the necessary material from outside this LUD.
- C. Personal use wood harvest from beach log salvage is fully compatible with this LUD. Personal use wood cutting may be allowed based on local determination. If personal (free) use timber harvest is allowed, personal use permit requirements must satisfy the LUD's objectives (refer to Chapter 4, Personal Use Program, Section TIM4). Personal use timber harvest will be regulated and its cumulative effects monitored in LUDs that are unsuitable for timber harvest to ensure that the LUD objectives are fulfilled.

Management Prescriptions 3

Timber Sale Preparation: TIM5

- A. Salvage will be limited to dead and/or down material resulting from events such as windthrow and insect or disease mortality. Limited standing green timber may be harvested during salvage operations for safety and operational considerations.

TRANSPORTATION

Transportation Operations: TRAN

- A. Where Semi-Primitive Motorized recreation opportunities are emphasized, existing low standard roads are generally managed for use by high clearance or OHVs, snowmobiles, or motorcycles subject to an approved Access and Travel Management Plan. Generally, new roads are not constructed in this area, except to link existing roads or provide access to adjacent LUDs.
 1. Limit the design standards of Forest development roads to those commensurate with the intended use.
 2. Maintain, as necessary, to provide passage of planned traffic.
 3. Locate and design new roads to consider Semi-Primitive recreation opportunities in this LUD.
- B. Where Semi-Primitive Non-Motorized recreation opportunities are emphasized, provide foot or cross-country ski trails. Roads and trails may be closed or seasonally restricted. Close or obliterate existing roads except for transportation system links.
- C. Sites for log transfer facilities may be considered in this LUD. If no other feasible alternative sites exist, locate, design, construct, and manage these facilities in a manner that will be compatible with LUD objectives. Consider the Log Transfer Facility Guidelines (Appendix G) when making the selection for the facility.

Management Prescriptions **3**

Land Use Designation II

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH1 BEACH2	All I(A:1-6, 10, 11)
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH	All
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC	All
Riparian	RIP1 RIP2	All I,II(A-D,F,G)
Rural Community Assistance	RUR	All
Scenery	SCENE1, 3 SCENE2	All I,II(A,B,E)
Soil and Water	SW1, 2, 4 SW3	All I(A:1-4,6-7),II,III
Subsistence	SUB	All
Timber	TIM1,7 TIM4 TIM6	All VII I(A-C,E)
Trails	TRAI	All
Transportation	TRAN1, 2, 3, 4, 5, 6	All
Wetlands	WET	All
Wildlife	WILD1 WILD2 WILD3,4	I-III,VI-XIX I(A,B,C,D) All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	All	None
Renewable Energy Direction	All	All except S-RE-LAND-01 and S-RE-TRAN-01
Transportation Systems Corridors Direction	All	All except S-TSC-LAND-02
Forest-wide Plan Components	All	All

3 Management Prescriptions

LAND USE DESIGNATION II

Goals

To manage the 20 areas (see Appendix J) designated in perpetuity as LUD II according to the direction for LUD II areas in the 1979 Tongass Land Management Plan, as amended.

Manage these areas in a roadless state to retain their wildland character.

Objectives

Manage recreation and tourism use and activities to meet the levels of social encounters, on-site developments, methods of access, and visitor impacts indicated by the Primitive and Semi-Primitive Recreation Opportunity Spectrum (ROS) classes. Apply the LUD II direction from the 1979 Tongass Land Management Plan, which is summarized as follows:

- Prohibit commercial timber harvest. Permit salvage logging only to prevent significant damage to other resources. Allow personal use of wood for cabin logs, fuelwood, float logs, trolling poles, etc.
- Permit water and power developments if designed to be compatible with the primitive characteristics of the area.
- Permit roads only for access to authorized uses, transportation needs identified by the state, or vital linkages.
- Allow mineral development.
- Permit access by boats, aircraft, and snowmachines, unless such uses become excessive.
- Permit fish and wildlife habitat improvements. Design structures to minimize the effects to recreation resources.
- Permit primitive recreational facilities.
- Generally exclude major concentrated recreational facilities.

Salvage logging, personal use of wood, water and power development, fish and wildlife habitat improvement, and research facilities will be designed to be compatible with the primitive characteristics of the area.

Desired Condition

Areas in this LUD are characterized by extensive, generally unmodified natural environments, and retain their wildland character. Ecological processes and natural conditions are only minimally affected by past or current human uses or activities. Users have the opportunity to experience a high-to-moderate degree of independence, closeness to nature, solitude, and remoteness, and may pursue activities requiring self-reliance, challenge, and risk. Interactions between users are infrequent. Recreational facilities and structures are primitive.

3 Management Prescriptions

Apply the following LUD Standards and Guidelines:

FACILITIES

Administrative Facilities: FAC2 and FAC3

- A. Administrative facilities may be constructed in a manner that blends with the natural character of the area.

FIRE

Fire Suppression: FIRE1

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Emphasize suppression tactics that result in the least possible disturbance or evidence of human presence.
 1. Suppression tactics will minimize human/bear conflicts, and existing policy will be emphasized to leave no trash or any other kinds of bear attractants in the area.
 2. Rehabilitation of all campsites, suppression lines, and other evidence of human presence will occur as soon as part of rehabilitation activities, and no longer than one year after the fire occurs.

Fuel Improvements: FIRE2

Prescribed Fire

- A. Allow management-ignited prescribed fire for fuels management, insect and disease protection, and wildlife habitat improvement.
- B. As a general management practice, do not use prescribed natural fire, although natural ignitions may be used to perpetuate natural ecological processes. (Consult Forest Service Manual [FSM] 5142.)

FISH

Fish Habitat Planning: FISH2

Fish Enhancement

- A. Improvements such as fishways, fish hatcheries, or aquaculture sites may be built. Appropriate landscape management techniques will be applied in the design and construction of such improvements to reduce impacts on recreational resources and scenery.

FOREST HEALTH

Forest Health Management: HEALTH1

- A. Insect and disease management measures consistent with this LUD may be implemented to protect these and adjacent resources.

Forest Insect and Disease Survey and Inventory: HEALTH2

- A. Survey and inventory visible outbreaks.

HERITAGE

Heritage Resource Activities: HSS1

Enhancement

- A. Heritage resources are available for recreational, scenic, scientific, educational, conservation, and historic uses.
 1. Heritage resources are available for scientific studies that are consistent with the primitive settings and activities, and heritage resource management objectives for the specific site.

Inventory/Evaluation

- A. Develop priorities and schedule management activities to implement heritage resource inventory, evaluation, protection, and interpretation.

Management Prescriptions 3

1. Identify, classify, and evaluate known heritage resources.
2. Identify heritage properties to be nominated to the National Register of Historic Places.
3. Identify heritage properties that require stabilization or other protective measures.
4. Identify opportunities for interpretation of heritage resources for public education and enjoyment.

KARST AND CAVES Cave Management Program: KC2

- A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation may occur inside or outside of this LUD.

LANDS

Special Use Administration (Non-Recreation): LAND2

- A. Water and power developments are authorized if they can be designed to retain the overall primitive characteristics of the allocated area.
- B. Except as authorized by the TTRA, authorize only those activities that are consistent with the wildland character of the area.

MINERAL AND GEOLOGY

Minerals and Geology Resource Preparation: MG1

Resource Preparation

- A. Prepare geologic, paleontologic, and historic mining interpretations, where appropriate.

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- A. Forest lands within this LUD are open to mineral exploration and development.
- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980, and Forest Service Minerals Regulations 36 CFR 228.
- C. Permit reasonable access to mining claims, leases, and material sites and authorization of orderly mineral resource development with the provisions of an approved Plan of Operations in accordance with 36 CFR 228 and FSM 2800.
- D. Manage mineral exploration and development activities to be compatible with the emphasis on maintaining the wildland character of the LUD II Land Use Designation.

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Management and Operations

- A. Generally provide for Semi-Primitive ROS settings, recognizing that more developed settings may be present due to authorized activities, existing use patterns, and activities in adjacent LUDs.
 1. Primitive recreation facilities, such as recreation cabins, boat docks, moorings, and trails may be constructed and maintained.
- B. Major concentrated recreation facilities, such as development scale IV and V (those heavily modified or with a high degree of site modification) will generally be excluded.
- C. If a transportation link is constructed through this LUD, recreation facilities needed to serve the traveling public, to reduce impacts of

3 Management Prescriptions

recreation use to adjacent wildlands, or to provide interpretation, may be constructed in proximity to the transportation link.

- D. Designation of motorized routes for off-highway vehicles in LUD II is generally not allowed. There may be limited exceptions where documented local traditional use related to subsistence activities has occurred, or when connecting to routes in adjacent LUDs.

Recreation Special Uses

- A. Major developments are generally not consistent with the objectives of the LUD. Development proposals require scrutiny of the magnitude and scope for LUD conformance. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.
- B. Minor developments may be compatible with the LUD objectives depending on the scope, purpose, and magnitude of the proposal. Each proposal will be evaluated on a case-by-case basis. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.

SCENERY

Scenery Operations: SCENE1

- A. Landscapes are managed to retain a natural-appearing scenic condition, where activities are not visually evident to the casual observer.
 1. Apply Forest-wide Standards and Guidelines for the High Scenic Integrity Objective.
 2. Some authorized activities and improvements may not meet the High Scenic Integrity Objective, based on project analysis. However, seek to mitigate scenic impacts through location, siting, design, material, and coloring of structures.

TIMBER

Timber Resource Planning: TIM4

- A. Forested land is classified as not suitable for timber production. Commercial timber harvesting is not permitted.
- B. Timber can be salvaged only to prevent significant damage to other resources. Examples are removal of windfall in an important fish stream or control of epidemic insect infestations.
- C. Personal use of wood is allowed for cabin logs, fuel wood, float logs, trolling poles, and other similar uses.

TRANSPORTATION

Transportation Operations: TRAN

- A. Existing roads are generally closed to highway vehicular use. Any proposed roads will use the following guidelines:
 1. Allow Forest transportation system linkages including roads and transfer facilities. Forest transportation system linkages refer to necessary additions to the permanent road network. Such linkages may be built through LUD II areas when either: 1) no other feasible routes exist to access adjacent LUDs, or 2) it can be demonstrated that the routing through the LUD II area is clearly environmentally preferable and site-specific mitigation measures can be designed to minimize the impact of the road on the surrounding LUD II area. A clear need to build such linkages must be demonstrated through a comparative analysis of feasible transportation alternatives through the NEPA process and approved by the Forest Supervisor.
 2. Roads, other than transportation linkages, will not be built except to serve authorized activities such as mining, renewable energy

Management Prescriptions **3**

developments, aquaculture developments, or transportation needs determined by the State of Alaska.

WILDLIFE

Wildlife Habitat Planning: WILD1

- A. Wildlife habitats will generally evolve in natural successional stages. Habitat improvement is permitted. Prioritize treatment needs and scheduling.

Management Prescriptions **3**

Wild River Land Use Designation

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH1	All
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH1	I(B,C)
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC1, 3 REC2	All I,II(A-C),III
Riparian	RIP1 RIP2	All I,II(A-D,F)
Rural Community Assistance	RUR	All
Scenery	SCENE1 SCENE2 SCENE3	All I,II(A,E) I(A,B)
Soil and Water	SW1, 2, 4 SW3	All I(A:1-4,B-F),II
Subsistence	SUB	All
Timber	TIM1, 7 TIM4 TIM6	All VII I(A,E)
Trails	TRAI1 TRAI2	I(A-E;F:1,3,5,6) All
Transportation	TRAN	None
Wetlands	WET	All
Wildlife	WILD1 WILD2 WILD4	I-III;VI-VIII; IX(A,C,E);X;XI; XII(A,B);XIII-XIX I(A,B,C,D) All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	All	None
Renewable Energy Direction	All	All
Transportation Systems Corridors Direction	All	All
Forest-wide Plan Components	All	All

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WILD RIVER

Goals

To manage designated river segments according to the Wild and Scenic Rivers Act (Public Law 90-542), National Wild and Scenic Rivers System; Final Revised Guidelines for Eligibility, Classification, and Management of River Areas (Federal Register Volume 47, Number 173, 1982), and direction in Forest Service manuals and handbooks.

To maintain, enhance, and protect the free-flowing character and outstandingly remarkable values of rivers and river segments designated as Wild Rivers and included in the National Wild and Scenic Rivers System.

To maintain Wild Rivers in a natural, free-flowing, unmodified condition, and provide recreation and tourism opportunities affording a high degree of independence, closeness to nature, and self-reliance.

To manage recommended Wild River segments to maintain their outstandingly remarkable values and classification eligibility until Congress designates the segments or decides not to designate them.

Objectives

Manage Wild River segments to maintain an enduring wildland and free-flowing river resource, while providing for access and use consistent with the Wild and Scenic Rivers Act and the Alaska National Interest Lands Conservation Act of 1980 (ANILCA).

Withdraw Wild River segments from mineral entry when designated by Congress, subject to valid existing rights, and classify forested lands as not suitable for timber production.

Manage recreation and tourism use and activities to meet the levels of social encounters, on-site developments, methods of access, and visitor impacts indicated for the Primitive or Semi-Primitive Recreation Opportunity Spectrum (ROS) classes.

Apply the High Scenic Integrity Objective within the river corridor.

Desired Condition

Wild Rivers and river segments are in a natural, free-flowing, and undisturbed condition. Ecological processes and changes predominate. The outstandingly remarkable values for which the river was designated remain outstanding and remarkable. Recreation users have the opportunity for primitive and semi-primitive experiences, solitude, and remoteness in a natural setting. Interactions between users are infrequent, and evidence of human activities is minimal. Facilities and structures are rustic in appearance and promote primitive recreation and tourism experiences.

3 Management Prescriptions

Apply the following LUD Standards and Guidelines

FACILITIES

Facilities Improvements: FAC2 and FAC3

- A. Avoid construction of new administrative facilities unless needed for administration of river resources and users. If needed, facilities will be rustic and kept to a minimum.

FIRE

Fire Suppression: FIRE1

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Emphasize suppression tactics that result in the least possible disturbance or evidence of human presence.
 - 1. Use of mechanized equipment will be addressed in the management plan developed for each river.
 - 2. Suppression tactics will minimize human/bear conflicts, and existing policy will be emphasized to leave no trash or any other kinds of bear attractants in the area.
 - 3. Rehabilitation of all campsites, suppression lines, and other evidence of human presence will occur as soon as part of rehabilitation activities, but within one year after the fire occurs.

Fuel Improvements: FIRE2

Prescribed Fire

- A. Allow management-ignited prescribed fire that emulates natural ecological processes.
- B. As a general management practice, do not allow prescribed natural fire. (Consult FSM 5142.)

FISH

Fish Habitat Planning: FISH2

Fish Enhancement

- A. Fish enhancement projects may be allowed after considering the following during project planning:
 - 1. The primitive character of the area can be maintained. Realize that an enhanced fishery could result in increased recreation and tourism use.
 - 2. Effects on Wild River ecosystems due to the introduction of species not indigenous to the watershed.
 - 3. If a naturally appearing free-flowing condition can be maintained.
 - 4. Effects on the outstandingly remarkable values for which the river was designated.
 - 5. The appropriateness of structures both in type and scale to the primitive and natural character of the area.
 - 6. Ability to meet a High Scenic Integrity Objective.

Fish Habitat Improvement: FISH3

- A. Use construction techniques that are consistent with the ROS setting.
 - 1. Land-disturbing activities necessary for construction will be temporary.
 - 2. Design development to minimize impact on the primitive character of the corridor.
- B. Permanent stream obstructions are not permitted.

Management Prescriptions 3

FOREST HEALTH

Forest Health Management: HEALTH1

- A. Implement insect and disease management measures consistent with this LUD to protect the character and values of Wild Rivers.

Forest Insect and Disease Survey and Inventory: HEALTH2

- A. Survey and inventory visible outbreaks.

HERITAGE

Heritage Resource Activities: HSS1

Enhancement

- A. Heritage resources are available for scientific study to the extent that the study is consistent with the intent of the Wild and Scenic Rivers Act.
- B. Heritage resources are available for recreational, scenic, scientific, educational, conservation, and historic uses, consistent with Wild River management.
 1. Generally, provide interpretive information concerning heritage resources to users in the form of exhibits and publications outside the Wild River corridor.

Inventory/Evaluation

- A. Develop priorities and schedule management activities to implement heritage resource inventory, evaluation, protection, and interpretation.
 1. Identify, classify, and evaluate known heritage resources.
 2. Identify heritage properties to be nominated to the National Register of Historic Places.
 3. Identify heritage properties that require stabilization or other protective measures.
 4. Identify opportunities for interpretation of heritage resources for public education and enjoyment.

KARST AND CAVES

Cave Management Program: KC2

- A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation will generally occur outside this LUD.
- B. Manage caves as Class 1 (Sensitive) or Class 3 (Undeveloped) as described in the Karst and Cave Resources Forest-wide Standards and Guidelines.

LANDS

Special Use Administration (Non-Recreation): LAND2

- A. Authorize only those uses consistent with management objectives. (Consult the Land Management Planning Handbook 1909.12, Chapter 80.)
 1. Do not authorize water supply dams or major diversions.
 2. Do not authorize development of hydroelectric power facilities for 1) projects exempted from licensing by the Federal Energy Regulatory Commission (FERC), or 2) projects on rivers designated through Sections 2, 3, and 5(a) of the Wild and Scenic Rivers Act. The Forest Service will recommend to FERC that a project on a river found eligible and suitable for inclusion in the Wild and Scenic Rivers System should not be licensed because it is inconsistent with the purposes for which the National Forest was created or acquired and, if necessary, impose conditions on any license issued for a project on that river that fully protect its outstandingly remarkable characteristics and free-flowing nature.

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3. Maintain the natural appearance and primitive character of the river area. Do not authorize flood control dams, levees, or similar structures in the channel or river corridor.
4. Do not authorize new structures that would have a direct adverse effect on river values.
5. Transportation and utility systems will be considered in accordance with ANILCA, Title XI.
6. Allow motorized access in accordance with ANILCA Sections 811 and 1110(b).

Land Ownership Administration: LAND6

- A. Acquire private inholdings in the river corridor as opportunities arise.

MINERALS AND GEOLOGY

Minerals and Geology Resource Preparation: MG1

Resource Preparation

- A. Prepare geologic, paleontologic, and historic mining interpretations, where appropriate.

Minerals and Geology Resource Administration: MG2

Wild Rivers

- A. When designated by Congress, Forest lands within 0.25 mile of the river are withdrawn from mineral entry subject to valid existing rights.
- B. Permit reasonable access to valid existing claims in accordance with the provisions of an approved Plan of Operations.
- C. Encourage use of state-of-the-art techniques for developing mineral resources to reduce impacts to Wild Rivers to the extent feasible. Include mitigation measures that are compatible with the scale of proposed development and commensurate with potential resource impacts.

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Management and Operations

- A. To the degree consistent with the overall purposes of designation, provide primitive wildland recreation opportunities that reflect the ecological, historical, and sociological conditions found within the river corridor and adjacent lands.
- B. Manage for Primitive and Semi-Primitive ROS settings and activities that emphasize existing opportunities. Protect the integrity of river resources through integrated project planning and implementation.
 1. Manage for the existing or less developed recreation settings and opportunities unless activities and practices authorized by the Forest Service officer with delegated authority causes change in the ROS setting(s). Seek to minimize the changes through project design and mitigation. Manage recreation and tourism use in a manner that is compatible with the long-term objectives of the LUD.
- C. Manage recreation and tourism use and activities to meet the appropriate levels of social encounters, on-site development, methods of access, and visitor impacts indicated for the ROS settings. (Consult the ROS Forest Service Handbook and the Recreation and Tourism Forest-wide Standards and Guidelines.)
- D. Minor, rustic, recreation and tourism facilities, including public recreation cabins, floatplane and boat docks, trails, and trail bridges may be constructed in the river corridor.

Management Prescriptions 3

- E. Designation of motorized routes for off-highway vehicles in Wild Rivers is generally not allowed. Designation may only occur where documented local traditional use has occurred and the route is compatible with a Primitive or Semi-Primitive ROS setting.

Wild River Management

- A. Manage Wild River segments to maintain an enduring wildland and free-flowing river resource, while providing access and use consistent with the purposes of the Wild and Scenic Rivers Act, as amended, and ANILCA (Public Law 96-487). Traditional activities and practices authorized by ANILCA will be regulated or restricted only where it is determined that the effects of continued or expanded use is likely to cause one or more of the following:
1. The degradation of the long-term successional changes in wildland and water ecosystems. Adequate determination of the cumulative effects of activities and equipment use must be demonstrated as well as site-specific or singular effects.
 2. It is detrimental to the natural dynamics of the composition or structure of wildland and water ecosystems.
 3. It is detrimental to identified objects of heritage, historic, prehistoric, and scientific interest.
 4. It is detrimental to the ROS setting conditions or where the cumulative effects of various activities are likely to become detrimental to those settings.
 5. A specific use is not in accordance with applicable law.
- B. Encourage and enlist public and private sector interest groups to work together in meeting Wild River management objectives. Emphasize programs that help to educate the public in the appropriate conduct of activities and uses within Wild River corridors.

Recreation Special Uses

- A. Major developments are not consistent with agency policy and regulations. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.
- B. Minor developments may be compatible with the LUD objectives depending on the scope, purpose, and magnitude of the proposal. Proposals will be evaluated on a case-by-case basis. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.

SCENERY

Scenery Operations: SCENE1

- A. Landscapes are managed to retain a natural-appearing scenic condition, where activities are not visually evident to the casual observer.
1. Apply the Forest-wide Standards and Guidelines for the High Scenic Integrity Objective to all areas within the river corridor. The area adjacent to the corridor is managed according to the guidelines of the adjacent LUD.
 2. Low scenic-impact recreation and tourism facilities, cabins, infrequent fish or wildlife management activities, and other authorized structures that are compatible with the primitive character of the corridor may be acceptable and should be considered on a case-by-case basis. (Also see the Recreation and Tourism Standards and Guidelines in this prescription.)

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- SOIL AND WATER** **Watershed Resource Improvements: SW4**
- A. Undertake watershed improvements within 0.25 mile each side of the river only where deteriorated soil or hydrologic conditions create a threat to the values for which the river is managed. Use, whenever possible, indigenous plant species and materials in implementing land treatment measures to protect or improve the quality and/or quantity of the water resource or when stabilizing or improving the productivity of the soil resource. (Consult FSM 2350 and 2520).
 - B. Maintain water quality and flow to protect the river's outstandingly remarkable values.
- SUBSISTENCE** **Subsistence: SUB**
- A. Allow subsistence activities in Wild River corridors, subject to reasonable regulations to protect Wild River resources.
- TIMBER** **Timber Resource Planning: TIM4**
- A. Forested land is classified as not suitable for timber production.
 - B. Silvicultural treatments are limited to control of insect and disease.
 - C. Salvage harvest of dead or down material may occur. Removal of naturally occurring dead trees in and along the river shoreline, including sweepers extending into the river from the bank should consider the protection of the outstandingly remarkable values and fish habitat in accordance with agreements with the state.
 - D. Taking of personal use wood is limited to beach logs on the portion of the river influenced by tidal action. Only beach logs that can be removed without roads or use of vehicles on uplands may be taken.
- TRANSPORTATION** **Transportation Operations: TRAN**
- A. Permit no new roads, except to access valid mining claims or as transportation and utility systems in accordance with ANILCA Title XI.
 - B. Close roads in this LUD to motorized vehicle use.
 - C. Allow continued existing use of snowmachines and aircraft; however, restrictions may be imposed on a case-by-case basis to protect outstandingly remarkable river values.
- WILDLIFE** **Wildlife Habitat Improvement: WILD2**
- A. Allow wildlife habitat improvements where their principal objective is the protection or restoration of Wild River resources, and enhancement of outstandingly remarkable values.

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are either not visually evident or are subordinate to the landscape. A variety of successional stages providing wildlife habitat occur, although late successional stages predominate. Recreation and tourism opportunities in a range of settings are available. In the areas managed for High or Moderate Scenic Integrity Objectives, timber yields will generally be obtained through the use of small openings or uneven-aged systems. A yield of timber is produced, which contributes to Projected Timber Sale Quantity (PTSQ).

Scenic Viewshed Land Use Designation

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH	All
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH	All
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC	All
Riparian	RIP	All
Rural Community Assistance	RUR	All
Scenery	SCENE	All
Soil and Water	SW	All
Subsistence	SUB	All
Timber	TIM	All
Trails	TRAI	All
Transportation	TRAN	All
Wetlands	WET	All
Wildlife	WILD	All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	WILD	None
	All Remaining	All except DC-YG-03
Renewable Energy Direction	All	All except S-RE-LAND-01 and S-RE-TRAN-01
Transportation Systems Corridors Direction	All	All except S-TSC-LAND-02
Forest-wide Plan Components	All	All

SCENIC VIEWSHED

Goals

To provide a sustained yield of timber and a mix of resource activities while minimizing the visibility of developments as seen from Visual Priority Travel Routes and Use Areas.

To recognize the scenic values of suitable forest lands viewed from selected popular roads, trails, water travel routes, recreation sites, bays, and anchorages, and to modify timber harvest practices accordingly.

To seek to provide a supply of timber from the Tongass National Forest that meets the annual and planning-cycle market demand, consistent with the standards and guidelines for this LUD.

Objectives

Within this LUD, apply the Scenic Integrity Objective of High in the foreground distance zone and Moderate in the middleground and background distance zones, as seen from the Visual Priority Travel Routes and Use Areas (see Appendix F). Apply the Very Low Scenic Integrity Objective to all other areas.

Forest lands are suitable for timber production. Use appropriate silvicultural systems consistent with the adopted Scenic Integrity Objectives. Other timber management considerations include:

- Seek to reduce clearcutting when other methods will meet land management objectives;
- Identify opportunities for diversifying the wood products industry (e.g., special forest products and value-added local production);
- Use forest health management to protect resource values;
- Improve timber growth and productivity on commercial forest lands;
- Plan, inventory, prepare, offer, sell, and administer timber sales and permits to ensure the orderly development of timber production; and
- Emphasize the overall reduction of costs, increase of revenues, and improvement of public service within the timber program.

Perform viewshed analysis in conjunction with project development to provide direction for retaining or creating a scenically attractive landscape over time, and for rehabilitation of areas overly modified in the past.

Provide a spectrum of recreation and tourism opportunities consistent with the capabilities of this LUD. Semi-primitive to roaded experiences may be offered.

Design roads and trails to be compatible with the characteristic landscape.

Extend rotations, as necessary, to meet the Scenic Integrity Objectives.

Desired Condition

In areas managed under the Scenic Viewshed LUD, forest visitors, recreationists, and others using identified popular travel routes and use areas will view a natural-appearing landscape (refer to Appendix F). Management activities in the foreground will not be evident to the casual observer. Activities in the middleground and background will be subordinate to the characteristic landscape. Areas topographically screened from Visual Priority Travel Routes and Use Areas may be heavily modified. Within these viewsheds, even-aged timber harvest units are typically small and affect only a small percentage of the seen area. At any given point in time, roads, facilities, and other structures

Management Prescriptions **3**

Apply the following LUD and Standards and Guidelines:

FACILITIES

Facilities Improvements: **FAC2 and FAC3**

- A. Meet the Scenic Integrity Objectives for this LUD when siting and constructing facilities for administrative use.
 1. High: Structures and activities should not be visually evident to the casual observer from sensitive viewpoints.
 2. Moderate: Structures and activities should be subordinate to the landscape character of the area.

FIRE

Fire Suppression: **FIRE1**

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Suppression tactics are limited only by the standards for the LUD (e.g., soil, water quality, and scenery).

Fuel Improvements: **FIRE2**

Prescribed Fire

- A. Management-ignited prescribed fire must meet the Very High Scenic Integrity Objective and meet all soil and water quality standards.
 1. Treat all activity fuels to meet the Very High Scenic Integrity Objective within one year following timber harvest.
- B. Do not use prescribed natural fire.

FISH

Fish Habitat Improvements: **FISH3**

- A. Meet the Scenic Integrity Objectives in the design and construction of fish habitat improvements and aquaculture facilities.
 1. Construct facilities from materials which blend with, and are compatible with, the immediately surrounding landscape.

FOREST HEALTH

Forest Health Management: **HEALTH1**

- A. Design Timber Stand Improvement, sanitation, salvage, and insect and disease management activities to be consistent with scenery and forest health objectives.

Forest Insect and Disease Survey and Inventory: **HEALTH2**

- A. Survey and inventory visible outbreaks.

HERITAGE

Heritage Resource Activities: **HSS1**

Inventory

- A. Provide heritage resource assistance to all development proposals. Coordination includes participation and support for environmental analysis, inventory, evaluation, assessment, monitoring, and protection of heritage resources during activities.
 1. Heritage resource inventory will be accomplished during project planning. State Historic Preservation Office concurrence and Forest Supervisor approval is required prior to implementation.
 2. Heritage resource specialists shall provide input on known or predicted heritage resource site density in proposed project areas and make recommendations to manage heritage resources.

3 Management Prescriptions

3. Should any heritage resources be discovered during project activity, all work within the vicinity of the discovery shall cease until a heritage resource specialist is able to evaluate the situation and resumption of activity is approved by the Forest Supervisor.

KARST AND CAVES Cave Management Program: KC2

- A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation may occur inside or outside of this LUD.

LANDS

Special Use Administration (Non-Recreation): LAND2

- A. Authorize improvements only when Scenic Integrity Objectives can be achieved.
 1. Authorize only structures that will not be evident to casual observers when viewed in the foreground distance from Visual Priority Travel Routes and Use Areas. In the middle to background distance, design structures to be subordinate to the characteristic landscape.
 2. Specify that materials and fabrication techniques for all new facilities be compatible with form, color, and texture found in the immediate surrounding landscape.

Landline Location and Maintenance: LAND4

- A. Provide adequate landline marking for Forest Service contractors.
 1. Prior to Forest Service management activities, survey, mark, and post the boundary of National Forest System lands to Forest Service Standards, where there is a risk of trespass.

MINERALS AND GEOLOGY

Minerals and Geology Resource Preparation: MG1

Resource Preparation

- A. Require a scenic assessment and scenery resource assistance with site planning and design of minerals activities.
- B. Prepare geologic, paleontologic, and historic mining interpretations, where appropriate.

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- A. Forest lands within this LUD are open to mineral entry.
- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980 (ANILCA, and Forest Service Minerals Regulations 36 CFR 228.
- C. Allow reasonable access to mining claims, leases, and material sites and authorization of orderly mineral resource development with the provisions of an approved Plan of Operations in accordance with Forest Service Minerals Regulations 36 CFR 228 and FSM 2800.
- D. Manage mineral activities to be compatible with the emphasis of this LUD. Apply the following management practices to meet Visual Quality Objectives:
 1. Recognize the effects of color, tone, form, texture, line, size, and edge on the scenic viewshed.
 2. Locate material disposal sites and marine transfer facilities outside this LUD if reasonable alternatives exist.

Management Prescriptions 3

3. Take maximum advantage of topographic and vegetative screening when locating drill rigs and pumps, roads, rock quarries, structures, and marine transfer facilities.
4. Ensure that vegetation removed from the project area is hauled away, buried, burned, or scattered when such vegetation is located adjacent to sensitive viewpoints.
5. Minimize the scale of spoil/disposal areas in relation to the surrounding landscape as seen from sensitive viewpoints.
6. Approve use of colors that simulate those found in the characteristic landscape. Avoid use of reflective materials in project facilities.
7. Ensure that landform modifications simulate naturally occurring forms.
8. Ensure that disturbed areas are revegetated in accordance with project plans.

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Settings

- A. Provide a spectrum of recreation and tourism opportunities consistent with the objectives of this LUD.
 1. Where possible, management activities should avoid change to inventoried recreation places unless analysis indicates a need to provide a different recreation opportunity.
 2. In locations where approved activities occur, the recreation setting may change to the Semi-Primitive Motorized, Roaded Natural, and Roaded Modified ROS classes.
 3. Seek to maintain recreation opportunities along existing trail corridors by minimizing road crossings and clearing directly adjacent to the trail.
 4. Seek to minimize impacts to areas directly adjacent to developed recreation and tourism facilities (e.g., cabins and campgrounds) through scheduling and location of timber harvest activities.
- B. In those areas identified as inventoried recreation places, seek to maintain the existing ROS setting. When scheduled activities nearby may result in a change in the ROS setting, minimize the impacts so they maintain a Roaded Natural, or more natural setting.
- C. Motorized routes for off-highway vehicles in Scenic Viewshed may be allowed and will be planned in accordance with 36 CFR 212.

Recreation Special Uses

- A. Major and minor developments are compatible with this LUD; applicants are encouraged to examine these areas first. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.

SCENERY

Scenery Operations: SCENE1

- A. Manage areas to maintain scenic quality as seen from Visual Priority Travel Routes and Use Areas.
 1. Apply the High Scenic Integrity Objective for lands in the foreground distance zone and the Moderate Scenic Integrity Objective for lands in the middleground and background distance zones, as seen from Visual Priority Travel Routes and Use Areas (see Appendix F). In areas of this allocation not seen from the Visual Priority Travel Routes and Use Areas, apply the Very Low Scenic Integrity Objective. These objectives define the maximum limit of allowable

3 Management Prescriptions

- change to the scenic character of the area; less visible evidence of activities is acceptable.
2. Exceptions for small areas of non-conforming developments, such as recreation sites, transportation developments, log transfer facilities and mining development, may be considered on a case-by-case basis.
 3. Perform viewshed analysis in conjunction with project development to provide guidance for retaining or creating a visually attractive landscape over time.
- B. The following guidelines provide direction for old-growth timber harvest activities to meet Scenic Integrity Objectives and Visual Absorption Capability (VAC) settings.
1. High - Timber harvest activities are not evident to the casual Forest visitor.
 2. Moderate - Although timber harvest activities are evident, they must remain subordinate to the characteristic landscape.
 3. Very Low - Timber harvest activities may dominate the area.
- C. The following guidelines provide specific scenery mitigation measures appropriate to old-growth timber management.
1. The ability to attain the adopted Scenic Integrity Objective is dependent on many variables. Visual Absorption Capability (VAC) is an estimate of the relative ability of a landscape to absorb management activities. VAC ratings of High, Intermediate, and Low were derived from the Revision Database for analysis purposes. A Low VAC setting generally has steep slopes, with little landscape variety, while a High VAC setting is relatively flat and/or has a high degree of variety in the landscape.
 2. The unit sizes listed below provide guidance to the project Interdisciplinary Team. Each landscape setting is different, and should be evaluated on a case-by-case basis. There may be instances where the scenery objective can be attained while the unit size is greater than the guideline, and there also may be instances where the unit size must be smaller to meet the intent of the Scenic Integrity Objective.
 3. Typical regeneration methods and approximate unit sizes for landscapes of different visual absorption capabilities for the Scenic Integrity Objectives adopted in this LUD are described below.
 - a) **Scenic Integrity Objective High:**
 - Low VAC: Single tree or group selection (less than 2 acres)
 - Intermediate VAC: Single tree or clearcut (openings approximately 5 to 15 acres)
 - High VAC: Clearcut (openings approximately 15 to 30 acres)
 - b) **Scenic Integrity Objective Moderate:**
 - Low VAC: Group selection or clearcut (openings approximately 2 to 10 acres)
 - Intermediate VAC: Clearcut (openings approximately 10 to 40 acres)
 - High VAC: Clearcut (openings approximately 40 to 60 acres)
 - c) **Scenic Integrity Objective Very Low:**
 - Low VAC: Clearcut (openings approximately 50 to 75 acres)
 - Intermediate VAC: Clearcut (openings approximately 80 to 100 acres)

Management Prescriptions 3

- High VAC: Clearcut (openings approximately 80 to 100 acres)

SOIL AND WATER

Watershed Resource Planning: SW3

- A. Delineate the location of high hazard soils, riparian, and other sensitive areas on project maps to insure their recognition, proper consideration, and protection on the sale area.
- B. Manage state classified public water supply source watersheds for multiple use, while providing water suitable for human consumption in compliance with the Safe Drinking Water Act, State of Alaska Drinking Water Regulations, and Water Quality Standards. Conduct watershed analysis (Appendix C) and consult with Alaska Department of Environmental Conservation and affected municipalities prior to authorizing activities that are likely to cause pollution.
- C. Apply Best Management Practices (BMPs) to all land-disturbing activities as a process to protect the beneficial uses of water from non-point sources of pollution (consult National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook, FSH 2509.22). Also consult Forest Service Manual (FSM) 2530, Transportation Forest-wide Standards and Guidelines, U.S. Army Corps of Engineers Regulations (33 CFR 323.4) and the Clean Water Act.

Watershed Resource Improvements: SW4

- A. Accomplish soil and water improvement projects on non-designated domestic water use watersheds to prevent degradation of water quality below the State of Alaska's Water Quality Standard for domestic use.

TIMBER

Timber Resource Planning: TIM4

- A. Forest lands are suitable for timber production and are included in the Projected Timber Sale Quantity (PTSQ) calculation.
- B. Scenery objectives will be emphasized in the analysis, in the development of environmental documents, and in the design and implementation of silvicultural activities.

Timber Sale Preparation: TIM5

- A. Timber harvest activities may include all applicable silvicultural systems. Project analysis will recognize the effects of color, tone, form, texture, line, slope, size, and edge on the scenic viewshed.
- B. Tree limbs, root wads, and tree stumps may require secondary treatment to meet the High and Moderate Scenic Integrity Objective. For timber sales and road construction contracts, use appropriate clauses that address these concerns.
- C. Seek to minimize impacts to areas directly adjacent to developed recreation facilities (e.g., cabins and campgrounds) through scheduling and location of harvest activities.

Other Forest Products: TIM7

- A. Personal use sawtimber, firewood, and Christmas tree cutting activities are compatible with this LUD provided that LUD objectives are met.

3 Management Prescriptions

TRANSPORTATION **Transportation Operations: TRAN**

- A. Develop and manage cost-effective transportation systems that integrate resource requirements consistent with LUD direction.
 - 1. To meet the Scenic Integrity Objectives, give special consideration to minimizing apparent landform modification (as seen from sensitive travel routes) during road and log transfer facility location, design, and construction.
 - 2. Perform integrated logging system and transportation system analysis to determine the least cost facility (considering cost of construction, maintenance, and hauling) and design standards necessary to meet LUD objectives.
 - 3. Give special emphasis to maintaining fish and wildlife habitat values, especially during road location and development of road management objectives.
 - a) If the need to restrict access is identified during project interdisciplinary review, roads may be closed, either seasonally or year-long. (Consult Transportation Forest-wide Standards and Guidelines.)
 - 4. Provide recreational access, where appropriate.
 - 5. Seek to avoid road crossings on existing trails unless the road provides improved access to the trail or locating roads parallel to trails. Should no other feasible alternative exist, minimize site disturbance visible from the trail. Locate rock source developments away from trails to the extent possible, while meeting the objectives of this LUD.

WILDLIFE

Wildlife Habitat Planning: WILD1

- A. Use existing inventories and evaluate the need for further project-specific inventories of wildlife habitat conditions during project analysis.
 - 1. Select Management Indicator Species (MIS) appropriate to the project area for project analysis.
- B. Coordinate all activities with consideration for the needs of wildlife, within the overall objectives of this LUD.
 - 1. Use the habitat needs of MIS to evaluate opportunities for, and consequences on, wildlife.
 - 2. In project planning, consider opportunities to allow for the elevational migration of wildlife.
 - 3. Consider silvicultural techniques that establish and prolong understory forb and shrub production in important habitat areas. Such techniques can include prescribed burning, precommercial thinning, canopy gaps, and uneven-aged management. Use the Tongass Young-Growth Strategy to help prioritize treatment needs and scheduling (consult Tongass Young-growth Management Strategy).
- C. Coordinate road management with the needs of wildlife.

Wildlife Habitat Improvement: WILD2

- A. Design and implement wildlife habitat improvement projects to meet the Scenic Integrity Objectives.

3 Management Prescriptions

Modified Landscape Land Use Designation

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH	All
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH	All
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC	All
Riparian	RIP	All
Rural Community Assistance	RUR	All
Scenery	SCENE	All
Soil and Water	SW	All
Subsistence	SUB	All
Timber	TIM	All
Trails	TRAI	All
Transportation	TRAN	All
Wetlands	WET	All
Wildlife	WILD	All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	WILD	None
	All Remaining	All except DC-YG-03
Renewable Energy Direction	All	All except S-RE-LAND-01 and S-RE-TRAN-01
Transportation Systems Corridors Direction	All	All except S-TSC-LAND-02
Forest-wide Plan Components	All	All

Apply the following LUD Standards and Guidelines:

FACILITIES

Facilities Improvements: FAC2 and FAC3

- A. Locate and construct facilities for administrative use that meet the Scenic Integrity Objective.

FIRE

Fire Suppression: FIRE1

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Suppression tactics are limited only by the standards and guidelines for this LUD (e.g., soil, water quality, and scenic quality).

MODIFIED LANDSCAPE

Goals

To provide a sustained yield of timber and a mix of resource activities while minimizing the visibility of developments in the foreground distance zone.

To recognize the scenic values of forest lands viewed from identified popular roads, trails, marine travel routes, recreation sites, bays, and anchorages, and to modify timber harvest practices accordingly.

To maintain and promote wood production from suitable forest lands, providing a continuous supply of wood products to meet society's needs.

To seek to provide a supply of timber from the Tongass National Forest that meets the annual and planning-cycle market demand, consistent with the standards and guidelines for this LUD.

Objectives

Within this LUD, apply the Scenic Integrity Objective of Moderate in the foreground distance zone and Low in the middleground and background distance zones, as seen from the Visual Priority Travel Routes and Use Areas (see Appendix F). Apply the Very Low Scenic Integrity Objective to all other areas.

Forest lands are suitable for timber production. Use silvicultural systems consistent with the adopted Scenic Integrity Objectives. Other timber management considerations include:

- Seek to reduce clearcutting when other methods will meet land management objectives;
- Identify opportunities for diversifying the wood products industry (e.g., special forest products and value-added local production);
- Use forest health management to protect resource values;
- Improve timber growth and productivity on commercial forest lands;
- Plan, inventory, prepare, offer, sell, and administer timber sales and permits to ensure the orderly development of timber production;
- Emphasize the overall reduction of costs, increase of revenues, and improvement of public service within the timber program.

Provide a spectrum of recreation and tourism opportunities consistent with the capabilities of this LUD. Semi-Primitive Non-Motorized to Roaded experiences may be offered. Avoid changing Semi-Primitive Non-Motorized settings to Roaded when feasible.

Design roads and associated rock quarries to meet the applicable Scenic Integrity Objective.

Desired Condition

In areas managed under the Modified Landscape LUD, forest visitors, recreationists, and others using popular Travel Routes and Use Areas will view a somewhat modified landscape (refer to Appendix F). Management activities in the visual foreground will be subordinate to the characteristic landscape, but may dominate the landscape in the middle and backgrounds. Within the foreground, timber harvest units are typically small and affect only a small percentage of the seen area at any one point in time. Roads, facilities, and other structures are also subordinate to the foreground landscape. Recreation opportunities associated with natural-appearing to modified settings are available. A variety of successional stages provide a range of wildlife habitat conditions. Timber is produced, which contributes to Projected Timber Sale Quantity (PTSQ).

Management Prescriptions 3

Fuel Improvements: FIRE2

Prescribed Fire

- A. Management-ignited prescribed fire must meet the Moderate Scenic Integrity Objective and meet all soil and water quality standards and guidelines.
 - 1. Treat all activity fuels to meet the Moderate Scenic Integrity Objective within one year following timber harvest.
- B. Do not use prescribed natural fire.

FOREST HEALTH

Forest Health Management: HEALTH1

- A. Forest insect and disease management activities emphasize forest health through achieving beneficial populations of insects and diseases.
 - 1. Encourage Timber Stand Improvement, sanitation, and salvage.
 - 2. Manipulate insects and diseases to desirable levels by evaluating chemical, cultural, mechanical, biological, or "no action" alternatives.

Forest Insect and Disease Survey and Inventory: HEALTH2

- A. Survey and inventory visible outbreaks.

HERITAGE

Heritage Resource Activities: HSS1

Inventory

- A. Provide heritage resource assistance to all developmental proposals. Coordination includes participation and support for environmental analysis, inventory, evaluation, assessment, monitoring, and protection of heritage resources during activities.
 - 1. Heritage resource inventory will be accomplished during project planning. State Historic Preservation Office concurrence and Forest Supervisor approval is required prior to implementation.
 - 2. Heritage resource specialists shall provide input on known or predicted heritage resource site density in proposed project areas and make recommendations to manage heritage resources.
 - 3. Should any heritage resources be discovered during project activity, all work within the vicinity of the discovery shall cease until a heritage resource specialist is able to evaluate the situation and resumption of activity is approved by the Forest Supervisor.
- B. Identify opportunities for interpretation of heritage resources for public education and enjoyment.

KARST AND CAVES

Cave Management Program: KC2

- A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation may occur inside or outside of this LUD.

LANDS

Special Use Administration (Non-Recreation): LAND2

- A. Authorize only those development activities compatible with LUD objectives. Avoid issuing, or limit the duration of, authorizations for uses that require natural surroundings.
 - 1. Only authorize activities that can be designed to meet the Scenic Integrity Objectives for this LUD.

Landline Location and Maintenance: LAND4

- A. Provide adequate landline marking for Forest Service contractors.

3 Management Prescriptions

MINERALS AND GEOLOGY

1. Prior to Forest Service management activities, survey, mark, and post the boundary of National Forest System lands, to Forest Service Standards, where there is a risk of trespass.

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- A. Forest lands within this LUD are open to mineral entry.
- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980 (ANILCA), and Forest Service Minerals Regulations 36 CFR 228.
- C. Allow reasonable access to mining claims, leases, and material sites and authorization of orderly mineral resource development with the provisions of an approved Plan of Operations in accordance with Forest Service Minerals Regulations 36 CFR 228 and FSM 2800.

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Settings

- A. Provide a spectrum of outdoor recreation and tourism opportunities consistent with the objectives of the LUD.
 1. Manage for the existing recreation settings and opportunities until approved activities and practices change the ROS setting(s). Manage recreation and tourism use in a manner that is compatible with the timber harvest objectives.
 2. In locations where approved activities change the recreation setting(s), manage the new setting(s) with the appropriate ROS guidelines (generally Roded Modified).
 3. Seek to maintain the recreation opportunity along existing trail corridors by minimizing road crossings and clearing directly adjacent to the trail.
 4. Seek to minimize impacts to areas directly adjacent to developed recreation and tourism facilities (e.g., as cabins and campgrounds) through scheduling and location of project activities.
- B. In those areas inventoried as recreation places, seek to maintain the existing ROS setting. When approved activities nearby may result in a change to the ROS setting, minimize the impacts so they maintain a Roded Natural or more natural ROS setting.

Recreation Special Uses

- A. Major and minor developments may be compatible with the LUD objectives depending on the scope, purpose, and magnitude of the proposal. Proposals will be evaluated on a case-by-case basis. Refer to the Recreation and Tourism Forest-wide Standards and Guidelines.

SCENERY

Scenery Operations: SCENE1

- A. In foreground settings, design management activities to be subordinate to the characteristic landscape. Management activities may dominate areas seen in the middleground and background distance. In all settings, activities should utilize existing form, line, color, and texture found in the characteristic landscape.
 1. Apply the Moderate Scenic Integrity Objective in the foreground distance zone and the Low Scenic Integrity Objective in the middleground and background distance zones, as seen from Visual Priority Travel Routes and Use Areas (see Appendix F). In areas of this allocation not seen from the Visual Priority Travel Routes and

Management Prescriptions 3

- Use Areas, apply the Very Low Scenic Integrity Objective. These objectives define the maximum limit of allowable change to scenic character of the area; less visible evidence of activities is acceptable.
2. Exceptions for limited areas of non-conforming developments, such as recreation sites, transportation developments, log transfer facilities, and mining development, may be considered on a case-by-case basis.
- B. The following guidelines provide direction for old-growth timber harvest activities to meet Scenic Integrity Objectives and Visual Absorption Capability (VAC) settings. The guidelines define the maximum allowable disturbance for timber harvest. Ground conditions may indicate a need to be more or less restrictive in scheduling harvest to meet the intent of the Scenic Integrity Objective.
1. Moderate - Although timber harvest activities are evident, they must remain subordinate to the characteristic landscape.
 2. Low - Timber harvest activities may dominate the characteristic landscape, yet will be designed to borrow from form and line found in the naturally- occurring landscape.
 3. Very Low - Timber harvest activities may visually dominate the original characteristic landscape. This Scenic Integrity Objective should be met within one year in the foreground distance zone and within five years in the middle and background distance zones.
- C. The following guidelines provide specific scenery mitigation measures for old-growth timber management.
1. The ability to attain the adopted Scenic Integrity Objective is dependent on many variables. Visual Absorption Capacity (VAC) is an estimate of the relative ability of a landscape to absorb management activities. A Low VAC setting generally has steep slopes, with little landscape variety, while a High VAC setting is relatively flat and/or has a high degree of variety in the landscape.
 2. The unit sizes listed below provide guidance to the project Interdisciplinary Team. Each landscape setting is different and should be evaluated on a case-by-case basis. There may be instances where the scenery objective can be attained while the unit size is greater than the guideline. There also may be instances where the unit must be smaller to meet the intent of the Scenic Integrity Objective.
 3. Typical regeneration methods and approximate unit sizes for landscapes of different visual absorption capabilities for the Scenic Integrity Objectives adopted in this LUD are described below.
 - a) **Scenic Integrity Objective Moderate:**
 - Low VAC: Group selection or clearcut (openings approximately 2 to 10 acres)
 - Intermediate VAC: Clearcut (openings approximately 10 to 40 acres)
 - High VAC: Clearcut (openings approximately 40 to 60 acres)
 - b) **Scenic Integrity Objective Low:**
 - Low VAC: Clearcut (openings approximately 15 to 40 acres)
 - Intermediate VAC: Clearcut (openings approximately 40 to 60 acres)
 - High VAC: Clearcut (openings approximately 60 to 100 acres)

3 Management Prescriptions

c) Scenic Integrity Objective Very Low:

- Low VAC: Clearcut (openings approximately 50 to 75 acres)
- Intermediate VAC: Clearcut (openings approximately 80 to 100 acres)
- High VAC: Clearcut (openings approximately 80 to 100 acres)

SOIL AND WATER

Watershed Resource Planning: SW3

- A. Delineate the location of high hazard soils, riparian, and other sensitive areas on project maps to ensure their recognition, proper consideration, and protection on the sale area.
- B. Manage state classified public water supply source watersheds for multiple use, while providing water suitable for human consumption in compliance with the Safe Drinking Water Act, State of Alaska Drinking Water Regulations, and Water Quality Standards. Conduct watershed analysis (Appendix C) and consult with Alaska Department of Environmental Conservation and affected municipalities prior to authorizing activities that are likely to cause pollution.
- C. Apply Best Management Practices (BMPs) to all land-disturbing activities as a process to protect the beneficial uses of water from non-point sources of pollution (consult National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook, FSH 2509.22). Also consult Forest Service Manual (FSM) 2530, Transportation Forest-wide Standards and Guidelines, U.S. Army Corps of Engineers Regulations (33 CFR 323.4), and the Clean Water Act.

Watershed Resource Improvements: SW4

- A. Accomplish soil and water improvement projects to prevent degradation of water quality.

TIMBER

Timber Resource Planning: TIM4

- A. Forest lands are suitable for timber production and are included in the Projected Timber Sale Quantity (PTSQ) calculation.
- B. Personal use wood cutting activities are compatible with this LUD, provided that management objectives are met.

Timber Sale Preparation: TIM5

- A. Timber harvest activities may include all applicable silvicultural systems. Recognize the effects of color, tone, texture, line, slope, size, and edge on the characteristic landscape.
- B. Tree limbs, root wads, and tree stumps may require secondary treatment to meet the Moderate Scenic Integrity Objective in the foreground distance. For timber sales and road construction contracts, use clauses that address these concerns. Brush disposal funds may be appropriate to use in these settings.
- C. Seek to provide for a reasonable assurance of windfirm boundaries. To design for windfirmness, consider conditions such as soils, local wind patterns, tree height and size, and other site-specific factors.

Timber Stand Improvement: TIM10

- A. Timber Stand Improvement activities that meet the scenery and timber objectives of the LUD may be used.

Management Prescriptions 3

- B. Continue evaluation of commercial thinning opportunities in young-growth stands on the Forest for enhancing timber growth and development, while improving the scenery quality and habitat conditions for wildlife. Evaluation will be provided as part of the Tongass Young-Growth Strategy development.

TRANSPORTATION **Transportation Operations: TRAN**

- A. Develop and manage cost-effective transportation systems that integrate resource requirements consistent with LUD direction.
 - 1. To meet the Scenic Integrity Objectives, give special consideration to minimizing apparent landform modification (as seen from sensitive travel routes) during road and log transfer facility location, design, and construction.
 - 2. Perform integrated logging system and transportation system analysis to determine the least-cost facility (considering cost of construction, maintenance, and hauling) and design standards necessary to meet LUD objectives.
 - 3. Give special emphasis to maintaining fish and wildlife habitat values, especially during road location and development of road management objectives.
 - a) If the need to restrict access is identified during project interdisciplinary review, roads may be closed, either seasonally or year-long. (Consult Transportation Forest-wide Standards and Guidelines.)
 - 4. Provide recreation access, where appropriate.
 - 5. Seek to avoid road crossings on existing trails or locating roads parallel to trails. Should no other feasible alternative exist, minimize site disturbance visible from the trail. Locate rock source developments away from trails to the extent possible, while meeting the objectives of this LUD.

WILDLIFE

Wildlife Habitat Planning: WILD1

- A. Use existing inventories and evaluate the need for further project-specific inventories of wildlife habitat conditions during project analysis.
 - 1. Select Management Indicator Species (MIS) appropriate to the project area for project analysis (see Wildlife Forest-wide Standards and Guidelines).
- B. Consider wildlife habitat needs during project planning and implementation. Use the Tongass Young-Growth Strategy to help prioritize treatment needs and scheduling (consult Tongass Young-growth Management Strategy).
 - 1. Use the habitat needs of MIS to evaluate opportunities for, and consequences on, wildlife.
 - 2. In project planning, consider opportunities to allow for the elevational migration of wildlife.
- C. Coordinate road management with the needs of wildlife.

MINERALS

Goals

To encourage the prospecting, exploration, development, mining, and processing of locatable minerals in areas with the highest potential for minerals development.

To ensure minerals are developed in an environmentally sensitive manner and other high-valued resources are considered when minerals developments occur.

Objectives

Apply this management prescription to the project areas of currently approved Minerals Plan of Operations. Use the prescription as criteria in the planning and design of proposed mineral developments and Plan of Operations. During the period before approval of the Plan of Operations, the underlying LUD(s) continue to apply to the project area.

Use the following as guidance for minerals activities:

- Authorize special uses that facilitate such activities;
- Allow reasonable access, consistent with other resource values;
- Apply the Low Scenic Integrity Objective to foreground areas viewed from the Visual Priority Travel Routes and Use Areas (Appendix F); otherwise, the Very Low objective applies; and
- Maintain present and continued soil productivity and water quality to the extent feasible. Apply Best Management Practices (BMPs) and meet State Water Quality Standards.

Use the following as guidance for non-minerals activities:

- Authorize special uses that will not substantially conflict with present or anticipated mineral-related activities;
- Limit new recreation facilities to those compatible with mineral developments; and
- Manage recreation settings and opportunities to be as compatible as possible with the underlying LUD.

Maintain the present and continued productivity of anadromous fish and other foodfish habitat, as well as wildlife habitats, to the maximum extent feasible. Stress the protection of fish and wildlife habitats to prevent or minimize the need for mitigation.

Rehabilitate soil and water resources and fish and wildlife habitats after the completion of mining operations.

After the completion of mining activities and restoration, manage the area according to the underlying LUD.

Desired Condition

During mining operations, mining activities are limited to the area necessary for their efficient, economic, and orderly development. Mining is carried out so that any effects on other resources are minimized to the extent feasible, all minimum legal resource protection requirements are met, and other resource uses and activities in the area do not conflict with mining operations. After the completion of mining, affected areas are reclaimed and, in most cases, the area once again provides the settings and opportunities of the underlying LUD.

3 Management Prescriptions

Minerals Land Use Designation

Apply the following Forest-wide Standards and Guidelines located in Chapter 4:

Category	Section	Subsections
Air	AIR	All
Beach and Estuary Fringe	BEACH	All
Facilities	FAC	All
Fire	FIRE	All
Fish	FISH	All
Forest Health	HEALTH	All
Heritage Resources/Sacred Sites	HSS	All
Invasive Species	INV	All
Karst and Cave Resources	KC	All
Lands	LAND	All
Minerals and Geology	MG	All
Plants	PLA	All
Recreation and Tourism	REC	All
Riparian	RIP	All
Rural Community Assistance	RUR	All
Scenery	SCENE	All
Soil and Water	SW	All
Subsistence	SUB	All
Timber	TIM1,4,7 TIM6	All I(A-E)
Trails	TRAI	All
Transportation	TRAN	All
Wetlands	WET	All
Wildlife	WILD	All

Apply the following Plan Content located in Chapter 5:

Category	Section	Plan Component
Young-growth Direction	All	None
Renewable Energy Direction	All	All except S-RE-LAND-01 and S-RE-TRAN-01
Transportation Systems Corridors Direction	All	All except S-TSC-LAND-02
Forest-wide Plan Components	All	All

Management Prescriptions **3**

Apply the following LUD Standards and Guidelines:

FACILITIES

Administrative Facilities: **FAC2 and FAC3**

- A. Generally, co-locate administrative facilities with facilities authorized in the Plan of Operations.

FIRE

Fire Suppression: **FIRE1**

Suppression Action

- A. Suppress wildfires using the suppression option identified in the Alaska Interagency Wildland Fire Management Plan.
- B. Suppression tactics are limited only by the standards and guidelines for this LUD.

Fuel Improvements: **FIRE2**

Prescribed Fire

- A. Management-ignited prescribed fire may be used for fuels management, insect and disease protection, silvicultural site preparation, and wildlife habitat improvement.
- B. Do not use prescribed natural fire.

FISH

Fish Habitat Planning: **FISH2**

Planning/Mitigation

- A. Maintain the present and continued productivity of anadromous fish and other foodfish habitat to the maximum extent feasible (consult ANILCA, Section 505 (a)).
- B. Stress protection of fish habitat to prevent the need for mitigation. Mitigation, rehabilitation, and monitoring of mining impacts to fish habitat or populations shall be identified in environmental documents and the Plan of Operations.
- C. Consider the need to maintain instream flows for fish during the development of minerals management activities.

FOREST HEALTH

Forest Health Management: **HEALTH1**

- A. For underlying LUDs that permit timber harvest, emphasize Timber Stand Improvement, sanitation, salvage, and insect and disease management measures consistent with the LUD objectives.
- B. For underlying LUDs that do not permit timber harvest, apply insect and disease management measures consistent with the underlying LUD to protect these and adjacent resources.

Forest Insect and Disease Survey and Inventory: **HEALTH2**

- A. Survey and inventory visible outbreaks annually.

HERITAGE

Heritage Resource Activities: **HSS1**

Inventory

- A. Provide heritage resource assistance to all development proposals. Coordination includes participation and support for environmental analysis, inventory, evaluation, assessment, monitoring, and protection of heritage resources during activities.
 1. Heritage resource inventory will be accomplished during project planning. State Historic Preservation Office concurrence and Forest Supervisor approval is required prior to implementation.

3 Management Prescriptions

2. Heritage resource specialists shall provide input on known or predicted heritage resource site density in proposed project areas and make recommendations to manage heritage resources.
3. Should any heritage resources be discovered during project activity, all work within the vicinity of the discovery shall cease until a heritage resource specialist is able to evaluate the situation and resumption of activity is approved by the Forest Supervisor.

KARST AND CAVES Cave Management Program: KC2

- A. Identify opportunities for interpretation of caves for public education and enjoyment. Interpretation may occur inside or outside of this LUD.

LANDS

Special Use Administration (Non-Recreation): LAND2

- A. Generally, authorize special uses to facilitate mineral-related activities.
 1. Evaluate alternative facility designs and locations (including off-site) that consider: 1) amount of land disturbance; 2) effects on other resources; and 3) effects resulting from human use.
- B. Generally, authorize non-mineral development related uses if they do not substantially conflict with present or anticipated mineral-related activities or the underlying (initial) LUD.
 1. Use temporary or annual permits that maintain options for future mineral development.

MINERALS AND GEOLOGY

Minerals and Geology Resource Preparation: MG1

Resource Preparation

- A. Emphasize minerals management activities. Management should facilitate the prospecting, exploration, development, mining, and processing of mineral resources in areas with the highest potential for development.
- B. Prior to the initiation of mineral activities, manage these lands under their underlying LUD in the Forest Plan. With the initiation of mineral activities, apply reasonable regulation of surface occupancy and use to manage the mineral development to be as compatible as possible with the underlying LUD.
- C. The minerals land use prescription will apply upon approval of a Plan of Operations. Those portions of the initial LUD not identified for mineral activity in an approved Plan of Operations will continue to be managed under the initial LUD. After mineral operations are completed, lands allocated under the minerals prescription will revert to the initial LUD to the extent possible.

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- A. Forest lands within this LUD are open to mineral entry.
- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, ANILCA, and Forest Service Minerals Regulations 36 CFR 228.
- C. Development of locatable mineral resources takes precedence in this LUD; however, leasable and salable minerals may also be developed at the authorized officer's discretion.
- D. Allow reasonable access to mining claims, leases, and material sites and authorization of orderly mineral resource development with the

Management Prescriptions 3

provisions of an approved Plan of Operations in accordance with National Forest Mining Regulations 36 CFR 228 and FSM 2800.

RECREATION AND TOURISM

Recreation Use Administration: REC3

Recreation Settings

- A. Prior to the initiation of mineral development, provide recreation settings and opportunities consistent with the underlying LUD.
 - 1. For any new investment in recreation facilities, consider the potential effects to those facilities by future minerals development.
- B. With the initiation of mineral development, manage the recreation setting in a manner as compatible as feasible with the underlying LUD.
 - 1. Manage for the existing recreation settings and opportunities until scheduled activities and practices change the ROS settings. Manage recreation use in a manner that is compatible with the mineral objectives.
 - 2. In locations where scheduled activities change the recreation setting(s), manage the new setting(s) with the appropriate ROS guidelines (generally Roded Modified).
 - 3. Seek to maintain the recreation experience along existing trail corridors by locating road crossings and clearing so they are not directly adjacent to the trail when feasible.
 - 4. Seek to minimize impacts to areas directly adjacent to developed recreation facilities (e.g., cabins and campgrounds).
 - 5. Consider regulating recreation use and access to mitigate for the minerals development.
 - 6. Manage public use of mining access roads and development areas to be consistent with the new ROS class, unless recreation analysis indicates a need for a modified ROS class.
 - 7. Where effects on existing maintained recreation facilities and trails cannot be avoided due to mineral development, analyze alternatives for reasonable substitute facilities.

Recreation Special Uses

- A. Major and minor developments may be compatible with the LUD objectives depending on the scope, purpose, and magnitude of the proposal. Proposals will be evaluated on a case-by-case basis (see Recreation and Tourism Forest-wide Standards and Guidelines).

SCENERY

Scenery Operations: SCENE1

- A. Prior to the initiation of mineral development, manage for scenic quality according to the initial LUD.
- B. With the initiation of mineral development, apply Forest-wide Standards and Guidelines for Low in the foreground distance, as seen from Visual Priority Travel Routes and Use Areas (see Appendix F) and for the Very Low Scenic Integrity Objective in all other areas. The objective defines the maximum limit of allowable change to the scenic character of the area; less evidence of scenic change is acceptable.
 - 1. Incorporate landscape design techniques to reduce adverse scenic impact in areas visible from sensitive travel routes.

SOIL AND WATER

Watershed Resource Planning: SW3

- A. For use in designing mineral management activities, delineate the location of important soil and water protection areas on project maps to

3 Management Prescriptions

ensure their recognition, proper consideration, and protection on the project area.

- B. Manage watersheds for beneficial uses consistent with State Water Quality Standards. Apply BMPs to control nonpoint sources of water pollution (consult National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook, FSH 2509.22).
- C. Design mineral management activities to maintain the present and continued productivity of soil and water resources to the extent feasible.
- D. Stress protection of soil and water resources to prevent the need for mitigation. Identify mitigation, rehabilitation, and monitoring of mining impacts to soil and water resources in environmental documents and the Plan of Operations.

TIMBER

Timber Resource Planning: TIM4

- A. Suitability for timber production is based on the underlying LUD.
- B. Personal use wood cutting activities will be based on direction in the underlying LUD until a Plan of Operation is approved. After approval, access for personal use wood and Christmas trees will be subject to provisions compatible with the Plan of Operations.
- C. Project analysis, development of environmental documents, and project design will facilitate the probable future mineral development to the maximum extent feasible.

Timber Sale Preparation: TIM5

- A. Where possible, coordinate the location and design of timber harvest activities with planned or potential mineral development.

TRANSPORTATION

Transportation Operations: TRAN

- A. Authorize reasonable access, consistent with other resource values, to allow for the exploration and development of mineral resources.
- B. Any transportation development in association with minerals extraction will be in accordance with an approved Plan of Operations, and subsequent annual work plans.
- C. Roads in this LUD may be closed to public use.
- D. Apply BMPs in the development and maintenance of transportation facilities.

WILDLIFE

Wildlife Habitat Planning: WILD1

- A. Maintain the present and continued productivity of wildlife habitat to the extent feasible while meeting the goals and objectives of this LUD.
- B. Address protection of wildlife habitat and the need for mitigation. Identify any need for mitigation, rehabilitation, and monitoring of mining impacts to wildlife habitat or populations in environmental documents and the Plan of Operations.
- C. Coordinate road management with the needs of wildlife.

Wildlife Habitat Inventory: WILD5

- A. Prior to the development of minerals management activities, establish or use existing baseline wildlife inventories.

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Plan Direction from Chapter 5

Young Growth Direction

The following plan components and management approaches are specific to young-growth management. The following young-growth plan direction applies to existing and future young-growth forest stands.

Desired Conditions (DC)

DC-YG-01: Young-growth forests produce desired resource values, products, services and conditions in ways that sustain the diversity and productivity of ecosystems. Lands suitable for timber production produce sawtimber and other wood products on an even-flow, long-term sustained yield basis; the timber yield contributes to the projected timber sale quantity (PTSQ). Timber and other ecosystem services from young-growth forest resources provide economical and sustainable opportunities that support Southeast Alaska communities.

DC-YG-02: Pre-commercial thinning treatment of young-growth timber stands approaching, or at, the stem-exclusion stage, increase stand growth and vigor (e.g., larger trees, small canopy gaps, diverse understory). Treatments occur where highest productivity, harvest operability and access is favorable.

DC-YG-03: Harvesting of young-growth stands provides opportunities to improve or maintain fish and wildlife habitat by accelerating old-growth characteristics.

DC-YG-04: Harvesting of young-growth stands in Riparian Management Areas (RMAs) and Beach Fringe provides opportunities to improve or maintain fish and wildlife habitat by accelerating old-growth characteristics.

DC-YG-05: At the end of the planned rotation for young growth, stands are in a condition whereby regeneration harvests using even-aged, two-aged or uneven-aged silvicultural systems are feasible and appropriate.

Suitability of Lands (SUIT)

SUIT-YG-01: Lands within Old-growth Habitat, Scenic Viewshed, Modified Landscape, and Timber Production LUDs are suitable for young-growth timber production, unless they do not meet the other suitability requirements (See Appendix A). Timber management within these LUDs is compatible with desired conditions for young-growth management.

Objectives (O)

O-YG-01: During the 15 years after plan approval, the amount of young-growth offered would gradually increase to exceed 50 percent of the timber offered annually.

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Goals (GL)	<p>O-YG-02: During the 15 years after plan approval, offer increasing annual volumes of economically viable² young-growth timber. Old-growth timber harvest would gradually be reduced to an average of 5 million board feet (MMBF) annually, to support Southeast Alaska mills.,</p> <p>O-YG-03: Annually, pre-commercially thin 4,000 to 7,000 acres of young-growth stands.</p> <p>GL-YG-01: Provide a stable young-growth timber supply that sustains long-term timber yields while maintaining or improving habitat conditions for wildlife and fish at the landscape level (see Appendix B).</p> <p>GL-YG-02: Pre-commercially treat stands to reduce or eliminate stem exclusion, to decrease stand rotation time, and provide future silvicultural opportunities.</p> <p>GL-YG-03: Create opportunities in young-growth management and the use of forest products in a manner that enhances the economic vitality of the region and the resilience of local communities.</p> <p>GL-YG-04: Harvest of young-growth timber supports a variety of mill sizes and operators across the forest, including small and micro sales that support economic opportunities.</p> <p>GL-YG-05: Make available a variety of potential forest products that support the development of an integrated industry based primarily upon young-growth timber harvest.</p>
Standard (S)	<p>S-YG-01: When harvesting trees prior to the culmination of mean annual increment (CMAI) of growth under the authority granted by Public Law (P.L.) 113–291, Sec. 3002, subsection (e)(4)(A), the limitation of subsection (e)(4)(B) shall be applied.</p>
Management Approaches for Young Growth	<p>The intent is to exercise flexibility to increase volume in these young-growth areas during the transition timeframe, and generally treat in priority of most economic return and least environmental risk:</p> <ol style="list-style-type: none"> 1. Development LUDs outside of RMAs and beach fringe 2. Beach fringe 3. Old-growth Habitat LUD outside of RMAs 4. RMAs outside of the Tongass Timber Reform Act (TTRA) buffers <p>It is expected that priority stands would be in high and medium productivity sites with favorable logistical access.</p> <p>If an assessment determines a need to plant trees, spruce and cedar would likely be favored and planted within two seasons of harvest to accelerate both establishment and growth of successive forest cover to meet habitat or scenic objectives. Before planting, it is our intent that interdisciplinary teams (IDTs) conduct a cost benefit analysis at the project-level to determine if replanting is cost-effective.</p> <p>The intent is that responsible officials engage stakeholders (for example, conservation interests, timber operators, permitted user groups, and other interested parties) early and often to best design projects that meet ecological,</p>

² On the Tongass, the Two-Log Rule was developed to better predict when stands reach a condition where economic harvest opportunities may exist prior to stands reaching culmination of mean annual increment (CMAI) of growth. The Two-Log Rule implies at least half of the merchantable volume within a stand is comprised of trees with two or more logs. A “two-log” tree is defined as a tree that is at least nine inches diameter at breast height, six inches in diameter at the small end and contains a minimum of two logs that are at least 34 feet long.

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social, and economic interests. Such inclusion would surface and resolve differences, and minimize and avoid social, environmental, and natural resource conflicts. At the earliest possible time, IDTs would engage scientific and technical expertise, and knowledge of local resources to encourage creative thinking and enhance integration and coordination among jurisdictions.

The intent is that during project planning, IDTs identify other resource opportunities in the project area, and if approved by the responsible official integrate these opportunities into the project design. (See definition for Integrated Resource Management in Chapter 7.) When designing young-growth projects that would advance old-growth characteristics in the beach fringe, RMA, or an old-growth reserve (OGR), IDTs seek out stakeholders to encourage creative and innovative approaches for developing silvicultural treatments that imitate the natural scale and distribution of disturbance patterns on the Tongass (e.g., wind-thrown timber that creates gaps and patches; landslides that create corridors and gaps; mortality that naturally thins stand). The intent is that treatments in RMAs would address stream process group objectives. (Consult Appendix D, and Exhibit 2 in the Tongass Young Growth Management Strategy [USDA 2014].)

Where appropriate, line officers would use Stewardship Authority (FSH 2409.19, Chapter 60) and other authorities to help achieve land management goals while meeting regional and local community needs.

It is expected that by the end of the five year period after the signing of the Record of Decision (ROD) for this plan amendment, the Forest Service would conduct an internal scientific review in collaboration with a forest collaborative and other stakeholders to determine likely impacts to fish and wildlife habitat from young-growth timber projects that intersect with the following high value fish watersheds (Value Comparison Units):

Appleton Cove 2930
 Fish Bay 2870
 Irish Lakes 4290
 Kadake Cr 4210
 Mosman Inlet 4670
 Bradfield River 5140
 Nakwasina River 2990
 Neka Bay 2010
 Port Camden 4200
 Rodman Bay 2920
 Security Bay 4000
 Sitkoh Bay 2430
 Sitkoh Lake 2440
 Situk River 3660
 Sweetwater Lake 5730
 Thoms Lake 4790

In addition, it is expected that at the end of five years and ten years following the signing of the ROD for this plan amendment, the Forest Service would conduct monitoring with stakeholders to determine if the young-growth goals are being achieved, and if not, adjust accordingly.

Beach and Estuary Fringe (BEACH)

Desired Condition (DC)

DC-YG-BEACH-01: Active management of young-growth stands within the beach and estuary fringe supports a range of social, economic and ecological needs. These areas provide habitat and connectivity for wildlife and opportunities

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for accelerating old-growth characteristics while also providing commercial timber byproducts.

Objective (O)

O-YG-BEACH-01: Offer about 3,500 acres of young-growth in the beach and estuary fringe to provide commercial timber during the 15 years after plan approval.

Suitability of Lands (SUIT)

SUIT-YG-BEACH-01: Young-growth stands within the beach and estuary fringe are suitable for timber production; timber management within these stands is compatible with desired condition DC-YG-BEACH-01.

See SUIT-YG-01 and Appendix A.

Standards (S)

S-YG-BEACH-01: The maximum size of any created opening for commercial timber harvest in the beach fringe must not exceed 10 acres and a maximum removal of up to 35 percent of the acres of the original harvested stand is allowed. Commercial thinning is limited to 33 percent of the stand's basal area. A combination of the two treatments may be used, with no more than 35 percent of the total stand removed in either basal area and/or acres. TTRA and other administratively withdrawn areas do not count towards the stand's total acreage.

S-YG-BEACH-02: Harvest of commercial timber within young-growth stands in the beach fringe is limited to a one-time only entry and to the first 15 years unless best available scientific information shows that additional entries are: a) warranted, and b) meet the LUD objectives.

S-YG-BEACH-03: Commercial harvest within the beach and estuary fringe is not allowed within a minimum 200-foot forested buffer beginning at mean high tide (that is, a no commercial harvest buffer). This does not preclude wildlife enhancement projects and providing access to timber harvest units as long as process group objectives can be met in the RMA.

Management Approaches for Beach and Estuary Fringe

The intent is that determinations of prescriptions and opening sizes in the beach fringe consider spatial and temporal conditions of adjacent landscapes. It is expected that treatment prescriptions facilitate a more rapid recovery of the late-seral (successional) forest characteristics, while also producing commercial timber byproducts.

The intent is that the IDT assesses the fish and wildlife habitat found in estuaries to determine how to protect these important resources. Forest Plan Appendix D provides guidance for delineating RMAs associated with estuarine stream process group.

The intent is that the IDT consult and integrate permit holders, local users, and user groups in planning in the development of any management activity.

Facilities (FAC)

Standard (S)

S-YG-FAC-01: Authorize only those facilities (recreation and administrative) that are compatible with young-growth objectives O-YG-01 and O-YG-02.

Karst and Cave Resources (KC)

Desired Condition (DC)

DC-YG-KC-01: The karst and cave ecosystems (or landscapes) maintain natural processes and productivity, while providing for other land uses.

Standards (S)

S-YG-KC-01: Commercial timber harvest is not allowed on lands identified as high vulnerability karst lands. (Consult Appendix H.)

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	<p>S-YG-KC-02: On lands identified as medium vulnerability karst (see Appendix H), patch clearcuts are allowed but may not exceed 10 acres with a maximum removal of 35 percent of the acres of the original harvested stand.</p> <p>S-YG-KC-03: Even-aged management is allowed on lands identified as low vulnerability karst lands. (Consult Appendix H.)</p>
Management Approach for Karst and Cave Resources	It is expected that karst resources be evaluated according to their vulnerability. (Consult Appendix H.)
	<p>Lands (LAND)</p> <p>S-YG-LAND-01: Authorize only those uses that are compatible with young-growth objectives O-YG-01 and O-YG-02.</p>
Standard (S)	
	<p>Recreation and Tourism (REC)</p> <p>S-YG-REC-01: Authorize only those uses that are compatible with young-growth objectives O-YG-01 and O-YG-02.</p>
Standard (S)	
Management Approaches for Recreation and Tourism	<p>The intent is that the IDT consult and integrate permit holders, local users and user groups in planning in the development of any management activity.</p> <p>The intent is that the project IDT seeks opportunities in young-growth projects that would increase accessibility for recreation and tourism.</p>
	<p>Riparian (RIP)</p> <p>DC-YG-RIP-01: Active management of young-growth stands that are suitable for timber production within RMAs supports a range of social, economic and ecological needs. These areas are managed to accelerate old-growth characteristics in order to improve riparian functions for soil, water, fish, wildlife and other resources (see Appendix D), while also providing a commercial timber byproduct.</p>
Desired Condition (DC)	
Suitability of Lands (SUIT)	<p>SUIT-YG-RIP-01: Young-growth stands within RMAs (excluding Tongass Timber Reform Act buffers) are suitable for timber production; timber management within these stands is compatible with desired condition DC-YG-RIP-01.</p> <p>See SUIT-YG -01 and Appendix A for Alternative 5.</p>
Objective (O)	<p>O-YG-RIP-01: During the 15 years after plan approval, treat about 900 acres of young-growth in RMAs to provide a commercial timber byproduct.</p>
Standards (S)	<p>S-YG-RIP-01: The maximum size of any created opening for commercial timber harvest in the RMA must not exceed 10 acres and a maximum removal of up to 35 percent of the acres of the original harvested stand is allowed. Commercial thinning is limited to 33 percent of the stand's basal area. A combination of the two treatments may be used, with no more than 35 percent of the total stand removed in either basal area and/or acres. TTRA and other administratively withdrawn areas do not count toward the stand's total acreage.</p> <p>S-YG-RIP-02: Harvest of commercial timber within young-growth stands is limited to a one-time only entry and to the first 15 years unless best available scientific information shows that additional entries are: a) warranted and b) meet the LUD objectives.</p>
Management Approaches for Riparian	The intent is that determinations of prescriptions and opening sizes consider spatial and temporal conditions of adjacent landscapes. The intent is that treatment prescriptions follow guidance from Exhibit 2 of the Tongass Young Growth Management Strategy (2014) and facilitate a more rapid recovery of the

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late successional forest characteristics, while also producing a commercial timber byproduct.

It is expected that young-growth treatments in the RMA (including estuary buffers) achieve stream process group objectives. (Consult Appendix D for guidance on delineating RMAs associated with stream process group.)

The intent is that BMPs are applied to all land-disturbing activities to protect the beneficial uses of riparian areas. Applicable BMPs are found in the National Core BMP Technical Guide FS-990a and the Alaska Region Soil and Water Conservation Handbook, FSH 2509.22. The intent is that the project IDT consider the Alaska Region Watershed and Air Management Manual, Forest Service Manual (FSM) 2530, U.S. Army Corps of Engineers Regulations (33 CFR 323.4) and the Clean Water Act.

The intent is that the IDT consults and integrates permit holders, local users and user groups in planning in the development of any management activity.

Scenery (SCENE)

Standards (S)

S-YG-SCENE-01: Apply the Very Low Scenery Integrity Objective (SIO) for young-growth harvest. (Consult Forest Plan Chapter 4, Scenery Preparation: SCENE2 section). For combined young-growth and old growth projects within the same viewshed, apply the Very Low SIO.

Management Approaches for Scenery

The intent is that harvest activities would be designed with irregular boundaries for Modified Landscape and Scenic Viewshed, such as feathering.

It is expected that scenery and recreation specialists assess visual priority routes (VPRs) related to the project as listed in Appendix F. Any changes to VPRs require a plan amendment, including public participation.

Soil and Water (SW)

Desired Condition (DC)

DC- YG-SW-01: Long-term soil quality and site productivity in the suitable land base is not impaired and is capable of supporting the regeneration, growth and successional pathways of naturally occurring plant communities. (Consult FSM 2554 Supplement No.: R-10 2500-2006-1.) Soil surface erosion and mass wasting from management activities is minimized.

Standard (S)

S-YG-SW-01: During timber harvest or vegetation treatment operations, dense slash and woody debris accumulations are not allowed.

Guidelines (G)

G-YG-SW-02: Ground-based yarding should avoid creating ruts that are more than 12 inches deep

Management Approaches for Soil and Water

In young-growth stands, the evaluation of existing detrimental soil conditions may use historic and current air photos, informal field reviews, and/or formal soil disturbance measurements depending on project specific needs. See Region 10 Soil Quality Standards.

In young-growth stands, the slope stability analysis (see Watershed Resources Planning SW3 in Chapter 4) may use photography, slope, and soil maps or may require an on-site analysis.

Wildlife (WILD)

Desired Conditions (DC)

DC-YG-WILD-01: Active management of young-growth stands within the Old-growth Habitat LUD supports the integrated consideration of social, economic and ecological needs of regional and local communities. Young-growth stands within the Old-growth Habitat LUD maintain habitat and connectivity for wildlife and are

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managed to accelerate development of old-growth characteristics while also providing commercial timber byproducts.

DC-YG-WILD-02: In the Old-growth Habitat LUD, treated young-growth emulates the natural scale and distribution of disturbance patterns (for example, wind-thrown timber that creates gaps and patches; landslides that create corridors and gaps; and mortality that naturally thins stands).

Objective (O)

O-YG-WILD-01: During the 15 years after plan approval, treat about 1,800 acres of young-growth in the Old-growth Habitat LUD to promote the development of old-growth characteristics while also providing commercial byproducts.

Standards (S)

S-YG-WILD-01: The maximum size of any created opening in the Old-growth Habitat LUD must not exceed 10 acres and a maximum removal of up to 35 percent of the acres of the original harvested stand is allowed. Commercial thinning is limited to 33 percent of the stand's original basal area. A combination of the two treatments may be used, with no more than 35 percent of the total stand removed in either basal area and/or acres. TTRA and other administratively withdrawn areas do not count towards the stand's total acreage.

S-YG-WILD-02: Commercial young-growth harvest within the Old-growth Habitat LUD is limited to a one-time only entry and to the first 15 years unless best available scientific information shows that additional entries are: a) warranted, and b) meet the LUD objectives.

Guideline (G)

G-YG-WILD-01: Road construction should be kept to the minimum necessary for the removal of young-growth timber within the Old-growth Habitat LUD.

Management Approaches for Wildlife

The intent is that determinations of prescriptions and opening sizes consider spatial and temporal conditions of adjacent landscapes. The intent is that treatment prescriptions in the Old-growth Habitat LUD would facilitate a more rapid recovery of the late successional forest characteristics, while creating commercial timber byproducts.

When young-growth harvest is proposed in the Old-growth Habitat LUD, it is expected that the project IDT and an interagency review team (USDA Forest Service, U.S. Fish and Wildlife Service, and Alaska Department of Fish and Game) would jointly work to determine by exchanging the young growth for old growth from adjacent landscapes outside the existing Old-growth Habitat LUD. Modifications to the Old-growth Habitat LUD would use the interagency process and review criteria outlined in Appendix K. The intent is for the resulting, modified Old-growth Habitat LUD to maintain or enhance landscape connectivity and have a net gain of productive old-growth habitat.

Renewable Energy Direction

The direction in this amendment replaces the renewable energy direction in the Transportation and Utility System LUD in Chapter 3 of the 2008 Forest Plan, and removes that overlay LUD as part of the proposed amendment.

Apply these plan components to existing and proposed renewable energy developments. When a written proposal is submitted, beyond the initial stage, for a renewable energy project, the Chapter 5 plan components take precedence if there is a conflict with management direction in Chapters 3 and 4.

Timber cut incidental to renewable energy projects should be managed according to FSH 2409.18, Chapter 80, section 84, Timber Settlement.

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Desired Conditions (DC)

DC-RE-01: Renewable energy resources (subject to applicable law) contribute to the economic well-being of Southeast Alaska communities.

DC-RE-02: Renewable energy resources are developed in a manner that would maintain and protect National Forest System (NFS) lands and resources.

SUIT-RE-01: All NFS lands may be suitable for renewable energy sites on a case-by-case basis in consideration of the LUD, ecological and social values, and benefit to Southeast Alaska communities.

Suitability of Lands (SUIT)

Management Approaches for Renewable Energy

Identifying renewable energy sites as suitable is not a commitment but only an indication that the use might be appropriate.

The addition of the Renewable Energy plan components do not change the need to ensure that resource protection measures are incorporated throughout project-level planning, construction, and operation of renewable energy sites.

Objective (O)

O-RE-01: During the 15 years after plan approval, encourage renewable energy production. Our participation in responding to renewable energy projects would be in the priority order of whether they lead to:

1. A decrease in the number of Southeast Alaska rural communities powered by diesel generators,
2. An increase in energy capacity, efficiency, or storage at existing projects, or
3. An export of renewable energy resources without power benefitting Southeast Alaska communities.

Beach and Estuary Fringe (BEACH)

Suitability of Lands (SUIT)

SUIT-RE-BEACH-01: Beach and estuary fringe is suitable for renewable energy sites.

Facilities (FAC)

Guidelines (G)

G-RE-FAC-01: Utility lines should follow existing or planned transportation systems corridors, including those identified in the Logging Systems and Transportation Analysis (LSTA) and P.L. 109-59.

G-RE-FAC-02: An alternative route can be considered if it reduces or minimizes resource impacts.

Fish (FISH)

Standard (S)

S-RE-FISH-01: Assure that renewable energy projects continue the productivity of existing fish populations and habitat.

Lands (LAND)

Standard (S)

S-RE-LAND-01: Transportation and utility systems through conservation system units in Alaska, including designated wilderness, shall be considered under Title XI of the Alaska National Interest Lands Conservation Act (ANILCA).

Riparian (RIP)

Guideline (G)

G-RE-RIP-01: Where it is necessary to fall trees within an RMA, the cut trees should be left on site.

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Scenery (SCENE)

Standard (S) **S-RE-SCENE-01:** Apply the Low SIO to renewable energy sites. (Consult Forest Plan Chapter 4, Scenery Preparation: SCENE2 section.)

Management Approaches for Scenery

It is expected that renewable energy sites may dominate the seen area, and are designed with consideration for existing form, line, color, and texture found in the characteristic landscape.

It is expected that the responsible official will determine if a viewshed analysis is needed for renewable energy site development in relation to DC-RE-02.

Soil and Water (SW)

Standard (S) **S-RE-SW-01:** Ensure that renewable energy projects provide for in-stream flows needed to support downstream riparian resources, channel conditions, and aquatic habitat.

Transportation (TRAN)

Suitability of Lands (SUIT) **SUIT-RE-TRAN-01:** Lands within renewable energy sites are suitable for roads for access, construction, operation, maintenance, and support of renewable energy sites.

Standard (S) **S-RE-TRAN-01:** Transportation and utility systems through conservation system units in Alaska, including designated wilderness shall be considered under Title XI of ANILCA.

Wildlife (WILD)

Management Approaches for Wildlife

It is expected that the IDT would consider current science, and methodologies (for example, Avian Power Line Interaction Committee guidelines) for all new and existing transmission lines and projects to minimize bird electrocution and collision potential, and to prevent road kill.

Transportation Systems Corridors Direction

The direction in this amendment replaces the transportation direction in the Transportation and Utility System LUD in Chapter 3 of the 2008 Forest Plan, and removes that LUD as part of the proposed amendment.

Timber cut incidental to transportation system corridors should be managed according to FSH 2409.18, Chapter 80, section 84, Timber Settlement.

The purpose of the plan direction is to facilitate the availability of NFS land for the development of existing and future transportation system corridors such as those identified by the State of Alaska in the current version of the Southeast Alaska Transportation Plan and applicable laws (for example, Section 4407 of P.L. 109-59, Title XI of ANILCA, P.L. 96-487). (See FEIS Chapter 3, Transportation section.)

Objectives (O) **O-TSC-01:** Cooperate with other agencies in developing 35 miles of transportation corridors on NFS lands during the 15 years after plan approval.

O-TSC-02: Nominate a minimum of five projects, three to five years following Plan approval, consistent with implementation of the Federal Land Transportation Program Strategy, to provide for transportation facilities for Federal recreation sites associated with federally managed lands (such as a federally managed facility that supports local jobs and income).

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Facilities (FAC)

Standard (S) **S-TSC-FAC-01:** Authorize only those facilities (for example, recreation, administrative) that are compatible with transportation system corridor objectives.

Fire (FIRE)

Standard (S) **S-TSC-FIRE-01:** Prescribed natural fire is not allowed in transportation system corridors.

Guideline (G) **G-TSC-FIRE-01:** Prescribed fire ignitions may be used as a means of fuels management as long as its use is compatible with the LUD objectives.

Fish (FISH)

Standard (S) **S-TSC-FISH-01:** Design, construct, and maintain transportation system corridors to provide the continued productivity of existing fish populations and habitat.

S-TSC-FISH-02: Design, construct, and maintain aquatic organism passage across transportation system corridors.

Management Approach for Fish

It is expected that the project IDT would disclose impacts to fish habitat and, as appropriate, identify cost-effective methods to mitigate, rehabilitate, and monitor the potential impacts. The intent is that fish habitat would be protected to prevent the need for mitigation.

Forest Health (HEALTH)

Standard (S) **S-TSC-HEALTH-01:** Allow timber sanitation and salvage that is compatible with present or proposed federal or state transportation system corridors, if they meet the desired conditions.

Management Approach for Forest Health

The intent is that the project IDT would identify cost effective insect and disease management activities to maintain or improve forest health in the transportation system corridors.

Lands (LAND)

Standards (S) **S-TSC-LAND-01:** Allow only special uses that are compatible with Transportation Systems Corridors desired conditions.

S-TSC-LAND-02: Transportation and utility systems through conservation system units in Alaska, including designated wilderness, shall be considered under Title XI of ANILCA.

Recreation and Tourism (REC)

Standard (S) **S-TSC-REC-01:** Allow only recreation uses that are compatible with Transportation Systems Corridors desired conditions.

Management Approach for Recreation and Tourism

The intent is that when development of transportation system corridors changes the Recreation Opportunity System (ROS) setting, recreation and tourism opportunities are managed consistent with the new setting.

Scenery (SCENE)

Standard (S) **S-TSC-SCENE-01:** Apply the Low SIO for transportation system corridors. (Consult Forest Plan Chapter 4, Scenery Preparation: SCENE2 section.)

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Management Approaches for Scenery

The intent is that when authorizing transportation system corridor construction, that transportation systems designers work with topographic and vegetative features to screen the transportation system development when seen from Visual Priority Travel Routes and Use Areas (see Appendix F).

The intent is to design transportation systems to attain the highest possible quality of landscape aesthetics and scenery commensurate with other appropriate public uses, costs, and benefits.

Guideline (G)

G-TSC-SCENE-01: For transportation system corridors that dominate the seen foreground area, design with consideration for existing form, line, color, and texture of the characteristic landscape.

Soil and Water (SW)

Desired Conditions (DC)

DC-TSC-SW-01: Undisturbed soils within the transportation system corridors are managed to maintain soil productivity. Under the road prism soils are compacted and are not maintained for soil productivity, but support a stable road base. In ditches, cut slopes, and other disturbed areas outside the road prism, soils support desired plant communities, typically native, non-invasive plants. Vegetative cover is maintained in these areas unless soil is absent. Soil erosion and sediment transport is minimized.

DC-TSC-SW-02: Water follows natural flow paths downhill and road ditches do not act as an extension of the stream network. Transportation systems corridors do not cause or contribute to non-attainment of State Water Quality Standards.

Guideline (G)

G-TSC-SW-01: Maintain soil cover to prevent soil erosion in ditches, on cut slopes and fill slopes, and other areas where native soil cover has been disturbed in the construction and maintenance of transportation systems.

Timber (TIM)

Management Approach for Timber

Timber cut incidental to the development of transportation systems may be available for personal use of sawtimber, firewood, and Christmas trees and that use is compatible with transportation system corridor desired condition (DC-03) and objectives. Existing and future transportation system corridors may be used to access personal use products when consistent with the LUD objectives

Wildlife (WILD)

Standard (S)

S-TSC-WILD-01: Design and construct transportation systems to maintain wildlife habitat corridors between old-growth reserves (OGRs), RMAs, and beach and estuary fringe.

Guideline (G)

G-TSC-WILD-01: The ability for wildlife movement across transportation system corridors should be maintained.

Management Approach for Wildlife

It is expected that the project IDT would disclose impacts to wildlife habitat and movement corridors to maintain habitat connectivity across transportation infrastructure.

Forest-wide Plan Components

Forest Desired Conditions (Chapter 2)

DC-01: The Forest is characterized by extensive, unmodified natural environments. Old-growth forests are one of the predominant vegetation types on the Tongass and connections between patches of old growth are evident. Large areas of previously harvested stands now support young forests at different ages

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of succession. Stands in the natural setting Land Use Designations, within old-growth reserves, riparian management areas, and beach and estuary fringe would be at the climax-stage of forest stand composition and structure (e.g., old-growth conditions). Early seral stage stand composition and structure would be the desired condition in young-growth stands within the Development LUD Group. Insects and diseases native to southeast Alaska perform their natural role in the ecosystem.

DC-02: Transportation systems support community resilience, resource management, and provide for current and future land management needs, subject to applicable laws. Transportation systems avoid, minimize, or mitigate adverse effects to natural and cultural resources.

DC-03: Existing and future transportation system corridors provide community opportunities and support implementation of the Alaska Federal Lands Long Range Transportation Plan (LRTP) as identified through the Moving Ahead for Progress in the 21st Century Act (MAP-21).

DC-04: The minimum land area, consistent with an efficient, safe facility, is used for transportation systems corridor development. Transportation routes with regional importance may offer new or improved developed recreation opportunities.

Forest-wide Multiple-use Goals and Objectives (Chapter 2)

Renewable Energy (Goal)

GL-RE-01: The Forest would proactively contribute to sustainable production of renewable energy and energy transmission and distribution across the Forest, on all lands and LUDs, after consideration of other resources and community benefits.

Timber (Objective)

O-TIM-01: Seeking to accelerate a transition to primarily young-growth harvest, offer an average of 46 MMBF annually in a combination of old growth and young growth. When young-growth offered is less than 41 MMBF, provide old growth to make up the difference and achieve the average annual projected timber sale quantity of 46 MMBF. After the transition, offer an average of 5 MMBF of old growth annually to support Southeast Alaska mills.

O-TIM-02: Seek to provide an economic timber supply sufficient to meet the annual market demand for Tongass National Forest timber, and the market demand for the planning cycle. The volume of young growth as part of the yearly offer will increase from an average of 9.2 MMBF annually in the first decade to an average of 25 MMBF annually in years 11-15 as the program nears full transition.

Transportation (Goal)

GL-TRAN-01: During the 15 years after plan approval, manage and maintain roads to provide access for forest management, subsistence uses, and recreation, as well as public access to traditional use areas while protecting water, soil, fish, and wildlife resources.

Forest-wide Standards and Guidelines (Chapter 4)

Beach and Estuary Fringe (BEACH)

Standard (S)

S-BEACH-01: Harvest of old-growth timber within the beach and estuary fringe is not allowed, with the following exceptions that do not contribute to the PTSQ. Silvicultural prescriptions must address beach fringe management objectives:

- a) Salvage harvest to include incidental amounts of standing green timber during operations for safety and operational considerations;
- b) Administrative use (36 CFR 223.2);

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- c) By-products of habitat restoration treatments;
- d) Free use to Alaskan settlers, miners, residents, and prospectors (36 CFR 223.10);
- e) Landings and roads (only on the landward edges of the fringe); or
- f) For accessing timber in adjacent lands suitable for timber production such as for landings for logical yarding settings or access roads, where there are no alternatives in project design.

Timber (TIM)

Standard (S) **S-TIM-01:** Not including salvage or sanitation harvest, the quantity of timber sold in a decade may not exceed the sustained yield limit of 2480 million board feet (MMBF)³

Wildlife (WILD)

Bald Eagle Habitat

Guideline (G) **G-WILD-02:** The National Bald Eagle Management Guidelines (USFWS 2007, or current) should be used when working or authorizing activities near eagle nests.

Aleutian Tern

Standard (S) **S-WILD-03:** Follow direction in *XI. Seabird Colonies* in Chapter 4.

Black oystercatcher

Standard (S) **S-WILD-04:** Provide a minimum distance of 330 feet from human activities on the ground and waterfowl or shorebird intertidal concentration or nesting areas.

³ Forest Service Handbook 1909.12, Ch. 60, sec. 64.31

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ATTACHMENT B

**2016 TONGASS NATIONAL FOREST
LAND AND RESOURCE MANAGEMENT PLAN**

FOREST-WIDE STANDARDS AND GUIDELINES

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AIR

Forest-wide Standards and Guidelines

Air Resource Inventory: AIR1

- I. *Baseline Quality and Values*
 - A. During project planning, assess air quality conditions on National Forest System lands by following direction in Forest Service Manual (FSM) 2580.
 - B. Establish inventory and monitoring sufficient to follow legislative requirements (Forest and Rangeland Renewable Resources Act of 1974 [16 U.S.C. 1601], as amended by the National Forest Management Act [16 U.S.C. 1602], and Federal Land Policy and Management Act of 1976 [43 U.S.C. 1701 et seq.]), and to meet national policy and direction (Chief's 10-Year Wilderness Stewardship Challenge 2005, National Strategic Plan for Air Resource Management 1994).
 - C. Coordinate air climate change inventory, monitoring, and modeling efforts with National Park Service programs, Forest Health Monitoring and Forest Inventory and Analysis programs, and other Forest Service regions.

Air Resource Planning: AIR2

- I. *Objective*
 - A. The objective for the air resource, which is to be managed as a part of the Forest ecosystem, is to maintain or improve National Forest air quality by preventing significant deterioration from Forest activities or other sources (Clean Air Act, as amended [42 U.S.C. 7401 et seq.]).
- II. *Planning for the Maintenance of Air Quality*
 - A. Plan to maintain current air quality Forest-wide.
 1. Manage on-Forest resource activities to control and minimize air pollution impacts and to ensure that predicted emissions from all pollution sources do not exceed Ambient Air Quality Standards specified under the Alaska Administrative Code (AAC), Title 18, Chapter 50.
 - a) Obtain burning permits from the Alaska Department of Environmental Conservation (ADEC) for all prescribed fire projects.
 2. Require permittees, contractors, and mine operators to apply for applicable state permits and meet state Air Quality Standards when conducting work on the Forest.
 3. Cooperate with regulatory authorities to prevent adverse effects of air pollutants and atmospheric deposition on the Forest ecosystems.

Air Coordination: AIR3

- I. *Coordination with the State of Alaska*
 - A. Cooperate with ADEC to protect the air resource on the National Forest. Join in the assessment of air quality monitoring needs and in the development or revisions of air quality standards and regulations, as needed.
 - B. Review and comment on both proposed and existing sources of off-Forest pollution that may significantly affect ambient air quality on National Forest System lands.
 - C. Review the requirements for proposed new emission sources under the Prevention of Significant Deterioration permitting process.

4 Standards and Guidelines

BEACH and ESTUARY FRINGE

Forest-wide Standards and Guidelines

Beach and Estuary Description: BEACH1

I. Objectives and Identification

- A. Management objectives of the beach and estuary fringe habitat.
 1. To maintain the ecological integrity of beach and estuary fringe forested habitat to provide sustained natural habitat conditions and requirements for wildlife, plants, fish, recreation, heritage, scenery, wilderness, and other resources.
 2. To provide a relatively continuous forested corridor linking terrestrial landscapes.
 3. To provide a variety of recreation opportunities, typically of a Primitive or Semi-Primitive nature and retain the scenic quality.
 4. To maintain an approximate 1,000-foot-wide beach fringe of mostly unmodified forest to provide important habitats, corridors, and connectivity of habitat for eagles, goshawks, deer, marten, otter, bear, and other wildlife species associated with the maritime-influenced habitat. Old-growth forests are managed for near-natural habitat conditions (including natural disturbances) with little evidence of human-induced influence on the ecosystem.
 5. To maintain an approximate 1,000-foot-wide estuary fringe of mostly undisturbed forest that contributes to maintenance of the ecological integrity of the biologically rich tidal and intertidal estuary zone. Habitats for shorebirds, waterfowl, bald eagles, goshawks and other marine-associated species are emphasized. Old-growth conifer stands, grasslands, wetlands, and other natural habitats associated with estuary areas above the mean high tide line are managed for near-natural habitat conditions with little evidence of human-induced disturbance.
- B. Beach fringe identification.
 1. The beach fringe is an area of approximately 1,000 feet slope distance inland from mean high tide around all marine coastline.
- C. Estuary fringe identification.
 1. The estuary fringe is an area of approximately 1,000 feet slope distance around all identified estuaries. Estuaries are ecological systems at the mouths of streams where fresh and salt water mix, and where salt marshes and intertidal mudflats are present. The landward extent of an estuary is the limit of salt-tolerant vegetation (not including the tidally influenced stream or river channel incised into the forested uplands), and the seaward extent is a stream's delta at mean low water.

Beach and Estuary Management: BEACH2

I. Management

- A. Management is governed by the Land Use Designation (LUD) in which the beach or estuary area is located. Some LUDs (such as Wilderness and some of the Natural Setting LUDs) highly restrict development. Where the LUD allows development (e.g., moderate and intensive Development LUDs), the standards and guidelines discussed below will apply.
 1. Allow facility developments that require in-water access (e.g., docks, floats, or boat ramps).
 - a) Locate facilities more than 300 feet from the mouths of intertidal channels of known Class I anadromous fish streams, or tidal or subtidal beds of aquatic vegetation to avoid significant impairment.
 - b) Avoid filling of intertidal and subtidal areas to the extent feasible.
 2. Permit reasonable access to mining claims in accordance with the provisions of an approved Plan of Operations. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980 (ANILCA), and National Forest Mining Regulations at 36 CFR 228.
 - a) Take advantage of topographic and vegetative screening when locating drill rigs, pumps, roads, rock quarries, structures, and marine transfer facilities.
 - b) Consider timing restrictions to minerals activities to avoid adverse impacts to fish and wildlife resources during critical periods.

3. Emphasize natural recreation settings and continue to provide the spectrum of outdoor recreation and tourism opportunities.
 - a) Where feasible, schedule activities to avoid change to the existing Recreation Opportunity Spectrum (ROS) class in marine recreation settings. Emphasize the more primitive ROS class when activities are considered in the Wilderness or Wilderness Monument LUD.
 - b) In locations where scheduled activities change the recreation setting(s), manage the new setting(s) in accordance with the appropriate ROS guidelines with emphasis on marine-related recreation activities.
 - c) Design and locate recreation-related structures (e.g., recreation cabins, lodges, and wildlife viewing structures) to be compatible with beach and estuary fringe objectives.
 - d) Manage off-highway vehicle (OHV) use as documented in the Travel Management Plan.
 - e) Manage recreation and tourism use to maintain fish, wildlife, and rare plant habitats.
4. Allow subsistence and other personal use of timber in accordance with ANILCA, Title VIII, and other standards and guidelines (e.g., the 330-foot buffer around bald eagle nests). Personal use is generally inconsistent with beach and is only allowed when the accessibility of other lands suitable for timber production are not feasible, such as when the eligible permittee lives in an unroaded area with no feasible access to designated "suitable timber" lands suitable for timber production, and when the LUD objectives can be met." Personal use timber harvest will be regulated and its cumulative effects monitored in LUDs that are not suitable for timber production to ensure that the LUD objectives are fulfilled.
5. Beach log salvage is permitted.
6. (See Forest-wide plan components in Chapter 5)
7. (See Forest-wide plan components in Chapter 5)
8. Road construction is discouraged in the beach and estuary fringes. Where feasible alternatives are not available, road corridors may be designated.
 - a) Provide or maintain recreation or community access where needed as identified through project analysis.
9. Log transfer facilities may be constructed.
 - a) Use the Alaska Timber Task Force Siting Guidelines (see Appendix G and the log transfer facility standards and guidelines in the Transportation Forest-wide Standards and Guidelines section).
10. Wildlife habitat restoration of young-growth conifer stands is encouraged to accelerate development of advanced seral stand structure. Treatments may include thinning of young stands, release, pruning, and fertilization.
11. Other authorized activities (e.g., powerlines, fish camps) may be allowed in the beach and estuary fringe where feasible alternative locations are not available.

4 Standards and Guidelines

FACILITIES

Forest-wide Standards and Guidelines

The following Standards and Guidelines apply to recreation and administrative facilities needed to support the management, protection, and use of the National Forests, including buildings, utility systems, dams, and other constructed features.

Facilities Operations: FAC1

- I. *Administration and Maintenance*
 - A. Assess and document the ability of Forest Service facilities to support planned activities.
 - B. Assess the historic and cultural values of these facilities.
 - C. Provide maintenance and safety inspections on major structures on the Forest in compliance with Forest Service Manual (FSM) requirements.
 - D. Maintain current operation and maintenance plans for Forest Service-owned recreation facilities (Consult FSM 2330.)
 - E. Maintain facilities to meet codes applicable at the time of construction, unless otherwise required by law.
 - F. Perform accessibility surveys on all existing facilities. Implement improvements to provide barrier-free, accessible facilities appropriate to the site development and ROS level as funding and opportunity allow (also see Recreation and Tourism Forest-wide Standards and Guidelines).

Facilities Improvement Preparation: FAC2

- I. *Plan Development*
 - A. Complete site development plans for all facility needs identified in the Forest Plan implementation schedule or the Forest Facility Master Plan. (Consult FSM 7311.)
 - B. Maintain a description of the desired condition for facilities that reflect needs, future development opportunities, and long-term management in the Forest Facility Master Plan. Document the extent and management of these facilities, including:
 1. Number of buildings by type and age.
 2. Number of dams in federal ownership by classification.
 3. Developed recreation sites, such as National Forest campgrounds, picnic areas, and trailheads with recreation facilities.
 4. Number and types of permitted facilities, including dams, ski areas, fences, buildings, etc.
 5. Number (and/or miles) of systems including sewage, water, electrical, and communication networks needed within recreation and administrative sites.

Facility Construction: FAC3

- I. *Construction Requirements*
 - A. All remodeling, new construction, or building leasing should be in accordance with an approved site development plan in order to provide safe, functional, aesthetically pleasing, energy efficient, and cost-effective facilities.
 - B. Ensure consistency with LUD direction.
 - C. Access for persons with disabilities is required for all new facilities (administrative and recreation).
 - D. Consult Forest Service Handbook (FSH) 7309.11 for gender-related design standards.
 - E. Consider additional public use cabins and/or shelters in the Wilderness only when needed for health and safety purposes (Alaska National Interest Lands Conservation Act of 1980, Section 1315(d)).
 - F. Develop a revegetation plan using approved plant species.

FIRE

Forest-wide Standards and Guidelines

Fire Suppression: FIRE1

I. *Protection Options*

- A. Due to climate conditions, fire suppression is not a common need on the Tongass National Forest. Under typical conditions, the period of time for fire starts and spread is short. All suppression actions will provide for the safety of fire fighters and be applied at a minimum suppression cost, commensurate with the values at risk. Fire suppression shall fall into one of four optional categories: "Critical" (control strategy), "Full" (control strategy), "Modified" (contain strategy), or "Limited" (confine strategy). These options and strategies are further defined and discussed in the Alaska Interagency Wildland Fire Management Plan. Complete a Wildland Fire Situation Analysis (WFSA) for all suppression actions that fail to confine, contain, or control the fire's spread following the first initial attack shift. (Consult Forest Service Manual [FSM] 5132.)
1. Critical Protection Option (control). This option is specifically created to differentiate the protection of human life and inhabited property and improvements from natural resource protection. The designation of a site or area with this option is the discretion of the land manager responsible for the fire protection. Fires occurring in or immediately threatening lands in this designation will receive highest priority for immediate initial attack and continuing aggressive actions dependent upon availability of suppression resources.
 2. Full Protection Option (control). Areas assigned this designation will receive aggressive initial attack and aggressive suppression actions consistent with availability of suppression resources until the fire is declared out. This option was designed for the protection of high resource values, cultural sites, historical sites, and those resources that require wildland fire protection, but do not involve protection of human life and habitation.
 3. Modified Protection Option (contain). This designation is intended to be the most flexible option available to land managers. The intent of the Modified management option is to provide a higher level of protection when fire danger is high, probability of significant fire growth is high, and probability of containment is low. A lower level of protection is provided when fire danger decreases, potential for fire growth decreases, and the probability of containment increases. The Modified designation provides a management level between Full and Limited. Generally, early in the season fire starts on lands under this designation are treated more aggressively and then after the conversion date, they are treated like Limited designation lands. The conversion date is determined by the Alaska Wildland Fire Coordination Group each fire season. The intent of this designation is to reduce suppression costs and increase resource benefits where possible during the entire fire season. Some portions of the fire may require aggressive action and others may only require a containment action.
 4. Limited Protection Option (confine). This category recognizes areas where the cost of suppression may exceed the value of the resources to be protected and the environmental impacts of fire suppression activities may have more negative impacts on the resources than the effects of the fire. Wildland fires occurring within this designation will be allowed to burn under the influence of natural forces within predetermined areas while continuing protection of human life and site-specific values within the management option. Generally, this designation receives the lowest priority for allocations of initial attack resources; however, surveillance may be a high priority. Suppression actions may be initiated to keep a fire within the boundary of the management option.

Fuels Improvements: FIRE2

I. *Prescribed Fire*

- A. The use of prescribed fire as a tool for resource management is often undependable due to shortness of burning opportunities and weather limitations during the burning season. Use

4 Standards and Guidelines

prescribed fire, as appropriate, for silvicultural site preparation, wildlife habitat improvement, invasive plant control, or slash hazard treatment.

1. All prescribed fires must have an approved burn plan signed by the appropriate line officer with a designated burn boss, contingency options, and a process for monitoring and evaluating results. All prescribed fires will have a qualified organizational structure, including personnel, to suit the complexity of burn. (Consult FSM 5140.)
2. For silvicultural site preparation, wildlife habitat improvement, and slash hazard treatment, the District Ranger will ensure appropriate interdisciplinary specialist participation during planning, executing, monitoring, and evaluation phases of prescribed fire use. (Consult FSM 5140, FSH 5709, and FSM 6740.)
3. Because of the absence of fire as a natural disturbance agent in Southeast Alaska, prescribed fire is expected to play little to no role within the Wilderness or Wilderness Monument LUD.

FISH

Forest-wide Standards and Guidelines

Fish Habitat Inventory and Monitoring: FISH1

- I. *Fish Habitat Inventory*
 - A. Maintain the channel type and stream class (see Glossary) based inventory of all Forest streams.
 1. Maintain and update the stream inventory (and geographic information system [GIS] mapping) during site-specific project planning and analysis.
 - a) Consult publication R10-TP-26, A Channel Type Users Guide for the Tongass National Forest, Southeast Alaska (as revised), for descriptions of the channel types.
 - b) Consult the Aquatic Habitat Management Handbook FSH 2090.21 for descriptions of Region 10, stream survey methodologies.
 - B. Maintain the inventory of Forest streams and watersheds for fish enhancement opportunities.
 - C. Maintain, and further develop as necessary, the fish habitat objectives database used to measure changes in the natural range and frequency of aquatic habitat conditions. (See FISH2,IV(B).)

Fish Habitat Planning: FISH2

- I. *Fish Habitat and Channel Processes*
 - A. Recognize watershed function and channel processes when planning for the protection, restoration or enhancement of fish habitat. (Consult Riparian Forest-wide Standards and Guidelines RIP2 and Soil and Water Forest-wide Standards and Guidelines SW3.)
 1. Consider the effects of upstream and upslope activities during site-specific planning.
 2. Consider the condition of upstream and upslope areas during site-specific planning.
 3. Consider topics such as erosion processes, watershed hydrology, vegetation, stream channel morphology, water quality, wilderness designation, recommendations for inclusion into the Wild and Scenic River System, species and habitats, and human uses, during analyses.
- II. *Channel Classification and Process Groups*
 - A. Use channel type inventories to categorize stream reaches into channel process groups. Use channel types and process groups to plan management activities affecting fish and fish habitat along all lakes and streams. Process groups and the channel types included in each process group are shown in Appendix D and publication R10-TP-26, A Channel Type Users Guide for the Tongass National Forest, Southeast Alaska (as revised). These groups may be redefined as more information about channel types becomes available.
 1. Map and field-verify streams, lakes, and estuaries by channel type and stream class for project planning and implementation.
- III. *Fish Stream Classification (reference FSH 2090.21 (2001) Chapter 10, Section 12)*
 - A. Determine fish/water quality value class of all streams in the affected area prior to or during site-specific project planning. (Consult Riparian Forest-wide Standards and Guidelines.)
 - B. Use the following classification system across the Forest:
 1. Class I: Streams and lakes with anadromous or adfluvial fish or fish habitat, or high quality resident fish waters or habitat above fish migration barriers known to provide reasonable enhancement opportunities for anadromous fish.
 2. Class II: Streams and lakes with resident fish or fish habitat—generally steep channels 6 to 25 percent or higher gradient—where no anadromous fish occur, and otherwise do not meet Class I criteria.
 3. Class III: Perennial and intermittent streams with no fish populations but which have sufficient flow, or transport sufficient sediment and debris, to have an immediate influence on downstream water quality or fish habitat capability. For streams less than 30 percent gradient, special care is needed to determine if resident fish are present.

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A stream segment is designated Class III if, for the majority of its length, the bankfull stream width is greater than 1.5 meters (5 feet) and the channel incision (or entrenchment) is greater than 5 meters (15 feet).

Streams that do not meet both the width and incision criteria may be classified as Class III streams based on a professional interpretation of stream characteristics for the stream segment being assessed. The following characteristics **could** indicate a Class III stream:

- a) Steep side-slopes containing mobile fine sediments, sand deposits, or deep soils that can provide an abundant source area for sedimentation.
 - b) Very steep gradient channels (greater than 35 percent slope).
 - c) Recently transported bedload or woody debris wedges (especially if deposited outside high water mark).
 - d) High water indicators (scour lines, drift lines, etc.) that greatly exceed observed wetted stream width.
 - e) Large sediment deposits stored amongst debris that could be readily transported if debris shifts.
4. Class IV: Other intermittent, ephemeral, and small perennial channels with insufficient flow or sediment transport capacity to directly influence downstream water quality or fish habitat capability. Class IV streams do not meet the criteria used to define Class I, II, or III streams. Class IV streams must have bankfull width of at least 0.3 meter (1 foot) over the majority of the stream segment. For perennial streams, with average channel gradients less than 30 percent, special care is needed to determine if resident fish are present (resident fish presence dictates a Class II designation).
 5. Non-streams: Rills and other watercourses, generally intermittent and less than 1 foot in width, little or no incision into the surrounding hillslope, and with little or no evidence of channel scour. (Note: These micro-drainage features are not mapped in GIS hydrography layers.)

IV. Objectives/Guidelines for Management Affecting Fish Habitat

- A. Maintain or restore the natural range and frequency of aquatic habitat conditions on the Tongass National Forest to sustain the diversity and production of fish and other freshwater organisms.
- B. Use (and update) baseline fish habitat objectives as a reference to evaluate the relative health or condition of riparian and aquatic habitat. Use baseline fish habitat objectives, listed below (and others as developed), (Anadromous Fish Habitat Assessment Team 1995, Bryant et al. 2004, Woodsmith et al. 2005) to characterize the natural range of habitat conditions by channel types and process groups. Specific measurement protocols are described in the Alaska Region Aquatic Management Handbook (FSH 2090.21 – 2001-1).
 1. Width-to-depth ratio—Relationship between bankfull width and average bankfull depth, expressed as bankfull width / average bankfull depth.
 2. Large woody debris (LWD)—Frequency of qualifying large wood pieces per kilometer of stream.
 3. Total key pieces of LWD—Frequency of large, structurally integral pieces of wood scaled to channel size per kilometer of stream.
 4. Pools per kilometer—Frequency of qualifying pools per kilometer of stream.
 5. Pool spacing—Frequency of qualifying pools per unit area of channel, length of channel surveyed / average channel bed width / number of pools.
 6. Residual pool depth per channel bed width—Residual pool depth scaled to channel size, residual pool depth / average channel bed-width.
 7. Median particle size.
 8. Pool length per meter—Total qualifying pool length divided by length of survey.
 9. Pool size (relative depth)—Average residual pool depth / average bankfull depth.
 10. Relative submergence—Expressed as average bankfull depth.

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- C. Maintain or restore stream banks and stream channel processes.
 - 1. Stream Class I, and Class II streams that flow directly into Class I streams. Maintain, restore, or improve anadromous, adfluvial, and high-value resident fish habitat capability by providing natural or improved cover/pool ratio, pool-riffle sequences, and habitat features, such as stable LWD. Design management activities to maintain stream bank, channel, and flood plain integrity.
 - 2. Other Stream Class II. Maintain or restore habitat capability for resident fish populations by providing natural or improved cover/pool ratio, pool-riffle sequences, and habitat features, such as stable LWD. Design management activities to maintain stream bank, channel, and flood plain integrity. Avoid impacts to downstream Class I streams.
 - 3. Stream Class III. Design management activities to maintain or restore stream bank, channel, and flood plain integrity. Avoid impacts to downstream Class I and Class II streams.
- D. Maintain or restore natural and beneficial quantities of LWD over the short- and long-term.
 - 1. Stream Class I, and Class II streams that flow directly into Class I streams. Maintain or restore anadromous, adfluvial, and high-value resident fish habitat capability by providing for natural and beneficial volumes of LWD for rearing, stream energy dissipation, and sources of organic matter to the stream ecosystem. Use biological and physical characteristics of the stream to determine size classes and distribution of LWD. Limit navigational clearing of large wood to the minimum necessary for safety.
 - 2. Other Stream Class II. Maintain or restore habitat capability for resident fish populations by providing LWD, and by designing for future sources of LWD at volumes determined by channel type biological and physical characteristics.
 - 3. Stream Class III. Maintain or restore LWD in channels and banks to prevent changes in natural stream bank and stream channel processes.
- E. Maintain or restore water quality to provide for fish production.
 - 1. Stream Classes I, II, and III. Prevent adverse effects to rearing and spawning habitat. Maintain or restore anadromous, adfluvial, and high-value resident fish habitat capability. Maintain or restore capability for other resident fish populations to the extent feasible. Ensure no chronic sediment input following soil-disturbing activities. Prevent adverse impacts to fish habitat downstream by minimizing siltation.
 - 2. Implement applicable Best Management Practices (BMPs). (Consult National Core BMP Technical Guide FS-990a and the Alaska Region Soil and Water Conservation Handbook, FSH 2509.22.)
- F. Maintain or restore optimum water temperatures for salmonids, considering both winter and summer habitat requirements, climate, and natural watershed characteristics.
 - 1. Stream Class I, and Class II streams that flow directly into Class I streams. Maintain or restore optimum salmonid summer stream temperatures at between 50° and 68°F or at natural levels. (Consult the current State of Alaska Water Quality Standards):
 - 2. Other Stream Class II. Maintain water temperatures below 68°F, or at natural levels, to maintain or restore habitat capability for resident fish populations. Manage watersheds and riparian streambanks to maintain appropriate water temperature for downstream Class I streams as described in F.1.
 - 3. Stream Class III. Manage watersheds and riparian streambanks to maintain water temperature standards and guidelines for downstream Class I and II streams.
- G. Maintain, restore, or improve, where feasible (see Glossary), stream conditions that do not disrupt the migration or other movement of aquatic organisms inhabiting a waterbody.
 - 1. If a stream crossing cannot be avoided, the best solution for aquatic organism passage is generally to maintain the natural stream form and processes from the inlet, through the crossing, and into the downstream channel. Bridges, open-bottom culverts, and stream-simulated culverts designed and installed to applicable BMPs (Consult the National Core BMP Technical Guide FS-990a and the Alaska Region Soil and Water Conservation Handbook, FSH 2509.22) and design standards (Aquatic Habitat Management Handbook, FSH 2090.21) to best meet this objective.
 - 2. Some stream conditions, engineering constraints, or cost may make it desirable to install culverts that use a variety of weir/baffles or roughened channel to provide for passage.

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These hydraulically designed culverts rely on matching culvert hydraulic conditions at a specified design flow to the swimming performance of a specified design fish (Aquatic Habitat Management Handbook, FSH 2090.21).

3. Stream crossing structures requiring aquatic organism passage will be designed to current standards by qualified professionals.
4. Consult applicable BMPs (see National Core BMP Technical Guide FS-990a and FSH 2509.22).
5. Consult and improve the inventory of identified fish stream crossings.
6. As per the Memoranda of Understanding (MOU) between the Forest Service and the Alaska Department of Fish and Game, culvert installation, stream alignment, or diversions; dams; low-water crossings; and construction, placement, deposition, or removal of any material or structure below ordinary high water may require State of Alaska concurrence.
7. Overall, the intent is to not disrupt the migration or movement of aquatic organisms, but occasionally it is not feasible to protect some sections of habitat and movement will be restricted. In determining feasibility, consider the following:
 - a) Presence of known sensitive, isolated, or unique fish populations.
 - b) Extent and quality of available habitat and how it is affected by the location of the stream crossing.
 - c) Cumulative impacts of restricting fish passage at multiple sites in the same watershed.
 - d) Upstream and downstream linkages between the anadromous and resident life strategies of the same species.
 - e) Advice from the Alaska Department of Fish and Game (ADF&G) and ADNR.
 - f) Length of time that a stream structure will restrict movement.
 - g) Cost of providing ideal passage conditions compared to less than ideal conditions.
 - h) Availability of suitable, cost-effective compensatory mitigation projects.
8. The discharge of dredge or fill material from normal silviculture activities such as timber harvest is exempt from Clean Water Act Section 404 permitting requirements in waters of the United States (404(f)(1)(A)). Forest roads qualify for this exemption only if they are constructed and maintained in accordance with BMPs specified in 33 CFR 323.4(a). These BMPs have been incorporated into BMP 12.5 in the Alaska Region's BMP Handbook (FSH 2509.22).

V. *Management Indicators*

- A. Use Forest Plan management indicators to evaluate the potential effects of proposed project management activities affecting fish habitat.

VI. *Management Activities*

- A. Maintain a fish program schedule that includes anticipated inventory needs, proposed habitat improvement and maintenance projects, and monitoring requirements.

VII. *Coordination*

- A. Coordinate activities that affect fish resources with other Forest disciplines through the Interdisciplinary Team process, and with other federal, state, and local agencies and groups.
 1. Develop and maintain Memoranda of Understanding/Agreements with appropriate state, federal, and local agencies, and aquaculture associations.
 2. Coordinate with the state and federal agencies, and the Pacific Northwest Research Station, to maintain a continuous program for research, monitoring, and assessment of impacts of land-use activities on fish habitat.
- B. Consider the influence of proposed management activities on fishing use patterns.
- C. Consider effects of off-highway vehicle (OHV) travel and road closures on fish habitat and populations.

VIII. *Project Planning*

- A. Use the following priority for fish habitat project work: mitigation for unplanned impacts, rehabilitation/restoration, and enhancement. For both mitigation and rehabilitation, consider

Standards and Guidelines 4

alternatives for cost efficiency of performing off-site enhancement (enhancement of a different area than where the impact actually occurs).

1. Location of off-site enhancement shall be governed by the following priorities:
 - a) First priority: same stream reach (same species)
 - b) Second priority: same stream (same species)
 - c) Third priority: same watershed (same species)
 - d) Fourth priority: same anadromous fish harvest area (same species)
 - e) Fifth priority: differing species, using above priority order
- B. Enhance fish habitat to meet the objectives identified in this Plan. Opportunities may include, but are not limited to, instream enhancement, lake fertilization, cooperative bio-enhancement (e.g., stocking), incubation boxes, and fishway construction.
 1. Use the Cooperative Fisheries Planning process (consult the Alaska National Interest Lands Conservation Act, Section 507) and/or other cooperative agreements for developing priorities for the enhancement of fish resources.
 2. Determine habitat capability on streams and lakes identified for enhancement in the Cooperative Fisheries Planning process prior to construction of fish projects.
 3. Update the fish habitat enhancement list (Cooperative Fisheries Planning process) periodically.
- C. Recognize bio-enhancement (e.g., stocking of juveniles, use of egg incubation boxes, transferring of adult fish to seed stream systems) as part of the fish improvement project costs when appropriate. Cooperate/coordinate with state and federal agencies and aquaculture associations to facilitate bio-enhancement. Recognize bio-enhancement as part of the fish improvement project costs when appropriate.
- D. Fishpass projects abide by the standards and best practices for colonization projects included in the Comprehensive Salmon Enhancement Plan for Southeast Alaska, Phase III.
- E. Coordinate new projects to enhance the use of National Forest System lands with the recreation program managers.

Fish Habitat Restoration and Improvement: FISH3

I. Planning

- A. Improve or restore fish habitat to work toward the habitat objectives of the Forest Plan. Give priority to restoration projects.
- B. Construct projects using the most cost-efficient methods, while achieving desired results consistent with the Land Use Designation.
- C. During project planning consider the need to monitor the accomplishment of project objectives. Need shall be governed by the type of project, with high interest/high investment projects being monitored more intensively.
 1. Where needed, develop cooperative agreements with fish/aquaculture agencies and other groups to assess the effectiveness of Forest Service habitat improvement.
- D. Coordinate habitat restoration and improvement projects with ADF&G and other appropriate agencies and groups.

II. Construction Coordination

- A. Coordinate all fish habitat restoration and improvement using an interdisciplinary process.

III. Monitoring

- A. Conduct monitoring of fish habitat restoration and improvement projects to ensure their continued function at the design level of operation.
- B. Monitor fish production on a representative sample of restoration and improvement projects to evaluate effectiveness of individual projects, categories of similar projects, and the effectiveness of the overall improvement program.

Fish Habitat Maintenance: FISH4

I. Maintenance

- A. Provide for the maintenance of fish habitat enhancements.
 1. Fund maintenance of existing projects prior to the construction of new ones.

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2. Include funding for maintenance in the planning and budgeting for all projects.
 3. Maintain restoration and improvement projects to ensure that investment objectives are met.
 4. When maintenance and operation of an improvement become inefficient, reconstruct or remove the project.
 5. If a project becomes inoperable, reconstruct or remove the improvement.
- B. Develop a written maintenance responsibilities agreement with project cooperators prior to project construction.

Threatened, Endangered, and Sensitive Fish Species: FISH5

Consult FSM 2670 and R10 supplemental directions for Threatened, Endangered, and Sensitive species.

I. *Threatened or Endangered Species*

- A. Currently there are no Threatened or Endangered fish species within the territorial boundaries of the Tongass National Forest.

II. *Sensitive Fish Species*¹

- A. Island King Salmon (Removed from Alaska Region Sensitive Species List in 2009)
1. Provide for the protection and maintenance of runs of king salmon that naturally occur on islands, including the runs in King Salmon and Wheeler creeks on Admiralty Island.
 2. Coordinate with ADF&G and National Marine Fisheries Service (NMFS) on commercial, sport, and subsistence fish use, hatchery egg take programs, and other activities affecting the viability of king salmon runs in order to conserve these unique populations.
 3. Avoid the placement of facilities or issuing of permits for activities near these streams that would increase harvest pressure on these king salmon runs.
 4. Include culvert replacement as a conservation and restoration tool.
- B. Northern Pike (Removed from Alaska Region Sensitive Species List in 2009)
1. Provide for the protection and maintenance of northern pike found in the Pike Lakes on the Yakutat Forelands. This population of northern pike is unique to Southeast Alaska.
 2. Avoid the placement of facilities near the Pike Lakes that would increase harvest pressure to the point where the viability of these species is affected.
 3. Coordinate with ADF&G on any activities that would affect the viability of the northern pike.
 4. Include culvert replacement as a conservation and restoration tool.
- C. Fish Creek Chum Salmon (Removed from Alaska Region Sensitive Species List in 2009)
1. Provide for the protection and maintenance of chum salmon in Fish Creek near Hyder. This population of chum salmon is characterized by their extraordinary large size.
 2. Coordinate with ADF&G and NMFS on commercial, sport, and subsistence fish use, hatchery egg take programs, and other activities affecting the viability of the chum salmon runs in Fish Creek in order to preserve these populations.
 3. Provide habitat improvement and maintenance including culvert replacement to sustain this run of salmon, as necessary.

¹ The Forest Service Alaska Region Sensitive Species List was updated in 2009 and supersedes previous lists.

FOREST HEALTH

Forest-wide Standards and Guidelines

Forest Health Management: HEALTH1

I. Forest Health Management

- A. Achieve desired future condition of forest health by manipulating insect and disease populations to beneficial levels. Desirable forest health conditions are expected to vary according to different resource goals.
 - 1. Create ecological conditions that improve the health of vegetation by incorporating forest health principles into forest planning, decision-making, and implementation of project activities.
 - 2. Consider forest health management information dealing with insects, diseases, and invasive species of flora and fauna, and recommendations on management alternatives. These recommendations will include analyses of the ecological effects of insects and diseases and management alternatives, including no action, chemical, cultural, mechanical, and biological methods.
 - 3. For direction on the use of pesticides in forest management, consult the Pesticide Use and Vegetation Management guidelines in the Timber Forest-wide Standards and Guidelines.
- B. Evaluate insect, disease, and invasive species impact(s) to resources.
 - 1. Conduct on-site evaluations to assess past, current, and future insect, disease, and invasive species impacts and their effect upon desired forest health.
 - 2. Use data from these evaluations to assist project planning and analysis.
- C. Provide training, technology transfer, and technical assistance to area and district personnel to assist in the management of forest insects and diseases.

Forest Insect and Disease Survey and Inventory: HEALTH2

I. Insect and Disease Detection Survey

- A. Conduct an annual insect and disease detection aerial survey in cooperation with State and Private Forestry, Alaska Region / Forest Health Protection (FHP) work group.
 - 1. Resource managers will establish survey priorities based on planning needs and current management concerns.
 - 2. Conduct aerial surveys of a variety of forest cover types and LUDs, concentrating on those areas identified as having the highest management priority.

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HERITAGE RESOURCES and SACRED SITES

Forest-wide Standards and Guidelines

Heritage Resource Activities: HSS1

I. *Management*

- A. Maintain a heritage resource management program to identify, evaluate, preserve, and protect heritage resources on a Forest-wide and project-specific level in compliance with the National Historic Preservation Act, the National Environmental Policy Act (NEPA), the American Indian Religious Freedom Act (AIRFA), the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), Executive Order 13287, their amendments and implementing regulations (consult 36 CFR 800, Forest Service Manual [FSM] 2360, and Forest Service Handbook [FSH] 2309.12).
- B. Coordinate management of heritage resources with the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), Alaska Native tribes and corporations, and interested members of the public. Consult 36 CFR 800, FSM 2361, and the current Programmatic Agreement between the USDA Forest Service, Region 10, ACHP, and Alaska SHPO.
- C. Identify and develop interpretive messages for heritage resource sites and activities that relate the historical value and contributions of natural and heritage resource management to the Tongass National Forest. Work closely with all interpretive services programs to ensure accurate and effective interpretation of heritage resources.
- D. Coordinate the management, access, and use of Forest products to perpetuate Alaska Native culture and art forms. (See Standards and Guidelines for Plants and Timber.)
- E. Develop a heritage resource management assessment that provides a framework for management decisions. Its objectives are to display the schedule of management activities, summarize current status, and identify priorities for future heritage resources inventory, evaluation, and protection.
 1. Update the heritage resource assessment annually, for budget implementation and to fulfill requirements of the annual report to SHPO as stipulated in the Programmatic Agreement.
 2. The assessment/annual report should include:
 - a) An overview of new data and data management.
 - b) Identification of projects reviewed under 36 CFR 800 or the Programmatic Agreement and areas requiring intensive site inventory, including non-project areas of the Forest.
 - c) Identification, classification, and evaluation of heritage resources located.
 - d) Re-evaluation and update of the heritage resource sensitivity zone system based on new data and/or understandings of each area's heritage resources and their locations.
 - e) Identification of measures and priorities for the protection of heritage resources from vandalism, theft, and natural deterioration.
 - f) Identification of prioritized needs for the stabilization, restoration, and repair of damaged sites.
 - g) Identification of the need for maintenance of sites on, or eligible for inclusion in, the National Register of Historic Places.
 - h) Identification of opportunities for interpretation of heritage resources for public education and recreation values.
 - i) Identification of the interaction of heritage resources and other multiple uses, including consideration of management activities, and their impacts on heritage resource management.
 - j) Identification of the coordination efforts with appropriate state heritage resource plans and planning activities of the SHPO, State Archaeologist, and other state and federal agencies.

II. *Project Clearance/Inventory*

- A. Project Clearance. Any project, activity, or program that can result in changes in the character or use of historic properties and is under the jurisdiction of the Forest, licensed or assisted by the Forest, including new or continuing projects, activities, or programs and any of their

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elements not previously considered under Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended, shall be considered an undertaking and may require evaluation through inventory and survey.

1. Ensure that compliance with the Alaska Programmatic Agreement and/or 36 CFR 800 has been accomplished before a NEPA Decision Notice, Record of Decision, or Finding of No Significant Impact is signed prior to implementation of an undertaking (FSM 2361-04b-R10 Supplement).

III. *Project Implementation*

- A. Inventory and evaluation may be accomplished at the operator's discretion and cost provided that the inventory and evaluation are accomplished under the supervision of a qualified heritage resources specialist authorized by a special use authorization. Determinations under 36 CFR 800 are made by the appropriate Forest Service line officer.
- B. Include as part of the Section 106 project report specific protective and/or mitigative measures to be taken by the operator who is responsible for the cost of any such protective or mitigative measures.
- C. When appropriate, mark known heritage resource sites within or adjacent to the project area prior to project implementation.
- D. Include in each contract, permit, or lease a statement of the operating conditions required to protect heritage resources in the project area. Also include the pertinent clause notifying the operator of his or her responsibility to protect marked sites when working in the project area and the operator's liability for damage.
- E. Provide training in the recognition, site inspection, and protection of heritage resources for all persons responsible for on-the-ground administration of contracts, permits, or leases.
 1. If a site, human remains, or funerary object is discovered during project implementation, work shall be suspended by the project administrator to avoid potential site damage. The Forest Supervisor shall notify the SHPO and appropriate Alaska Native tribe and corporation contacts, and resumption of work will be authorized only after the consultation process has been completed. The project administrator shall keep the contractor, permittee, or lessee informed of anticipated delays in work resumption.

IV. *Mitigation*

- A. In cases where in-place preservation of heritage values is the objective, the Forest Supervisor shall consider management options such as project design, location, or cancellations in meeting the objective. Consult 36 CFR 800 and the Programmatic Agreement for procedures to be followed in reaching a management decision.
- B. The preferred management of sites listed in, nominated to, or eligible for the National Register of Historic Places is avoidance and protection.
 1. When feasible, sites listed in, nominated to, or eligible for the National Register of Historic Places shall be managed to achieve a "No Adverse Effect" finding, in consultation with the SHPO and the Advisory Council on Historic Preservation. (Consult 36 CFR 800.)
 2. The recovery (collection) of heritage resources can occur during the inventory, evaluation, or mitigation (data recovery) phases. Standard requirements include documentation of the resource, labeling of the artifacts, and curation of the recovered materials and resultant records.
 3. Collection of artifacts, except under emergency circumstances, must be accomplished or directly supervised by a professional heritage resources specialist. A qualified heritage resources specialist may recover artifacts for purposes of evaluation.
 4. Requirements for heritage resource collection include the following:
 - a) Emergency collection. Artifacts collected in emergency situations shall be turned over to the Unit Heritage Resources Specialist for appropriate curation.
 - b) Special agents and other law enforcement officers conducting criminal investigations may collect artifacts as evidence. Any material collected must be cataloged and stored in a secure area.
 - c) Artifact samples may be collected from heritage resource sites, when they can be systematically recovered and properly recorded for further evaluation (caution must be

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exercised to ensure that the collection of artifact samples is adequate for the purpose intended without causing unacceptable impacts to the resource). The sample size collected should be no more than the minimal amount necessary for the proposed analysis.

- d) Data recovery (including collection of artifacts and photographic/archival recordation) must be conducted in accordance with a Forest Service/SHPO-approved Data Recovery Plan, which shall conform to the published guidelines in the Advisory Council on Historic Preservation, Handbook for the Treatment of Archaeological Properties.
5. Disinterment of human remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony should occur only when consultation has been completed per NAGPRA with the direct lineal descendants or the representative tribe. A signed Memorandum of Understanding shall be in place prior to any planned disinterment activities. Inadvertent discoveries shall follow the procedures set forth in 43 CFR 10.

V. *Enhancement*

- A. Identify opportunities and priorities for interpretation of heritage resources for public education and recreation. Public education efforts should emphasize the importance of heritage site stewardship and leaving in place what they find.
 1. Manage significant and suitable heritage resource sites to realize their recreational and educational values to the public. Enhancement programs, including Passport In Time and Heritage Expeditions, should include in-service funding as well as opportunity for establishing partnerships with the private sector. The measure of suitability should be based upon accessibility, feasibility for protection, condition of the property, compatibility with other management activities, and value to the public.
 2. Enhance suitable heritage values through interpretation, restoration, and the publication of reports, brochures, signs, films, videos, slide, and other interpretive programs. Interpretive services and facilities should be compatible with the nature, quality, and integrity of the resource selected for enhancement.
 3. Cooperate with museums, universities, Indian tribes, and other recognized institutions, agencies, and knowledgeable persons in planning and constructing heritage resource exhibits and providing opportunities for scholarly/scientific use.
 4. Manage heritage resources to ensure that properties and their records are protected to prevent degradation or unauthorized use under authority of the Archaeological Resources Protection Act of 1979 and the regulations in 36 CFR 296 and 36 CFR 79.

VI. *Site Inspection*

- A. Assess condition, and document restoration or stabilization needs of cultural sites. Use this information for reporting the success of mitigation measures and other actions taken to ensure site preservation.
 1. Frequency of inspection should seek to include one documented visit per selected site per year as available resources allow. If site damage is observed, additional inspections may become necessary. If an area is damaged through suspected human disturbance, inspect other sites in that vicinity. (Consult the Forest Heritage Resource Program Manager and/or Special Agent.)
 2. Coordinate the assessments with District Rangers, the Forest Heritage Resource Program Manager, and the Special Agent.
- B. Assessment procedures should include observations documenting the current site condition. Document assessments through a signed, written report that verifies which site was inspected and the observed condition.
- C. Damage Assessment Report. If site damage is observed and it has not been previously recorded, a site damage assessment report will be prepared by the Forest Heritage Resource Program Manager or Unit Heritage Resource Specialist. The purpose of the damage assessment report is to identify the damage using quantitative measures, make recommendations to stabilize the site from further deterioration, determine the archaeological or

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commercial value and the cost of restoration and repair, and evaluate the actions needed to prevent further damage.

- D. Remain alert to cultural damage potentially attributable to criminal acts and safeguard investigation by avoiding further disturbance of the area.
- E. Prioritize heritage sites to be assessed on a yearly basis as coordinated by the District Ranger, Forest or Zone Heritage Resource Program Manager, and Special Agent.
- F. Include resource inspection in the measures for the protection of heritage resources from vandalism, natural destruction, or project activity. Evaluate and recommend measures such as stabilization, data recovery, or no action, for resources that have sustained damage from natural forces. Vandalism, collecting, illicit excavation, or project damage shall be evaluated for protective measures, such as signing, administrative closure, remote sensing, increased inspection, investigation, stabilization, data recovery, or other measures under the authority of the American Antiquities Act of 1906, the Archaeological Resources Protection Act of 1979 and regulations in 36 CFR 261, 36 CFR 296, and 36 CFR 800.
- G. Complete or update condition assessments for 20 percent of all priority heritage assets each year based on field visits and updated cost information.

Sacred Sites Protection Activities: HSS2

I. Management

- A. The Tongass National Forest will manage sacred sites as an integral part of its land management. To the extent practicable, accommodate access to and ceremonial use of sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sites. Provide reasonable notice of proposed actions or policies that may restrict access to or adversely affect the physical integrity of sacred sites. When there is a conflict among potential uses, we will prioritize the protection of sacred sites above other land uses.

The active participation of Indian tribes and Indian religious practitioners is critical to the success of sacred sites management. If a tribal government chooses not to consult, the Forest will rely on the best available information to make decisions about sacred sites.

Use the collective authorities and provisions of these laws and Executive Orders: Executive Order 13007, Indian Sacred Sites; Executive Order 12898, Environmental Justice; Executive Order 13175, consultation and coordination with tribal governments; American Indian Religious Freedom Act; National Historic Preservation Act (NHPA), as amended; Archaeological Resources Protection Act (ARPA), as amended; Religious Freedom Restoration Act; and Native American Graves Protection and Repatriation Act. Guidance on traditional cultural properties is presented in National Register Bulletin 38.

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.”

- B. The Forest Supervisor, Deputy Forest Supervisor, and District Rangers will be responsible for sacred sites management. Heritage resource and tribal government relations specialists will collaborate to provide the Forest’s line officers information necessary to make decisions related to sacred sites management. These specialists will coordinate consultation between the Forest’s line officers, tribal government officials, and authoritative representatives.
 - 1. Conduct sacred sites discussions with tribal government officials and authoritative representatives.
- C. Regularly review proposed federal actions with tribal government officials and authoritative representatives and document their comments. This review should occur as early as possible before the public scoping occurs. Ensure adequate time is provided to assess the potential effect of a proposed action on the access, use, and physical integrity of sacred sites.

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- D. Develop a knowledge base about sacred sites and develop a record of any tribal protocols, management recommendations, proposed guidelines, policy, or concerns about a proposed federal action regarding potential effects to sacred sites within the Indian tribe's areas of cultural concern.
- E. Protect the physical integrity of sacred sites by considering limits to public access and use, while accommodating access and use by authorized tribal representatives.
 - 1. Use voluntary closures to the greatest extent possible to provide seclusion and privacy whenever requested by tribal government officials and their authorized representatives.
 - 2. Identify specific locations and time frames in the closure order and provide notification to the unit Law Enforcement Officer.
- F. Use alternative dispute resolution processes regarding sacred sites management to resolve differences between the Forest Service and tribal government officials and their authorized representatives. (Consult FSM 1563.2.)

II. Project Planning

- A. As early as possible, consult with Indian tribal governments and authoritative representatives and conduct formalized government-to-government consultation with Indian tribes to develop agreements regarding the access, use, protection, and management of sacred sites.
- B. Develop site-specific management strategies that detail protection issues and enforcement mechanisms for identified sacred sites within the area of potential effects in consultation with tribal government officials and authoritative representatives.
- C. Protect the confidentiality of sacred sites information, which will not be shared with the public or media. Be respectful of traditional rock art, totemic and clan crests, icons, stories, and tribal words or language. The Forest Service will not use tribal knowledge, stories, rock art, totemic, or clan crests without permission.
 - 1. Implement procedures to protect confidential information related to sacred sites to the maximum extent permitted by law. (Consult FSM 1563.03.7; NHPA, Section 304; ARPA, Section 9.)

III. Project Implementation

- A. Maintain and protect the natural environment surrounding an identified sacred site while consulting with Indian tribes and Indian religious practitioners to seek agreement for further protection and site treatment measures.
 - 1. When a sacred site is identified, meet with tribal government officials and authoritative representatives to determine if a site visit is advisable.
 - 2. Consider tribal recommendations for protection until an assessment of management alternatives is made. When human remains or other funerary items are involved, follow the inadvertent discovery or intentional excavation requirements of the Native American Graves Protection and Repatriation Act.
- B. Develop a protection plan that, as much as practicable, incorporates specific standards and methods as recommended by tribal government officials and authoritative representatives before authorizing federal actions, including the issuance of permits.
 - 1. Employ management strategies and protective measures that are least disturbing to sacred sites and invite participation of tribal government officials and authoritative representatives.
- C. Notify the affiliated tribal government(s) within 24 hours (or as soon as possible) should an activity inadvertently disturb a sacred site, or in the event that any sacred or burial object is observed through the action of water, weather, or other causes beyond the control of the Forest Service.

IV. Mitigation

- A. Management strategies to lessen adverse effects to cultural properties generally follow the model outlined in the NHPA and its implementing regulations (36 CFR 800). Line officers should be aware that mitigation in that sense might not appropriately address concerns expressed by religious practitioners about the consequences of federal actions.

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- B. Determine in advance with tribal government officials and authoritative representatives what kinds of activities in or around a sacred site would constitute contamination or violation of sacredness.
 - C. Identify what kinds of mutually acceptable solutions are available (on a case-by-case basis) should a sacred site be potentially contaminated or violated.
- V. *Enhancement*
- A. Educate Forest Service personnel about the Tlingit, Haida, and Tsimshian people who associate spiritual qualities with the land, wildlife, and other natural and cultural resources. Encourage the participation of Indian tribes and Alaska Native individuals in this educational effort.
 - B. The Forest Service will make available information to tribal government officials and authoritative representatives about the distinctions between the provisions of NHPA and Executive Order 13007, Indian Sacred Sites.
 - C. Allow opportunities for tribal government officials and authoritative representatives to reconnect with their traditional homelands and sacred sites.
- VI. *Monitoring*
- A. Invite tribal government officials and authoritative representatives to collaborate in monitoring sacred sites and to evaluate the effectiveness of sacred sites protection measures and other management strategies.
 - 1. The Tongass National Forest will accomplish site monitoring in a careful and respectful manner according to professional standards and tribal government recommendations. Tribal government officials and authoritative representatives will be encouraged to participate in site monitoring.
 - 2. Establish standard protocols for site monitoring and for maintaining confidentiality. Established or known sacred sites shall be treated with dignity, care, and respect.
 - 3. Establish a format to record implemented protection measures and to document sacred site condition after each monitoring event.

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INVASIVE SPECIES Forest-wide Standards and Guidelines

Invasive Species Prevention: INV1

- I. *Invasive Species Inventory*
 - A. Maintain consolidated invasive species inventory for the Forest and Districts in the corporate database in accordance with Forest Service Manual (FSM) 2900 and the most current and appropriate inventory protocols.
- II. *Project Planning*
 - A. For all proposed projects or activities, the responsible line officer will determine the risk of invasive species (flora and fauna) introduction or spread and the need to implement appropriate mitigation measures.
 - B. Ensure that contracts, permits, and project design documents contain appropriate provisions concerning the prevention and/or spread of invasive species.

Invasive Species Early Detection and Rapid Response: INV2

- I. *Invasive Species Management*
 - A. At the Forest level, evaluate new non-native species for risk of invasion and update Priority Species List as needed. (Consult FSM 2900)
 - B. Treat priority species infestations as practicable, using an integrated pest management approach.

Invasive Species Control and Management: INV3

- I. *Invasive Species Management*
 - A. Reduce population sizes and/or limit the spread of Priority Invasive Species on the Tongass National Forest through the use of an integrated pest management approach.

Invasive Species Rehabilitation and Restoration: INV4

- I. *Rehabilitation and Restoration of Native Flora and/or Fauna*
 - A. Rehabilitation of habitats impacted by invasive species will emphasize the use of native plant species in restoration activities.

KARST and CAVE RESOURCES

Forest-wide Standards and Guidelines

Karst Resources: KC1

I. Strategy

- A. Maintain, to the extent practical, the natural karst processes and the productivity of the karst landscape while providing for other land uses where appropriate.
- B. Strive to maintain the productivity of the soils of the karst landscape after harvest, to maintain the quality and quantity of the waters issuing from karst hydrologic systems, and to protect the many resources values within underlying significant cave systems as per the requirements of the Federal Cave Resources Protection Act of 1988 (FCRPA).
- C. See Appendix H for additional guidance.

II. Management

- A. Evaluate karst resources as to their vulnerability to land uses affecting karst systems, as described in the Karst and Cave Resource Significance Assessment, Ketchikan Area, Tongass National Forest, Alaska (Aley et al. 1993), Karst landscapes and associated resources: a resource assessment (USDA Forest Service Gen. Tech. Rep. PNW-383) (Baichtal and Swanston 1996), Karst Management Standards and Implementation Review, Final Report of the Karst Review Panel (Griffiths et al. 2002), and the information provided herein.
- B. Seek participation from interested individuals and organizations, such as caving groups, scientists, recreationists, and development interests in managing the karst resources.
- C. Integrate and coordinate karst management with the management of other resources. Consider the function and biological significance of the entire karst landscape; recognize the importance of protection of karst systems, not solely specific karst features.
- D. Public education and interpretative programs should be developed to ensure an increased understanding of the components and function of the karst landscape.
- E. Work with universities and other appropriate research facilities to foster partnerships to study and characterize the function and biological significance of karst landscapes.
- F. Manage the karst lands with an adaptive management approach.
- G. **Low Vulnerability Karst Lands.** Low vulnerability karst lands are those areas where resource damage risks associated with land management activities are negligible from a karst management perspective. No special direction is needed.
- H. **Moderate Vulnerability Karst Lands.** Moderate vulnerability karst lands are those areas where resource damage risks associated with land management activities in the areas are appreciably greater than those posed by similar activities on low vulnerability karst lands adjacent to areas of high vulnerability.
 1. Road Construction
 - a) Existing roads shall be used in preference to the construction of new ones.
 - b) Roads shall avoid sinkholes and other collapse features and sinking or losing streams.
 - c) Roads shall not divert water to or from karst features. Measures shall be taken to reduce erosion and sediment transport from the road surface and cut slopes. Sediment traps, cut and fill slope revegetation, and road closure and revegetation may be appropriate.
 - d) Because subsurface drainage networks may be more open to the surface in moderate vulnerability areas, additional design criteria may be required.
 2. Quarries
 - a) Existing quarries will be used in preference to the construction of new ones.
 - b) No quarry shall be developed atop karst without adequate site survey and design.
 - c) Quarries should be properly closed after abandonment.
 3. Karst Feature Buffers
 - a) No surface disturbing activity such as timber harvest, road construction, and/or quarry development shall occur within a minimum of 100 feet of the edge of a cave, sinkhole, collapse channel, doline field, or other collapse karst feature. Manage an appropriate

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distance beyond the no-harvest zone to provide for a reasonable assurance of windfirmness (RAW) of that zone (see Reasonable Assurance of Windfirmness Guidelines, Tongass National Forest, June 2006).

- b) No surface disturbing activity such as timber harvest, road construction, and/or quarry development will occur on lands that overlie a known "significant" cave. "Overlie" is defined here as the area between lines projected from the outside walls of the cave passage at a 45-degree angle to the surface.
 - c) As cave discoveries are made and those caves are mapped and inventoried, it is quite probable that very significant cave systems will be discovered. Consider a Geologic Special Area on a case-by-case basis for such caves.
 - d) Protect all sinking or losing streams and their tributaries irrespective of whether the channels carry perennial, ephemeral, or intermittent flows. A non-harvest buffer is required of a minimum of 100 feet from the edge of a sinking or losing stream within no less than 0.25 mile (1,320 feet) upstream of their swallow hole or loss point.
 - e) The area surrounding resurgences should be protected to maintain the environment surrounding the springs and the quality of the waters flowing from them.
 - f) If at any time during project development or implementation an un-inventoried karst feature (or features) discovered, all activity in the vicinity of the feature (or features) shall cease until a karst vulnerability assessment can be conducted.
- I. **High Vulnerability Karst Lands.** High vulnerability karst lands are those areas where resource damage risks associated with land management activities are appreciably greater than those posed by similar activities on low or moderate vulnerability karst lands. These areas shall be managed to ensure conservation of karst values through the implementation of a high level of protection.
1. Karst lands found to be of high vulnerability shall be identified and removed from the commercial forest lands suitable land base. Timber management and related activities are excluded from these lands.
 2. Limited recreational development may be appropriate.
 3. Roads are considered inappropriate unless no other route or option is feasible. Small expanses of these areas may be crossed by roads to access areas where harvest is appropriate (i.e., low or moderate vulnerability karst lands and non-carbonate areas). If roads must be built across areas of high vulnerability, the following guidelines will apply:
 - a) Minimize clearing limits and grubbing. Flush cut stumps to the ground. Do not deck logs pioneered from the road clearing limits outside the clearing limits.
 - b) Use a fill-type construction rather than a balanced cut and fill design. This will most likely be possible because the slope gradient in these areas is generally less than 15 percent.
 - c) Use log stringer bridges or similar structures to span across collapse features, if necessary. Geotextile should be used to keep aggregate overlay from falling into the collapse feature.
 - d) Sediment traps and erosion control measures will be needed in most cases.
 - e) Same-season revegetation of the cut and fill slopes should be required to minimize sediment production potential.
 - f) No quarry development would be allowed on these lands.

III. Catchment Area Management

- A. The catchment areas for karst systems, comprised of carbonate or non-carbonate substrate, are an integral portion of those systems. Catchment area management measures can be most effectively developed if both catchment types are delineated, and their sensitivity to cumulative land use activities is evaluated. Use the karst vulnerability assessment procedures to approximate the sensitivity of specific autogenic recharge areas.

IV. Salvage of Windthrown Timber on Karst

- A. Salvage is appropriate on low to moderate vulnerability karst lands when the karst management objectives can be met. Generally, no salvage shall be permitted on lands determined to be of high vulnerability, within 100 feet of a losing stream, a karst feature, or on lands that overlie a "significant cave." For relatively minor, isolated features surrounded by low to moderate

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vulnerability karst, if the logging system to salvage the windthrown timber can be designed to not disturb the timber spanning or blown into the feature, salvage shall be permitted within 100 feet of the lip or edge of the feature.

V. Mineral Development

- A. The impacts of any proposed mineral development within the karst landscape can be analyzed through the environmental analysis that is triggered once a Plan of Operations is received.

Cave Resources: KC2

I. Management

- A. Manage lands in a manner that, to the extent feasible, protects and maintains significant caves and cave resources. See direction in 36 CFR 290.3 and "definitions" for guidance determining cave significance. See Appendix H for specific guidance.
- B. Locate, map, and describe caves, and evaluate and document the resource values discovered when appropriate. Although the word "inventory" is not used in FCRPA, it is clear that the significant cave designation process is an inventory process for identifying caves that will require some form of management. Carry out data storage and collection in a manner that is consistent, at a minimum, with the processes outlined in 36 CFR 290.3 and Forest Service Manual (FSM) 2881.42 for nomination, evaluation, and designation of significant caves.
- C. Develop a comprehensive Cave Resource Management Strategy on known cave resources. Strategies for cave resource management are suggested in Appendix H and within these guidelines.
 1. **Class 1. Sensitive Caves.** Caves considered unsuitable for exploration by the general public either because of their pristine condition, unique resources, or extreme safety hazards. These caves will be closed by a Forest Supervisor Order and entry allowed by permit only.
 2. **Class 2. Directed Access Caves.** Caves with directed public access and developed for public use. These caves are shown on maps or have signs directing visitor access; public visitation is encouraged.
 3. **Class 3. Undeveloped Caves.** Caves that are undeveloped, but are suitable for exploration by persons who are properly prepared. Location of these resources will not be advertised or shown on maps.
- D. Develop public education and interpretative programs to foster an increased appreciation of the function and biological significance of the cave resources, caving ethics and safety, and safe and responsible uses of these resources for research and recreation purposes.
- E. Specific information concerning Significant Caves on the Forest will not be made available to the public (FCRPA). This information is also not available under Freedom of Information Act requests. Treat this information as confidential and secure it in such a manner as to prevent access by unauthorized individuals.
- F. Search and rescue in caves is the primary responsibility of the Alaska State Troopers. Supply appropriate support and equipment where needed and available.
- G. The following are prohibited in caves:
 1. In bat caves, or caves with sensitive species, it is prohibited to go into or be upon any area that is closed for the protection of threatened, endangered, rare, unique, or vanishing species of plants, animals, birds, or fish.
 2. Applicable to all caves, except for purposes of research and exploration, it is prohibited to:
 - a) Build, maintain, attend, or use a campfire or stove fire; fires may be allowed in regard to traditional native ceremonies in compliance with the American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act, their amendments, and implementing regulations;
 - b) Smoke;
 - c) Camp;
 - d) Possess, discharge, or use any kind of fireworks or other pyrotechnic device;
 - e) Discharge a firearm, air rifle, or gas gun; or
 - f) Allow domestic animal access.

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LANDS Forest-wide Standards and Guidelines

Lands Preparation: LAND1

- I. *Land Status*
 - A. Perform a land ownership review during early project planning stages, prior to management activities, to ensure protection of state, private, and other federal agency rights and interests. Consult source documents including deeds, patents, and Bureau of Land Management (BLM) Master Title Plats (MTPs), to identify land ownership encumbrances
- II. *Coordinating with Others*
 - A. Coordinate activities, including environmental analysis on National Forest System (NFS) land, with adjacent state and private landowners. Solicit and consider their input when analyzing proposals that might affect them.
 - B. Cooperate with the State of Alaska and local communities in their land and resource planning efforts.
 - C. Coordinate activities on encumbered lands with interest holders, as appropriate.

Special Use Administration (non-Recreation): LAND2

- I. *Special Use Authorizations*
 - A. Manage special use authorizations to best serve the public interest. (Consult 36 CFR 251.)
 1. Do not authorize private uses of NFS lands when such uses can be reasonably accommodated on other lands.
 2. Review new special use requests for their compatibility with Land Use Designations (LUDs), based on a consideration of environmental values and a determination of social and economic benefits. (Consult Forest Service Manual [FSM] 2700.)
 3. In addition to the above criteria, special use applications may be denied if the authorizing officer determines that:
 - a) The proposed use would not be in the public interest;
 - b) The applicant is not qualified;
 - c) The proposed use would otherwise be inconsistent with applicable federal or state law; or
 - d) The applicant does not or cannot demonstrate technical or financial capability. (Consult 36 CFR 251.54.)
 4. Review and adjust special use fees on a planned basis to comply with U.S. Office of Management and Budget (OMB) directives and Forest Service policy. (Consult OMB Circular No. A-25, and FSM 2700.)
 5. Upon renewal or transfer of a permit, terminate or bring into conformance existing uses that are not compatible with the Forest Plan.
 6. On lands encumbered by state selections, obtain concurrence from Alaska Department of Natural Resources (ADNR) prior to granting a special use authorization, in accordance with the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), Section 906 (k), and FSM policy. (Consult Forest Service handbook [FSH] 5509.11, R-10 Supplement.)
 7. Do not issue special use authorizations on lands selected or withdrawn for selection by a Native corporation without the consent of that Native corporation, unless waived by the Regional Forester. (Consult FSH 5509.11, R-10 Supplement.)
 8. Do not issue special use authorizations on lands for which there is a Native Allotment application without consent from the applicant and the Bureau of Indian Affairs (or their designees), unless the application has been adjudicated by BLM as being invalid and the case has been closed. Contact the Regional Forester prior to granting a Special Use Authorization within an active claim area, because Regional Forester authorization may also be required. (Consult FSH 5509.11, R-10 Supplement.)
 9. Require that structures be constructed and maintained in a manner to blend with the surrounding environment, and be consistent with management objectives and other

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allowed activities. To the extent feasible, locate new structures hidden from areas of concentrated visitor use, such as rivers, roads, trails, and public recreation cabins.

10. Manage authorized uses to maintain a neat and sanitary condition of the permit area. The preferred method of litter disposal is to remove all litter from NFS lands and dispose of it at appropriate sanitary facilities. If this is not feasible, require the permit holder to burn all burnables on site, at a location designated by the responsible Forest Service officer, and remove all materials that cannot be burned (including ash residue) for disposal at an approved disposal site.
11. Locate outdoor toilets away from lakes, rivers, and streams. Follow guidelines in the State Wastewater Disposal Regulations. Outdoor toilet locations will be approved by the Forest Service prior to construction. (Consult 18 AAC 72.)
12. To the extent allowed by law, regulation, and policy, allow applicants to conduct environmental analyses and supporting activities (such as cultural resource surveys), and submit them to the responsible official for consideration in Forest Service decisions.
13. Have electronic site proponents submit technical data required in Chapter 90 of the Special Uses Handbook (FSH 2709.11, Chapter 90).
14. Motorized access may be authorized as part of the special use authorization. Use of off highway vehicles may be allowed and must be in accordance with 36 CFR 212, 251, and 261 – Travel Management; Designated Routes and Areas for Motor Vehicle Use.

II. Cabins and Related Structures

- A. Manage cabins and related structures that were existing, but unauthorized prior to ANILCA (December 2, 1980), in accordance with direction in the Regional Supplement to the Special Uses Handbook (FSH 2709.11) and the standards and guidelines discussed below. In Wilderness, consult FSM 2320 and the Wilderness and Wilderness Monument LUD prescriptions.
 1. Allow the continuation of customary and traditional uses of cabins and related structures that were existing but unauthorized on December 2, 1980, in accordance with a nontransferable, renewable, five-year special use permit until the death of the last immediate family member of the original permit holder, when such uses are compatible with LUD direction, and are otherwise in compliance with ANILCA, Section 1303(b).
 2. Prior to issuing a permit, in accordance with ANILCA, Section 1303(b)(3), require the permit applicant to:
 - a) Reasonably demonstrate by affidavit, bill of sale or other documentation, proof of possessory interest, or right of occupancy;
 - b) Submit a sketch or photograph of the cabin and a map showing its location;
 - c) Agree to vacate the cabin and remove all personal property from it within a reasonable time period following nonrenewal or revocation of the permit; and
 - d) Acknowledge in the permit application that the applicant has no interest in the real property on which the cabin is located.
 3. When issuing these permits, list all qualifying immediate family members along with the original permit holder, and require that one person be designated to represent all permit holders. The original permit holder is the holder of record, listed on an existing permit on or before December 2, 1980.
- B. Manage cabins and related structures that were authorized on December 2, 1980, in accordance with direction in the Regional Supplement to the Special Uses Handbook (FSH 2709.11). For Wilderness cabins and related structures, consult FSM 2320 and the Wilderness LUD prescription.
 1. Allow the continued use of cabins, homesites, and similar structures that were authorized on December 2, 1980, in accordance with the terms of the original permit. Generally renew these permits (if the terms of the permit in effect on December 2, 1980 allow for renewal), subject to reasonable regulations and provisions of ANILCA, Section 1303(d), unless continuation of the use would constitute a direct threat or significant impairment to the purposes for which the National Forest or conservation system unit was established. A reasonable fee may be imposed on cabins previously under free use, or existing fees may

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- be increased by a reasonable amount, to keep pace with inflation, or for other justifiable purposes.
2. These permits may be transferred to one other person at the election or death of the permittee of record on December 2, 1980, if the conditions of the original permit allow for such transfer.
 3. Names of immediate family members of the holder may be added as additional permit holders. Immediate family members are defined in the Regional Supplement to the Special Uses Handbook (FSH 2709.11).
- C. Manage new cabins and related structures, in accordance with direction in the Regional Supplement to the Special Uses Handbook (FSH 2709.11, FSH 2709.14). For Wilderness cabins, consult FSM 2320.
1. The construction of new cabins is prohibited with the following limited exceptions. A nontransferable, five-year special use permit may be issued in some circumstances, following a determination that:
 - a) The proposed use, construction, and maintenance of the cabin are compatible with LUD objectives;
 - b) Use of the cabin is directly related to administration of the area or is necessary for continuation of an ongoing activity, allowed within the area; and
 - c) The applicant has no reasonable alternative.
 2. Do not permit construction of new cabins for private recreational or residential uses. Consider permitting new cabins for some commercial uses, when a cabin is necessary to provide a needed public service (generally, public need is identified in a prospectus) or within areas where such commercial use of cabins was an established customary and traditional use prior to December 2, 1980. Consider permitting new cabins for administrative use by other agencies, such as Alaska Department of Fish and Game, when no feasible alternatives exist.
 3. All new cabins will be deeded over to, and become the property of, the United States Government, as provided in the ANILCA, Section 1303(b)(4).
 4. Prior to issuing a permit, in accordance with ANILCA, Section 1303(b)(3), require the permit applicant to:
 - a) Submit a sketch or photograph of the proposed cabin and a map showing its location;
 - b) Agree to vacate the cabin and remove all personal property from it, within a reasonable time period following nonrenewal or revocation of the permit;
 - c) Acknowledge in the permit application that the applicant has no interest in the real property on which the cabin will be constructed; and
 - d) Quit claim deed the cabin to the United States Government.
- D. Provide for subsistence uses by authorizing temporary facilities, such as tent platforms, rather than new cabins. Follow procedures and design standards for temporary facilities, found in Section 1316 of the ANILCA, the following section on temporary facilities, and FSM 2720.

III. Temporary Facilities

- A. A temporary facility is defined as "any structure or other human-made improvement which can be readily and completely dismantled and removed from the site when the authorized use terminates." (Consult FSM 2720.)
- B. Permit temporary campsites, tent platforms, shelters, and other temporary equipment, directly and necessarily related to the taking of fish and wildlife, subject to:
 1. Reasonable regulation to ensure compatibility;
 2. Conditions of ANILCA, Section 1316;
 3. Forest Service Manual direction; and
- C. Consistency with management prescriptions direction. (Consult FSM 2720. In Wilderness, consult FSM 2320.)B. When issuing new permits for subsistence-related facilities, authorize tent platforms and associated temporary facilities only.
- D. To the extent feasible, locate subsistence camps out of sight of high use areas such as rivers, roads, trails, public recreation cabins, and other user facilities.

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IV. Aquatic Farming Permits

- A. For direction on the management of aquatic farm permits, consult the Regional Supplement to the Special Uses Handbook (FSH 2709.11).
- B. "Aquatic farming" should not be confused with "aquaculture." Aquatic farming is provided for in Alaska State Law (AS 16.40.100 - 16.40.199). It involves growing aquatic plants or shellfish for sale, either in captivity or under positive control. Typically shellfish are pen-reared. Finfish are generally not included and release of the organism does not result in a product becoming available as a common property resource. Aquaculture is provided for in ANILCA, Section 1315(b). It involves the maintenance or improvement of fish stocks. It includes facilities such as fish hatcheries and projects such as fish stocking or lake fertilization. It includes finfish and release results in a product becoming available as a common property resource.
- C. Cooperate with state and federal agencies to meet industry and public needs for aquatic farming programs and ensure compatibility with other resources and activities.
 1. During evaluation of requests for Forest Service permits, carefully analyze the effects of aquatic farming activities on other resources and other activities, such as recreational uses marine access points including log transfer facilities, and access to adjacent uplands. Oppose aquatic farm development in or adjacent to designated Wilderness.
 2. Coordinate responses to aquatic farming proposals with Alaska Department of Natural Resources (ADNR).
 3. Initially, issue permits only for low investment, minimum development, temporary support facilities (not to include cabins) that can be readily removed from the site if the project ceases to be viable for the operator. Consider permitting additional support facilities on National Forest System lands, only after a viable business is established and need for the facilities can be demonstrated.

V. Floathouses

- A. Manage residential floathouses in accordance with the standards and guidelines discussed below.
 1. Issue Special Use Authorizations for floathouse shore ties only at locations where the activity is specifically provided for in the approved coastal zone area plans.
 2. Cooperate with the State of Alaska and local communities to help develop criteria that address floathouse placement. In developing new state or city plans, encourage locating floathouses near communities or adjacent to private uplands. Avoid locating them:
 - a) Adjacent to designated Wilderness or other areas where they would be incompatible with upland management objectives;
 - b) Where they may adversely affect forest resources; or
 - c) Where they may conflict with higher priority public uses.
 3. As a condition of the special use authorization, require applicants to obtain all necessary authorizations from other appropriate agencies, such as ADNR and the U.S. Army Corps of Engineers.

VI. Fish Camps

- A. Manage special use permits for commercial set net fish camps in accordance with direction in the Regional Supplement to the Special Uses Handbook (FSH 2709.11) and the standards and guidelines discussed below.
 1. Where the use of commercial fish camps, including primitive cabins, is a customary and traditional use, allow this use to continue within traditional locations, at approximately traditional densities, as established prior to ANILCA (December 2, 1980), if compatible with LUD objectives.
 2. New facilities will usually be tent platforms and associated temporary facilities unless a need can be demonstrated for a cabin.
 3. New cabins, if authorized, will not exceed 500 square feet in size. Limit new cabin authorizations to one cabin per set net permit. If needed, authorize additional sites for use with a tent platform.

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4. Assign a permit tenure of 5 years for cabins and 1 to 5 years for tent platforms with the provision that, unless revoked for violation of permit conditions, these permits may be renewed upon expiration.
5. Assign new fish camp permit holders areas up to 1/4 acre in size, based on need.
6. Within areas traditionally used for fish camps, allow uses currently under permit to continue. Do not allow fish camp permit holders to engage in outfitter/guide or lodge/resort activities from their fish camps, unless already authorized by permit.
7. Consider authorizing requests for subsistence uses from fish camps; however, any authorization for subsistence uses from fish camps will be documented in writing to the permit holder, along with conditions, if any, that may be necessary to protect resources and the rights of other users. Do not permit residential uses of fish camps.
8. To obtain a fish camp permit, require applicants to hold a commercial set net permit from the Alaska Department of Fish and Game, valid for the area in which the proposed facility is to be located. Camp occupancy will generally correspond to the dates of the open set net season, with exceptions allowed for camp set up and take down (if necessary) and for subsistence uses, if authorized.
9. Some fish camp permits have traditionally been issued free of charge. In compliance with OMB directives and Federal Regulations (36 CFR 251 .57), assess appropriate fees in conjunction with all commercial fish camp uses.
10. Natural hydrologic changes may lead to use areas being relocated. This need is recognized and new use areas may be authorized, if necessary, following separate environmental analysis, as rivers change their course or other changes lead to shifts in the location of fish runs. Issue permits for tent platforms in new locations where cabin use is not already established.

VII. Right-of-Way Grants

- A. Grant reasonable access across NFS land to allow inholders and other landowners use of their land without unnecessarily reducing Forest Service management options or damaging NFS lands or resources. (Consult FSM 2730.)
 1. Ensure that roads constructed through authorizations are designed according to standards appropriate to the planned uses, considering safety, cost of transportation, and effects upon lands and resources. Ensure these roads are planned and designed to re-establish vegetative cover on the disturbed area within a reasonable period of time (not to exceed 10 years) after the termination of the permit or lease, unless the road is determined necessary as a permanent addition to the National Forest transportation system. (Consult 36 CFR 219.27 (1982).
- B. Apply the approval authorities discussed below, as applicable, when processing right-of-way grant requests.
 1. Continue to use existing authorities such as the Federal Land Policy and Management Act (FLPMA), the Forest Road and Trail Act (FRTA), and the Highway Act of 1958, except when prohibited by other applicable law.
 2. When proposed rights-of-way cross, or enter upon, a Conservation System Unit (as defined in ANILCA, Section 102(4)), follow procedural requirements found in ANILCA, Section 1104.
 3. When proposed rights-of-way will provide access to state or private inholdings or valid occupancies (such as a mining claim or special use authorization) surrounded by, within, or effectively surrounded by a Conservation System Unit, use authorities found in ANILCA, Section 1110(b).
 4. When proposed rights-of-way will provide temporary access to non-federal lands, to or across a Conservation System Unit, for purposes of survey, geophysical, exploratory, or other temporary uses that will not result in permanent resource harm, use authorities found in ANILCA, Section 1111.
 5. When proposed rights-of-way will provide access to non-federal inholdings, either within or outside of a Conservation System Unit, use authorities found in ANILCA, Section 1323(a).
- C. Allow the following activities to occur without requiring a special use authorization. (Consult ANILCA, Section 1110(a).)

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1. The use of snowmachines, motorboats, fixed-wing airplanes, and non-motorized surface transportation methods for traditional activities that are permitted by law and for travel to and from villages and homesites, subject to reasonable regulations to protect resource values. These uses do not require a permit and may be prohibited only following a notice and hearing in the vicinity of the affected area, and a determination that such uses would be detrimental to resource values.
 2. This direction does not authorize the construction or maintenance of improvements or facilities on NFS lands, nor does it authorize use of off-highway vehicles, other than snowmachines.
- D. Accommodate new transportation and utility proposals to the maximum extent feasible.
1. Site-specific locations and mitigation measures will be determined by project-level planning, which will analyze environment considerations, such as scenic resources, wildlife habitat, and soil conditions.

VIII. Military Training Activities

- A. Authorize military training activities on NFS lands in accordance with the Master Agreement between the Department of Defense and the Department of Agriculture, which governs the use of NFS lands for these purposes. (Consult FSM 1530.)
1. Authorize military training activities on NFS lands when these activities:
 - a) Will be compatible with other uses;
 - b) Conform to LUD direction; and
 - c) After the Department of Defense has determined and substantiated that lands under its administration are either unsuitable or unavailable.
 2. Determine probable effects of proposed activities, necessary mitigation measures, and effective monitoring techniques, on a case-by-case basis, with a site-specific environmental analysis, conducted in accordance with the Master Agreement.
 3. When local supplemental agreements with military agencies exist, consult such agreements for additional direction.

IX. Sanitary Landfills

- A. Manage landfills in accordance with the following national policy but subject to approved special provisions for Alaska.
1. Require strict compliance with applicable Environmental Protection Agency (EPA) guidelines.
 2. Avoid authorizing new solid waste disposal sites and the expansion of existing sites on NFS lands, subject to exceptions approved for the Alaska Region.
 3. Provide for solid waste disposal sites through exchange, sale under the Townsite Act (7 U.S.C. 1012a; 16 U.S.C. 478a), or selection by the State of Alaska of NFS lands when there is no viable alternative on non-federal land and where there will be no adverse impacts to other National Forest resources or land. Encourage the State of Alaska to request conveyance of those areas suitable and needed for solid waste disposal near existing and proposed communities to eliminate the need to use NFS. Provide conditions for the conveyance document to ensure the land will be controlled by a government entity, and activities that interfere with the management and protection of adjacent NFS lands will not occur.
 - a) Solid waste disposals must comply with EPA regulations in 40 CFR 257 and 258, and State of Alaska Administrative Code 18 AAC 60 et seq. These EPA regulations are very restrictive and may preclude continued operation of small landfills. Encourage close out of landfills on NFS lands. Those not closed prior to October 9, 1993 require continued monitoring and management of the landfill by the owner or operator for 30 years after landfill closure, in accordance with EPA regulations. Forest Service policy in FSM 2130 discourages waste disposal on NFS lands and allows this activity to occur only where it is determined to be the highest and best use of the land.

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Land Ownership Administration: LAND3

I. Land Selections

- A. When making land management decisions, consider valid state selection applications (pursuant to the Alaska Statehood Act), village and regional corporation selection applications (pursuant to the Alaska Native Claims Settlement Act [ANCSA], as amended), and Native allotment claims (pursuant to the Alaska Native Allotment Act of 1906). Protect legal rights of the State of Alaska, Native corporations, and Native individuals when managing selected or withdrawn lands, or lands under Native claim. Apply the standards and guidelines discussed below to lands encumbered by state selections, Native selections or withdrawals, and Native allotment applications, until these lands are either conveyed into state or private ownership, or they revert back to unencumbered NFS land.
1. Cooperate with the State of Alaska, Native corporations, Native allotment applicants, BLM, the Bureau of Indian Affairs (or their designee), and other federal agencies, to assist in processing legitimate claims or applications. Encourage other parties involved to assist in finalizing conveyance of full legal entitlement in a timely manner.
 2. Assess investment of Forest Service funds for improvements on lands encumbered by state selections, Native withdrawals or selections, or Native allotment applications.
 3. Carefully review each selection, prior to conveyance, to identify third-party interests and needed right-of-way reservations that are allowed under applicable legislation.
- B. Manage state selections, as authorized under the Alaska Statehood Act, according to the standards and guidelines discussed below. Consult 43 CFR 2627.
1. Encourage conveyance of state selections adjacent to existing communities. Work with state agencies and local communities to substantially eliminate Forest ownership in and adjacent to communities where state, borough, or community governmental improvements and jurisdiction should logically preside.
 2. Obtain concurrence from ADNR prior to any surface-disturbing activity or granting any occupancy permit, contract, easement, or other similar use authorization on state selected lands, in accordance with ANILCA, Section 906(k), and FSM policy. Consult FSM 5450.
 3. Deposit 90 percent of all proceeds from contracts, leases, licenses, permits, rights-of-way, easements, or from trespass, on un conveyed state-selected NFS lands, into a suspense/escrow account, for future transfer to the state upon conveyance. Consult Section 906(k)(2) of ANILCA, and Regional Supplement to FSH 2709.11, Chapter 30.
- C. Apply the standards and guidelines discussed below to LUDs encumbered by Native selections or withdrawals, made under authority of ANCSA, as amended, until these lands are either conveyed into private ownership, or they revert back to unencumbered NFS land. Consult 43 CFR 2650.
1. Do not issue occupancy permits, contracts, easements, or similar authorizations on lands selected, or withdrawn for selection, by a Native corporation under authority of ANCSA, without coordination and consent from that Native corporation, unless permission is first obtained from the Regional Forester. Consult FSM 5450.
 2. Deposit all proceeds from any contracts, leases, licenses, permits, rights-of-way, easements, or from trespass on un conveyed NFS lands that are selected or withdrawn for selection under ANCSA, into an escrow account, for future transfer to the appropriate Native corporation, upon conveyance. Consult Section 1411 of ANILCA.
- D. Apply the standards and guidelines discussed below to lands encumbered by Native allotment applications, submitted under authority of the Alaska Native Allotment Act of 1906, until these lands are either conveyed into private ownership, or they revert back to unencumbered NFS land. Consult 43 CFR 2561.
1. Do not issue use authorizations, such as permits, contracts, or easements, on lands for which there is a Native allotment application, without consent from the applicant and the Bureau of Indian Affairs (or their designee), unless the application has been adjudicated by BLM as being invalid and the case has been closed. Contact the Regional Forester prior to granting use authorizations within a valid claim area, because authorization from the Regional Forester may be required. Do not authorize construction of new roads on a valid claim area unless a deed of further assurance has been obtained and recorded, or clearance has been received from the Regional Forester. Consult FSM 5450.

Standards and Guidelines 4

Lands Activity Maintenance and Landline Location: LAND4

I. *Establishing Forest Boundaries*

- A. When maintaining established National Forest property boundary lines and corners, or when locating, surveying, and posting new National Forest property boundaries and corners:
1. Coordinate with BLM for original boundary line survey. Encourage cooperative work with the BLM to mark and post original National Forest/state and National Forest/Native boundaries to Forest Service standards. The Forest Service will maintain these boundary lines and corners after the original survey. These boundaries should not be surveyed, marked, or posted until after conveyance of the land.
 2. Maintain the existing inventory of surveyed and unsurveyed boundary lines to establish survey priorities. Establish program priorities to coincide with FSM direction. Consult FSM 7150.

II. *International Boundaries*

- A. When locating or maintaining international boundary lines and corners:
1. Ensure compliance with the United States/Canada Treaty of 24 February 1925. Coordinate the location, survey, posting, marking, and maintenance of the International Boundary with the United States/Canada International Boundary Commission, U.S. Department of State.
 2. Ensure compliance with Presidential Proclamations of June 15, 1908 and May 3, 1912. Do not permit any occupancies or management activities, within 60 feet of the United States side of the United States/Canada International Boundary, without prior approval from the International Boundary Commission.

III. *Legislated Boundaries*

- A. When considering land-disturbing activities in LUDs adjacent to Wilderness, Wilderness and Nonwilderness National Monument, and LUD II boundaries:
1. Boundaries should be surveyed, marked, and posted prior to implementing land-disturbing activities. Approximate boundaries are not acceptable.
 2. Locating and marking boundaries should be supervised by a professional surveyor with the benefiting function funding all necessary survey activities. Consult FSM 2320, FSH 2309.19, and FSM 7150 (including R10 Supplement) for additional survey and marking standards.
 3. The District Ranger or Forest Supervisor who approves a project will ensure adjacent legislated boundaries are located and marked, making certain there is no encroachment.

Rights-of-Way (ROW): LAND5

I. *Rights-of-Way Acquired*

- A. Acquire across non-NFS land, road, and trail rights-of-way that are adequate for the protection, administration, and use of the Tongass National Forest. Consult FSM 5460.
1. Generally acquire rights-of-way identified in project plans at least one year prior to scheduled activity.
 2. Generally acquire unlimited easements, granted in perpetuity. Limited easements (e.g., those authorizing administrative use, but not public use) may be acquired when public use is not desirable, as determined through the project planning process.
 3. Encourage the use of cost-share agreements, when feasible, to avoid economic and resource impacts associated with duplicate road systems and log transfer facilities (LTFs).
 4. Monitor compliance with stipulations of existing rights-of-way to ensure long-term retention of needed rights-of-way. Dispose of rights-of-way that are no longer needed. Review easements acquired under Section 17(b) of ANCSA, and take appropriate steps toward construction of transportation facilities prior to easement expiration dates.
 5. Identify and request all needed rights-of-way across lands selected by the state or Native organizations, as provided by federal law. Carefully review selections prior to conveyance.
 6. Secure adequate rights-of-way before issuing contracts or constructing facilities in intermingled land ownerships. Consult FSM 5400.

4 Standards and Guidelines

7. Follow the BLM/Forest Service Memorandum of Understanding on ANCSA 17(b) easement administration.
- B. Acquire log transfer facility (LTF) authorizations on tidelands in accordance with the following standards and guidelines.
 1. Coordinate LTF activities (location, construction, operation, etc.) with the U.S. Army Corps Engineers, U.S. Environmental Protection Agency, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Natural Resources, Alaska Department of Fish and Game, local communities, and adjacent landowners, as appropriate. (Also see the Transportation Forest-wide Standards and Guidelines.)
 2. Acquire long-term leases (preferably at least 25 years) for permanent LTF sites.

Land Ownership Adjustment: LAND6

I. *Priorities*

- A. Land acquisition priorities have been described and summarized in the document, Alaska Submerged Lands Act Report, Analysis of Inholdings, Acquisition Priorities and Recommendations to Reduce Impacts on Conservation System Units in Alaska, dated August 1990, by the U.S. Fish and Wildlife Service, BLM, National Park Service, and USDA Forest Service. Acquisition decisions should be based on this analysis and report, as updated by future revisions. Maps identifying the location of parcels are available from Forest Service, Alaska Regional Office lands personnel.
- E. Federal lands available for conveyance are lands approved by the Regional Forester for selection by the State of Alaska, lands selected by Native corporations under ANCSA, and Native allotment claims adjudicated valid by the BLM. These lands are available only to the respective applicants described above, as provided by federal law. If applications or claims are relinquished or declared invalid, the affected lands are no longer available for conveyance.
- F. Consider proposals for other lands not described above, on a case-by-case basis, using the following criteria. Consult FSM 5400.
 1. Work cooperatively with the State of Alaska and Native corporations to improve land ownership patterns and management opportunities resulting from state and Native land conveyances.
 2. Retain NFS lands that best serve the public interest in federal ownership.
 3. Consolidate NFS lands, when feasible. Attempt to reduce miles of property boundary lines and number of corners to locate and maintain.
 4. Generally acquire and convey land with as few reservations and outstanding rights as feasible. Consult FSM 5420, 5430, and 5470.
 5. Avoid separating the surface and subsurface estate, unless it is clearly in the public interest. Consult FSM 5430.
 6. Consider wetland and flood plain values.
 7. Pursue land adjustments that reduce administrative costs or increase the output of goods and services. Avoid land adjustments that do not enhance Forest Service programs. Consult FSM 5430.
 8. Generally pursue land exchanges on an equal value basis. Exchanges may be made for other than equal value if the parties agree and the exchange is determined to be in the public interest, as provided in Section 1302(h) of ANILCA and Section 22(f) of the Alaska Native Claims Settlement Act, as amended by Section 17 of Public Law 94-204. (Consult FSM 5430.) When considering land exchanges of unequal value, submit the proposal through proper channels, for Congressional oversight, as appropriate, prior to entering into any binding agreements.
 9. Major discretionary land adjustment proposals will be considered if the proposed exchange of lands maintains the conservation strategy, ensures public access for subsistence uses, and at least a portion of the timber volume from the lands conveyed from the Tongass National Forest contributes to the timber manufacturing industry in Southeast Alaska.

II. *Acquisition*

- A. For land acquisition activities:
 1. Acquire isolated inholdings at critical locations if public benefits will occur.

Standards and Guidelines 4

2. Within Congressionally designated areas, such as Wilderness, acquire private inholdings as opportunities permit. Wilderness inholdings are priority acquisitions until after the state and Native selection process is completed.
3. Within administratively designated areas, such as Special Interest Areas, generally acquire private inholdings, as opportunities arise.
4. Acquire private lands necessary for efficient management of the Forest.
5. Generally acquire lands by exchange or donation. Attempt to purchase lands on a willing seller/willing buyer basis when exchange or donation is not feasible and funds are available for purchase.
6. In any land adjustment proposal, consider performing a watershed and other resource condition assessment to determine resource restoration needs. Where rehabilitation is needed to comply with federal law such as the Clean Water Act, prepare a cost estimate for rehabilitation prior to the land acquisition.
7. Evaluate parcels proposed for acquisition for the presence of hazardous substances, and document the findings in conformance with established regulatory guidelines for conducting these evaluations.

III. Conveyance of Federal Lands

- A. For conveyance of federal lands to non-federal owners:
 1. Do not exchange NFS lands selected by the State of Alaska, or a Native corporation, or lands under Native allotment application, which have not yet been conveyed, unless specifically provided for in legislation. If the party holding the encumbrance desires ownership adjustments, they may relinquish their selection. The Forest Service may then pursue land ownership adjustment, if otherwise appropriate.
 2. Convey NFS lands that would best serve the public interest in private ownership, provided the action will not decrease ability to meet NFS management objectives. Examples may include:
 - a) Isolated small parcels that are impractical to manage;
 - b) Parcels where a greater general public value can be derived in private ownership; or
 - c) Areas necessary for community expansion. Consult 36 CFR 254.
 3. Within Congressionally designated areas, retain existing NFS lands unless exchanging out of these lands to acquire new lands, or interest in lands, for the purposes of ANILCA (Consult ANILCA Section 1302(h)). Within administratively designated areas, generally retain NFS land, unless there are compelling reasons for conveyance.

4 Standards and Guidelines

MINERALS and GEOLOGY

Forest-wide Standards and Guidelines

Minerals and Geology Resource Preparation: MG1

- I. *Resource Inventory*
 - A. Maintain the Mineral Resource Inventory. Include historic and current mining activity, regional and local geology, access routes, and geologic and mineral terrains. Continue to work with the United States Geological Survey (USGS) to update and map the geology on the Forest and incorporate the new data into the Tongass Geology Layer. Geologic inventory includes the collection, analysis, and interpretation of geologic data necessary for identification and solution of management problems, and for the assessment and development of the geologic resources. The creation of geologic inventories is basic to carrying out geologic resources and services. Geologic inventory includes bedrock geology, surficial geology, stratigraphy, hydrogeology, geomorphic features, geological hazards, karst features, caves, and paleontology, including potential for geologic formations to yield fossil resources of scientific and other values. (Consult Forest Service Manual [FSM] 2881 for specific direction.)
- II. *Resource Planning*
 - A. Assemble and provide minerals and geology information as needed for project planning. Conduct inventories and assessments of geologic resources and hazards, paleontologic resources, and mineral resources for use in land management planning (FSM 2884.11). Geologic reports written for specific projects as the result of geologic inventory and/or investigation may include some combination of the geologic history; location and extent of locatable, leasable, and salable minerals; location and extent of aquifers; groundwater quality and quantity; structural features; geologic and geomorphic processes affecting the area; cave and karst resources; and paleontological resources.
- III. *Resource Preparation*
 - A. Conduct compliance checks, validity and patent exams, and review operating plans, lease proposals, and applications. Provide expert testimony or opinions for contests, hearings, or appeals. Conduct geotechnical engineering and interpretive geology investigations as required.
- IV. *Resource Coordination*
 - A. Coordinate minerals and geology inventories and minerals administration with state and other federal agencies, including the Bureau of Land Management (BLM) and USGS.

Minerals and Geology Administration: MG2

- I. *Forest Lands Withdrawn from Mineral Entry*
 - A. Claimants with claims located in areas withdrawn from mineral entry retain valid existing rights, if such rights are established prior to the withdrawal date.
 - B. Conduct on-the-ground validity examinations by a certified minerals examiner to establish or reject valid existing rights on active mining claims within Wilderness areas and other areas withdrawn from mineral entry.
 - C. Permit reasonable access to mining claims in accordance with the provisions of an approved Plan of Operations. Motorized access to sites may be authorized as part of the Plan of Operations. Use of off-highway vehicles may be allowed and must be in accordance with 36 CFR 212, 251, and 261 – Travel Management; Designated Routes and Areas for Motor Vehicle Use.
- II. *Forest Lands Open to Mineral Entry*
 - A. Encourage the exploration, development, and extraction of locatable, salable, and leasable minerals and energy resources.

Standards and Guidelines 4

- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, Alaska National Interest Lands Conservation Act of 1980 (ANILCA), and the Forest Service Mining Regulations (36 CFR 228).
 - C. Permit reasonable access to mining claims and mineral leases in accordance with the provisions of an approved Plan of Operations.
- III. *Locatable Mineral Operations*
- A. A Notice of Intent and/or a Plan of Operations is required for locatable operations. (Consult FSM 2810 and 36 CFR 228.)
 - 1. A Plan of Operations will receive prompt evaluation and action within the time frames established in 36 CFR 228.
 - 2. Conduct an environmental analysis with appropriate documentation for all operating plans.
 - 3. Locatable mineral exploration and/or development situated in areas identified in the Forest Plan for intensive development (minerals overlay) must be consistent with standards and guidelines for mineral development.
 - 4. Following locatable mineral exploration and/or development site rehabilitation and restoration will be designed to return the site to as near as practicable to a condition consistent with the underlying non-mineral Land Use Designation (LUD).
 - B. Work with claimants to develop a Plan of Operations that adequately mitigates adverse impacts to LUD objectives. Include mitigation measures for locatable actions that are compatible with the scale of proposed development and commensurate with potential resource impacts.
 - 1. Maintain the habitats, to the maximum extent feasible, of anadromous fish and other foodfish, and maintain the present and continued productivity of such habitats when such habitats are affected by mining activities. Assess the effects on populations of such fish in consultation with appropriate state agencies. (Consult ANILCA, Section 505(a).)
 - 2. Apply appropriate Transportation Forest-wide Standards and Guidelines to the location and construction of mining roads and facilities.
 - 3. Reclaim disturbed areas in accordance with an approved Plan of Operations. Apply approved seed mixtures as needed (see Standards and Guidelines for Plants).
 - 4. Apply Best Management Practices (BMPs) to maintain water quality for the beneficial uses of water. (Consult National Core BMP Technical Guide FS-990a and FSH 2509.22.)
 - 5. Periodically inspect minerals activities to determine if the operator is complying with the regulations of 36 CFR 228 and the approved Plan of Operations.
- IV. *Leaseable Mineral Operations (Oil and Gas, Coal, Geothermal)*
- A. Leasing may occur on a case-by-case basis following site specific analysis.
 - B. Include mitigation measures for leaseable mineral operations and include standard and special stipulations in leasing actions that are compatible with the scale of proposed development and commensurate with potential resource impacts.
 - C. Operating plans will be reviewed and approved by the authorized officer. (Consult FSM 2820 and 36 CFR 228.)
 - D. Areas determined to be available for leasing all operations, including site restoration and rehabilitation, must be consistent with the standards and guidelines for the LUD as displayed in the Forest Plan.
 - E. During exploration, consider alternatives that minimize encumbrance and disturbance of National Forest System lands, such as permitting in lieu of leases for exploration.
- V. *Salable Mineral Operations (Mineral Material Sales and Free-use)*
- A. Operator shall have an operating plan that includes a development or quarry plan with a map. Quantity estimates shall be included.
 - B. Permit mineral material sites only after an environmental analysis assures other resources are adequately protected, the site location and operating plan are consistent with the LUD emphasis, and such resources are not reasonably available on private land. Require bonds and reclamation as appropriate. (Consult FSM 2850 and 36 CFR 228.)

4 Standards and Guidelines

- C. Where the opportunity exists, design, excavate, and reclaim material sites to facilitate their use for dispersed recreation or other desirable uses such as conversion to salmonid rearing ponds and spawning channels.
 - D. Include mitigation measures for salable mineral operations and include standard and special stipulations in permitted actions that are compatible with the scale of proposed development and commensurate with potential resource impacts.
- VI. *Bonds*
- A. A bond will be required for locatable, leasable, and salable mineral operations to ensure operator performance and site reclamation are completed. (Consult 36 CFR 228.)
- VII. *Split Estates*
- A. Seek to avoid separating the surface and subsurface estates. Coordinate with BLM, the state, Native corporations, and private landowners to manage split estates in accordance with individual patents or deeds.
- VIII. *Paleontologic Resources*
- A. Develop and maintain a paleontological resource program that identifies, inventories, facilitates research, and emphasizes protection of the resources. Protect paleontological resources from loss due to threat, vandalism, or the natural elements through responsible planning, management, partnerships with qualified museums and other institutions, and collaboration with Forest Service law enforcement (FSM 2882.03). Elements of this program may include:
 1. Inventory paleontological resources. Develop Fossil Yield Potential Classification (FYPC) values. These values rank the degree to which a bedrock unit, usually at the formation or member level, is likely to yield scientifically significant fossil resources. FYPC values are assigned to geologic units on the basis of empirical data gathered through literature or database research and field research by Forest Service paleontologists or the Forest Geologist (FSM 2881.3).
 2. Protect and preserve known significant paleontological resources. Actively promote partnerships with museums and other institutions having professional paleontologists and appropriate facilities to evaluate these resources. Coordinate all excavation or collection with the appropriate state agencies. Ensure that appropriate terms and conditions are included in special use authorizations for paleontological resources to minimize resource conflicts. Protect and preserve collections curated in non-federal repositories (Paleontological Resources Preservation Act of 2009 and 36 CFR 291).
 3. Develop a monitoring program to protect paleontological resources from loss due to threat, vandalism, or the natural elements. If, through monitoring, it is determined that fossil theft and/or vandalism is occurring, collaborate with Forest Service law enforcement.

PLANTS

Forest-wide Standards and Guidelines

Threatened, Endangered, Sensitive, and Rare Plants: PLA1

Consult Forest Service Manual (FSM) 2670 for Threatened, Endangered, and Sensitive Species.

I. Threatened or Endangered Plants

- A. Currently there are no threatened and endangered plants on the Tongass National Forest.

II. Sensitive Plants²

- A. Consider providing protection around the plant population that meets the habitat needs of the species. Protection measures can include, but are not exclusive to, avoiding known sensitive plant populations during project activities, directional falling and yarding of trees away from sensitive plants, and partial retention of forest structure (25 to 50 percent of the basal area) in the area around sensitive plants in forested habitats. Apply adaptive management principles.
- B. Where it is necessary to protect sensitive plant species or communities from a proposed project, implement a Monitoring and Evaluation Plan to include a review of the implementation and effectiveness of conservation actions, and apply adaptive management principles.
- C. No herbicide may be applied from the air within 600 feet, nor ground-applied within 60 feet, of any identified population of a sensitive plant species.

III. Rare Plants

- A. Implement national (National Forest Management Act, Ecosystem Management) and regional Forest Service policy and direction (FSM 2670 and 36 CFR 219.27 (g)) for the conservation, management, inventory, and monitoring of rare plant species.
- B. Collecting or disturbing rare plants or plant parts is prohibited unless authorized by the responsible official. In cases of scientific or educational use, permits will be required to collect rare plants. Such collections must not adversely affect the continued existence or vigor of a rare plant population.
- C. Avoid, minimize, or mitigate adverse effects to rare plants and populations during project planning to maintain known distributions throughout the Tongass National Forest.
- D. Where desirable, rehabilitate and/or restore rare plant populations that have been adversely affected by management or natural disturbances.
- E. Coordinate with appropriate federal and state agencies as well as other entities to support monitoring, research, and inventory for rare plants.
- F. Consider providing protection around the plant population that meets the habitat needs of the species. Protection measures can include, but are not exclusive to, avoiding known rare plant populations during project activities, directional falling and yarding of trees away from rare plants, and partial retention of forest structure (25 to 50 percent of the basal area) in the area around rare plants in forested habitats. Apply adaptive management principles.
- G. When a population or habitat decline for a rare plant species or subspecies indicates that long-term viability is at risk, evaluate the particular species for designation as a Region 10 Sensitive Species by the Regional Forester. (Consult the Threatened, Endangered, and Sensitive Species Forest-wide Standards and Guidelines and FSM 2670.)

Invasive Plants: PLA2

I. Invasive Plants

- A. See Invasive Species Forest-wide Standards and Guidelines.
- B. Follow established guidance on the use of plant materials for revegetating an area and habitat restoration.

Plant Surveys and Vegetation Mapping: PLA3

I. Plant Surveys and Vegetation Mapping

² The Forest Service Alaska Region Sensitive Species List was updated in 2009 and supersedes previous lists.

4 Standards and Guidelines

- A. Plant survey protocols for National Environmental Policy Act (NEPA) and other projects should follow FSM 2670, R10 protocols, and Tongass Forest-wide Standards and Guidelines.
- B. When implementing any invasive and sensitive species field surveys or inventories, a complete list of vascular plants found should be created for each survey.
- C. For biological evaluations, consult FSM 2670.
- D. Resource report should be prepared to document the findings or absence of rare plants during field surveys for NEPA projects.
- E. Use the Existing Vegetation Classification, Mapping and Inventory Technical Guide (FSM 1940) and the most current and available methods to develop baseline vegetation types Forest-wide.
- F. Identify vegetation inventory needs for all Wildernesses to meet the “minimum stewardship levels” per the Wilderness Act of 1964. Accomplish baseline vegetation inventory needs commensurate with other Forest inventory efforts.
- G. Accomplish baseline vegetation inventory needs commensurate with other forest inventory efforts.

Non-Timber Forest Products: PLA4

I. Non-Timber Forest Products

- A. See FSM 2460 for non-timber forest product direction.
- B. Make non-timber forest products (see Plants Standards and Guidelines) available and consistent with LUD management objectives.
- C. Address requests for green saw-timber personal use wood as soon as feasible.
- D. Designate personal use wood planned for harvest.

II. Commercial Program

- A. Allow harvest of non-timber forest products in ways that ensure the continued integrity of the forest stand.
- B. Permits shall be required for commercial collection of any non-timber forest products.
- C. Commercial harvest shall occur only where adequate quantities of the resource are known to be available on harvestable sites.
- D. Selling units (bushels, pounds, sacks, etc.) for specific non-timber forest products shall be consistent across the Forest to make record-keeping, reporting, and monitoring more accurate and efficient.
- E. Collection of special forest products adjacent to trails and roads shall be avoided where scenic quality would be impaired. Collection should be no closer than twenty to fifty feet from the trail or road. Site-specific prescriptions will vary by class of trail or road.

RECREATION and TOURISM

Forest-wide Standards and Guidelines

Recreation Resource Inventory: REC1

I. Recreation Resource Opportunities

- A. Maintain an inventory of recreation resource opportunities throughout the Forest.
 1. Use the Recreation Opportunity Spectrum (ROS) system and Tongass National Forest Recreation Places Inventory. (Consult Forest Service Manual [FSM] 2310 and national/regional ROS handbooks.)
 2. Update existing ROS inventories as a part of specific project planning and implementation, and whenever project activities cause a change in recreation setting conditions significant enough to reclassify the affected area.
 3. Maintain the necessary data to determine the individual and/or cumulative changes in ROS class distribution throughout the Forest.

Recreation Resource Planning: REC2

I. Interagency Planning

- A. Accomplish outdoor recreation planning by providing opportunities and programs that are appropriate to the Forest environment, dependent upon natural settings, and help participants experience and understand nature.
 1. Determine the appropriate role of National Forest System (NFS) lands in providing natural resource-based recreation opportunities, sites, facilities, and experiences. Within the context of national policy, cooperate and coordinate with national, state, and local agencies in providing a balance of outdoor recreation opportunities throughout Southeast Alaska.
 2. Use the ROS framework of settings and experience opportunities to define the capabilities of NFS lands to meet identified recreation needs and services. (Consult ROS handbooks and Forest ROS maps.)
- B. Provide recreation opportunities on NFS lands in concert with, and supplemental to, those opportunities that are located on other land ownerships and jurisdictions. Generally, recreation areas, sites, and facilities located on NFS lands should:
 1. Complement commercial public services (i.e., resorts, marinas, stores, service stations) within communities or on private or other public land.
 2. Support a system of anchorages suitable for recreation boats along small boat waterways that connect communities or provide access to popular recreation attractions.
 3. Provide other appropriate facilities to meet specific identified recreation needs on a case-by-case basis.
- C. Cooperatively participate with local communities and user groups when implementing recreation development projects. Implementation should:
 1. Involve the public and affected communities, landowners, and other affected interest groups in the project planning process.
 2. Recognize that recreation use by residents and tourists radiate from communities and service centers to use lands and facilities under a variety of ownerships and jurisdictions.
 3. Verify the local role of the Forest Service in providing recreation opportunities, services, and facilities.
 4. Verify the basis for developing Forest Service recreation-related projects.
 5. Identify sites and activities where joint or cooperative development or management is desirable. Include opportunities for such things as on-site interpretation of natural and cultural resources, particularly on lands of mixed ownership; providing public information through joint publications; joint cabin reservation systems; or construction, operation, and maintenance agreements.
 6. Consult FSM 2300 and internal Forest-wide handbooks.

4 Standards and Guidelines

II. *Integrated Resource Planning*

- A. During non-recreation project planning, assess the effects of these projects on the diversity and quality of recreation settings and activity opportunities within, and adjacent to, the project area.
 - 1. Where recreation resources may be affected, analyze the opportunities foregone due to resource management actions. During project planning and design, consider valid substitutes for recreation settings and activity opportunities.
- B. Identify opportunities to enhance existing, and provide additional, recreation activities, opportunities, and services where desirable to meet local or Forest-wide recreation demands. Give particular attention to opportunities that are in relatively short supply within the day-use travel distance of communities, are important to local users, are important to tourism and commercial service providers, provide a base for visitor use of Primitive and Semi-Primitive areas, compliment recreation programs of communities, the state, and private landowners, contribute to the supply of Semi-Primitive Motorized opportunities, and are related to the unique combination of marine, wildlife, and fish resources characteristic of Southeast Alaska.
- C. Coordinate, to the extent feasible, recreation project development with other resources (for example wildlife, transportation).
- D. Coordinate off-highway vehicle (OHV) use through travel management planning.
 - 1. OHV planning will be in accordance with the final rule for Travel Management; Designated Routes and Areas for Motor Vehicle Use published in the Federal Register (FR) on November 9, 2005 (70 FR 68264). Each Ranger District will designate the roads, trails, and areas open to motor vehicle use on a motor vehicle use map. All operations must be in accordance with those designations.
 - 2. Coordinate OHV planning and management with other resource concerns, the State of Alaska, and adjacent landowners.
 - 3. Provide a diversity of OHV recreational opportunities across the Forest where consistent with the criteria in FSM 2355 and 36 CFR 212, which includes:
 - a) The use is compatible with established land management and resource objectives.
 - b) The use is consistent with the capability and suitability of the resource.
 - c) There is demonstrated demand that cannot be better satisfied elsewhere.
 - 4. Update access and travel management plans. Identify specific areas, roads, trails, and water surfaces that are open, restricted, or closed to motorized and non-motorized mechanical conveyance, watercraft, and conditions of use. Recreation, subsistence, and authorized uses may be considered separately depending on the circumstances.

III. *Tourism*

- A. Tourism is a major industry in Southeast Alaska. The Forest provides the backdrop as well as the land base for many tourism activities, including several of the state's leading attractions. The size and extent of the Forest has a profound influence on the amount and nature of opportunities for the tourism industry.
 - 1. Work with the tourism industry and government agencies in assessing the value and contribution of the industry to the economy of Southeast Alaska. Identify the role and contribution made by the Tongass National Forest to the industry and the region.
 - 2. Cooperate with the tourism industry and appropriate government agencies in conducting and assessing visitor studies. These studies include identification of activities, attractions, and attributes visitors seek; response to management activities; demographic traits; and detection of changing trends.
 - 3. Coordinate information and marketing efforts with tourism providers and promoters to complement efforts, target markets for new and existing opportunities, and to meet Forest Service management objectives.
 - 4. Work with government agencies, organizations, and the private sector to identify, facilitate, and develop tourism opportunities.
 - 5. Consider access, infrastructure, and other needs of the tourism industry at the project planning level. Incorporate these needs into project design and implementation.
 - 6. Commercial services may be performed within the Wilderness to the extent necessary for activities that are proper for realizing the recreational or other Wilderness objectives for the area.

Standards and Guidelines 4

Recreation Use Administration: REC3

- I. *Coordination with Wilderness Management*
 - A. Evaluate the effects of location, design, and operation of developed sites and roads adjacent to Wilderness. Develop and operate projects to complement Wilderness management objectives and to preserve the Wilderness character.
 - B. Ensure that recreation special use activities and facilities adjacent to Wilderness are located, designed, and operated in a manner that complements Wilderness management objectives and preserves Wilderness character.

- II. *Recreation Special Uses*
 - A. Commercial Recreation Opportunities
 1. Work with recreation service partners and the tourism industry in identifying and developing services and opportunities. Recreation service partners provide services and opportunities that supplement the use and enjoyment of the national forests by a variety of people.
 - a) Identify opportunities for commercial recreation use, services, and developments.
 - b) Facilitate authorizing commercial recreation use, services, and developments by:
 - (1) Authorizing commercial recreational developments and services where there is a public need and no private lands are available or suitable for development. Refer to each Land Use Designation (LUD) management prescription to determine its appropriateness for development.
 - (2) Managing recreation special uses in accordance with the direction in –LAND 2 – Special Use Authorizations (items I, A.1-12 apply to recreation special uses) and outfitter/guide services in this section.
 - (3) Working with recreation service partners to provide agency identity, customer information and programs, natural resource education, and to instill a land stewardship ethic.
 2. Use the following guidelines in addressing the appropriateness of recreation special use proposals in each of the LUDs after evaluating factors in 1.b. above. They provide a framework to guide major and minor development proposals. Four strategies (not allowed, discouraged, case-by-case, compatible) are identified for guidance; one is assigned to each LUD to address major and minor proposals (see LUD direction). The definitions and strategies applied to major and minor developments are discussed below (also see Appendix I).
 - a) Major Development. Major recreation and tourism developments provided by the private sector involve long-term commitment of the land base, with a moderate to high level of site modification. They involve large buildings or complexes of buildings and facilities, and often provide several services in a concentrated area. Comfort and convenience are provided for guests, and facilities can generally accommodate more than 12 people. The proposals are typically Development Scale 3, 4, or 5, and Roaded Natural or Rural ROS settings. Site reclamation involves extensive removal of facilities and improvements, revegetation, recontouring, etc.; a natural appearance usually takes more than five years to attain. Examples include destination resorts and lodges, food and beverage services, downhill ski areas, marinas and gas stations, and full-service campgrounds.
 - b) Minor Development. Minor recreation and tourism developments provided by the private sector involve only minor site modifications. They involve small rustic facilities and/or improvements, generally with a single purpose or service, and may involve several sites or an extensive area. Basic essentials are typically provided, and can generally accommodate 12 or fewer people per site. The proposals are typically Development Scale 1 and 2, with a Semi-Primitive ROS setting. Site reclamation involves simple removal of facilities and little or no revegetation; a natural appearance can be attained in a few years. Examples include cabins, huts, small docks, cross-country ski trails with simple facilities, temporary or portable camps, and simple and rustic campgrounds.

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3. Public Outfitter/Guide Services
 - a) Authorize the services of qualified outfitters and guides to the public where the need for the service has been identified and is compatible with the objectives and management direction of the affected LUDs. The services of outfitters and guides should facilitate the use, enjoyment, understanding, and appreciation of National Forest recreation settings.
 - b) Manage outfitter and guide services as partnerships with the Forest Service, as a way to nurture and encourage assistance and support for attaining the objectives of the LUD, and to assist in increased public understanding and appreciation of the Forest Service's mission and goals.
 - c) Administer outfitter/guide special use authorizations in accordance with the direction in FSM 2720, FSH 2709.11, FSH 2709.14, and Regional Supplements.
 - (1) Outfitting and guiding operations should not require permanent improvements occupying NFS lands. Encourage operations that require only temporary facilities that are easily removed at the end of the use season.
 - (2) Authorize outfitter/guide operations on the basis of the following criteria:
 - (a) The affected ecosystem(s) have the capability to accommodate the expected kinds of activities and amounts of use without degradation of ecosystem composition and structure.
 - (b) Existing or proposed operations and activities are appropriate for the specific ROS settings within the LUD.
 - (c) Adverse impacts to popular or high-valued local areas with outfitter/guide operations are minimized.
 - (d) There is a demonstrated public need for the services to be offered and/or the services will enhance the objectives of the LUD.
 - (e) The operations can be carried out in a manner that is compatible with existing or expected use by the non-guided public.
 - (f) Adverse impacts to subsistence users are minimized.
 - (3) Authorize outfitter/guide operations through the issuance of priority use permits, whenever possible, supplemented with temporary permits. Assign priority use and temporary use permits within a LUD based on the following:
 - (a) Generally allocate no more than one-half the capacity of the LUD to outfitter/guide operations. For specific locations, consider different allocations based on historical use, changing demand, spatial zoning, or temporal zoning.
 - (b) Party size and distribution of groups.
 - (i) **Wilderness, Monument, and Wild River LUDs.** Group size is limited to no more than 12 persons for commercial or general public use of a Wilderness, unless otherwise approved by the appropriate line officer. Refer to REC3 in Chapter 3 for exceptions. Encounters should be less than three groups per day as to maintain the more primitive experience.
 - (ii) **Semi-Primitive ROS settings outside of Wilderness.** Party size should generally be limited to 12 to 20 people. Within the LUD II, Old-growth Habitat, and Semi-Remote Recreation LUDs, larger party sizes may be allowed in limited locations for up to 15 percent of the primary use season for nature-based interpretive activities if there is no degradation to the physical site conditions. Larger party sizes may be allowed to go ashore at one location and split up into smaller parties not within sight or sound of each other.
 - (iii) **Other ROS settings.** Consider site capacities and impacts to other users and resource values to establish party size limits.
 - (4) Where there is surplus capacity not being used by the general public, temporary use for specific periods of time (not to exceed one year) may be authorized. Such temporary use does not qualify for credit toward priority use by a permit holder.

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- d) Motorized access to sites may be authorized as part of the special use authorization. Use of OHVs or over-snow vehicles may be allowed in accordance with 36 CFR 212, Subpart C.
 - e) Cooperate with state and local authorities and user organizations to resolve situations where illegal outfitters are known to be operating. (Consult FSM 5300.)
- B. Non-Commercial Recreation Uses
- 1. Issue no authorizations to construct new private recreation facilities, such as private recreation cabins.
 - 2. Manage non-commercial recreation special use authorizations as provided for in FSM 2347. Allow replacement of existing facilities with similar facilities.
 - 3. Manage cabins and related structures that were existing, but unauthorized, prior to the Alaska National Interest Lands Conservation Act of 1980 (December 2, 1980), in accordance with the direction in LAND2 – Cabins and Related Structures.
 - 4. Manage recreation special uses in accordance with the direction in LAND2 – Special Use Authorizations.
- III. *Recreation Settings*
- A. Provide a broad spectrum of outdoor recreation opportunities in accordance with the existing capabilities of the National Forest, and in accordance with the ROS Class Standards and Guidelines in Appendix I.
- 1. Manage recreation use in a manner that is compatible with the long-term objectives of the LUD. Maintain the capability of all LUDs to provide quality recreation opportunities on a sustained basis.
 - 2. In LUDs where non-recreation resource management activities are emphasized, continue providing the current settings and opportunities until scheduled activities and practices cause a change in the ROS setting. The ROS settings for these LUDs may also change to accommodate new recreation facilities or increases in commercial recreation use when this use is compatible with the desired condition for that LUD. When there is a decision that results in a change to the recreation setting, the management decision should adopt the appropriate ROS class. The adopted ROS call will provide the direction for the design of any new facilities.
- B. Manage recreation resource activities and facilities in accordance with the established regional guidelines and the ROS guidelines in Appendix I, or Wilderness-specific ROS guidelines approved by the Forest Service officer with delegated authority. All recreation planning and management activities will address the setting indicators. They are described by ROS class in the guidelines in Appendix I.
- C. Use the ROS charts in Appendix I for project planning and analysis, and as guidelines to establish appropriate levels of use, scale, and kinds of facilities, Scenic Integrity Objectives, types of access, and services to meet local and regional needs and desired recreation setting conditions.
- IV. *Developed Site Management*
- A. Manage the Forest's recreation infrastructure in alignment with the resources available to operate and maintain it to standard. The Forest recreation infrastructure includes all recreation sites and the facilities associated with them.
- V. *Recreation Construction and Rehabilitation*
- A. Provide development facilities appropriate to the ROS setting after determining that the private sector is not able or willing to meet the demand.
 - B. Maintain cost-effective developed recreation facilities that complement non-Forest Service developments in the same community home range or service center area.
 - C. Provide barrier-free, accessible facilities appropriate to the site development level and area ROS setting.
 - D. Evaluate the location and need for recreation facilities that lie within identified 100-year flood plains as to the specific hazards and values involved with the site and its use. Thoroughly explore viable alternatives. (Consult FSM 2527.)

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- E. Use the regional recreation capital investment process and criteria for the identification of recreation construction and reconstruction projects.

VI. Interpretive Services

- A. Provide an Interpretive Services Program that is designed to accurately and adequately develop an interest and understanding of the environments of the Forest and Southeast Alaska, and the mission of the Forest Service in managing the National Forest.
- B. Conduct on-site interpretive activities to a level consistent with LUD objectives.
- C. Assist visitors and users to understand the role of natural and cultural resources in the development of industry, heritage, and culture in Southeast Alaska. Relate these roles to the rest of the state, Canada, and the nation.
- D. Promote visitor understanding of the NFS, forest research, and state and private forestry programs.
 - 1. Emphasize understanding of stewardship of public lands and their productivity through professional forest management with balanced use of natural resources.
 - 2. Develop Interpretive Services programs for all principal resource management programs. Information should emphasize the integration of management activities designed to achieve the goals and objectives developed for specific areas.
- E. Inform visitors of the distribution, differences, and roles of the federal, state, and private lands found in Southeast Alaska and the range of recreation and cultural interest opportunities and facilities available.
 - 1. Continue to pursue and implement cooperative interpretive partnerships with other federal and state land management agencies consistent with the principal travel routes and activity centers used by forest visitors.
 - 2. Provide an array of imaginative and dynamic media by which interpretive messages are made available to the visitor. Use a spectrum of media and presentation designs that are appealing, appropriate for the setting, easily understood by the intended audience, and reflect the Forest Service as a professional and caring land management agency.
 - 3. Continue to provide accurate and timely information about Southeast Alaska and the Tongass National Forest. Continue the Forest Service's leadership role for the Southeast Alaska Discovery Center.
 - 4. Continue to provide or improve interpretive services programs and facilities such as Tongass visitor centers. Support shall include identification of current issues and events of interest to forest visitors, adequate staffing to meet program objectives, assistance in training the seasonal and volunteer staff, and objective evaluation of programs to ensure accurate and positive coverage of the natural and cultural resources on the Tongass National Forest and their management.
 - 5. Expand the use of Alaska Geographic as an interpretive partner to provide forest visitors with a broad range of interpretive media. These may include, but are not limited to, publications, video and audio tapes, and other media that feature the natural and cultural resources of the Tongass National Forest and the heritage of Southeast Alaska. Encourage all types of support and donations to Alaska Geographic that can be used to develop additional materials and programs.
 - 6. In partnership with communities, organizations, and individuals, develop additional Alaska Geographic outlets at locations that will best serve Forest customers.
 - 7. Continue to support the Elderhostel Education Program in local communities and aboard the Alaska Marine Highway as budgets will allow.
- F. Provide a coordinated program of awareness and training for all employees and partners (including outfitter/guides and other public service permit holders) to ensure a consistent program of public service.
 - 1. Encourage other agency participation in Forest Interpretive Services training programs.
 - 2. Ensure that the Forest Service mission and image remain predominantly visible at all Forest Service facilities through the use of uniformed Forest Service personnel, the Forest Service shield, and other media.

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3. To the extent feasible, provide training about National Forest resources, points of interest, and management to all interested outfitter/guides, industry representatives, and other partners.

VII. Recreation Use

- A. Gather recreation use information to use in project and forest planning. Many sources of information should be used to gather data, such as cabin rentals, campground, visitor center use, trailhead registers, outfitter/guides, ferry and cruise ship arrivals, and employee or public observations.
- B. Identify those recreation uses that may be in conflict with each other. Reduce recreation user conflicts and polarization. Work with affected publics in finding solutions to defuse or resolve conflicts or concerns.

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RIPARIAN Forest-wide Standards and Guidelines

Riparian area: RIP1

I. Definition

- A. Riparian areas encompass the zone of interaction between aquatic and terrestrial environments associated with streambanks, lakeshores, and floodplains, and display distinctive ecological conditions characterized by high species diversity, wildlife value, and resource productivity.

II. Objectives

- A. Maintain riparian areas in mostly natural conditions for fish, other aquatic life, old-growth and riparian-associated plant and wildlife species, water-related recreation, and to provide for ecosystem processes, including important aquatic and land interactions. For further direction, refer to the Fish, Wildlife, Recreation and Tourism, Beach and Estuary Fringe, and Soil and Water Forest-wide Standards and Guidelines, as well as the Riparian Standards and Guidelines criteria for each process group contained in Appendix D. The following is a list of objectives pertaining to riparian areas. (Consult Forest Service Manual [FSM] 2526.)
 1. Protect riparian habitat.
 2. Manage riparian areas for short- and long-term biodiversity and productivity.
 3. Maintain natural streambank and stream channel processes.
 4. Maintain natural and beneficial quantities of large woody debris over the short and long term.
 5. Protect water quality by providing for the beneficial uses of riparian areas. (Consult Best Management Practices [BMPs], Chapter 10 of the Soil and Water Conservation Handbook, FSH 2509.22.)
 6. Maintain or restore the natural range and frequency of aquatic habitat conditions on the Tongass National Forest to sustain the diversity and production of fish and other freshwater organisms.
 7. Consider the management of both terrestrial and aquatic resources when managing riparian areas. Consider the effects of terrestrial and aquatic processes on aquatic and riparian resources.
 8. In watersheds with intermingled land ownership, cooperate with the other landowners in striving to achieve healthy riparian areas.
 9. Design and coordinate road management activities to provide for the needs of wildlife and provide passage of fish at road crossings. (Consult the Fish Forest-wide Standards and Guidelines and the Aquatic Habitat Management Handbook, Forest Service Handbook [FSH] 2090.21.)
 10. Evaluate the effect of management (including windthrow) of adjacent areas on riparian habitats.
 11. Coordinate and consult with state and federal agencies on riparian management issues, as appropriate.
 12. Coordinate and consult with Alaska Department of Environmental Conservation (ADEC) regarding management of public water systems source watersheds.

Riparian Planning: RIP2

I. Project Planning

- A. Identify and delineate Riparian Management Areas (RMAs) for each project where ground disturbance will occur or resources will be extracted. RMAs are areas of special concern to fish, other aquatic resources, and wildlife. They are generally delineated as identified in the Process Group direction in the Riparian Forest-wide Standards and Guidelines. Riparian areas are differentiated from adjacent reserve areas, such as wildlife reserves or areas managed to provide reasonable assurance of windfirmness.
- B. Complete a watershed analysis before making site-specific adjustments to Process Group Standards and Guidelines (see Appendix D). Riparian guidelines may be adjusted only if the

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stream process group objectives can be met. Consult Appendix C of the Forest Plan for direction on adjusting riparian guidelines.

- C. On those projects and activities that are in, or influence, RMAs, ensure interdisciplinary involvement and consideration of riparian resources in project planning and in the environmental analysis process.
 - 1. The location and design of wildlife habitat reserves and mitigation measures should be closely integrated with the design and layout of RMAs.
 - 2. Logging engineers and aquatic specialists should conduct joint reviews of preliminary harvest unit designs to ensure that site-specific stream protection measures meet riparian objectives, as well as logging system feasibility and timber harvest economic objectives.
- D. Ensure that permit holders, contractors, and/or purchasers understand RMAs and riparian management objectives.
- E. Evaluate RMA windthrow risk when locating and designing adjacent management activities (Reasonable Assurance of Windfirmness [RAW] Guidelines: Landwehr 2007 and subsequent versions). Minimize accelerated windthrow in RMA buffers. In situations where a high risk of blowdown factors is present, indicating a high windthrow risk, a RAW buffer should be prescribed. In situations where multiple low risk factors are present and high risk factors are minimal, a RAW zone addition to riparian buffers is not warranted. Where high-value aquatic resources (such as a Class I stream or drinking water supplies) are at-risk, use of a wider buffer may be warranted even when the risk of windthrow is judged to be low or moderate. The RAW zone is not necessarily a no-harvest zone; partial harvest may be appropriate in RAW buffers depending on site-specific conditions. (Consult BMP 12.6a of the Soil and Water Conservation Handbook—FSH 2509.22 and the Process Group Standards and Guidelines.)

II. General Standards and Guidelines by Activity

- A. Special use administration(Non-Recreation)
 - 1. Permit activities, consistent with other special use direction, that do not significantly reduce the capability of RMAs to 1) maintain or improve associated fish or wildlife habitat, or 2) protect water quality for beneficial uses.
- B. Minerals and Geology Administration, Plan of Operations
 - 1. Use state-of-the-art techniques for developing minerals to reduce impacts to riparian resources to the extent feasible. Include mitigation measures that are compatible with the scale of proposed development and commensurate with potential resource impacts.
 - 2. Apply appropriate Transportation Forest-wide Standards and Guidelines to the location, construction, and maintenance of mining roads affecting riparian areas.
 - 3. Manage mineral exploration and development activities to be compatible with the Process group goals and objectives for RMAs.
 - 4. Manage mineral activities to maintain the present and continued productivity of anadromous fish and other foodfish habitat to the maximum extent feasible. (Consult the Alaska National Interest Land Conservation Act of 1980, Section 505 [a].) Plan of Operations for mining must comply with Clean Water Act, Sections 401, 402, 404, as applicable. (Consult FSM 2817.23a.)
 - 5. Apply timing restrictions to instream construction and other minerals activities to protect fisheries habitat and mitigate adverse sedimentation, and to avoid critical wildlife mating, hatching, and migrating periods.
 - 6. Minimize the effects of mineral development and related land disturbance activities on the beneficial uses of water by applying BMPs.
 - 7. Locate material sites and marine transfer facilities outside RMAs if reasonable alternatives exist.
 - 8. Ensure that disturbed areas are revegetated in accordance with project plans.
 - 9. Approve reclamation plans in which mineral activities leave riparian project areas as natural in appearance and function, as is feasible.

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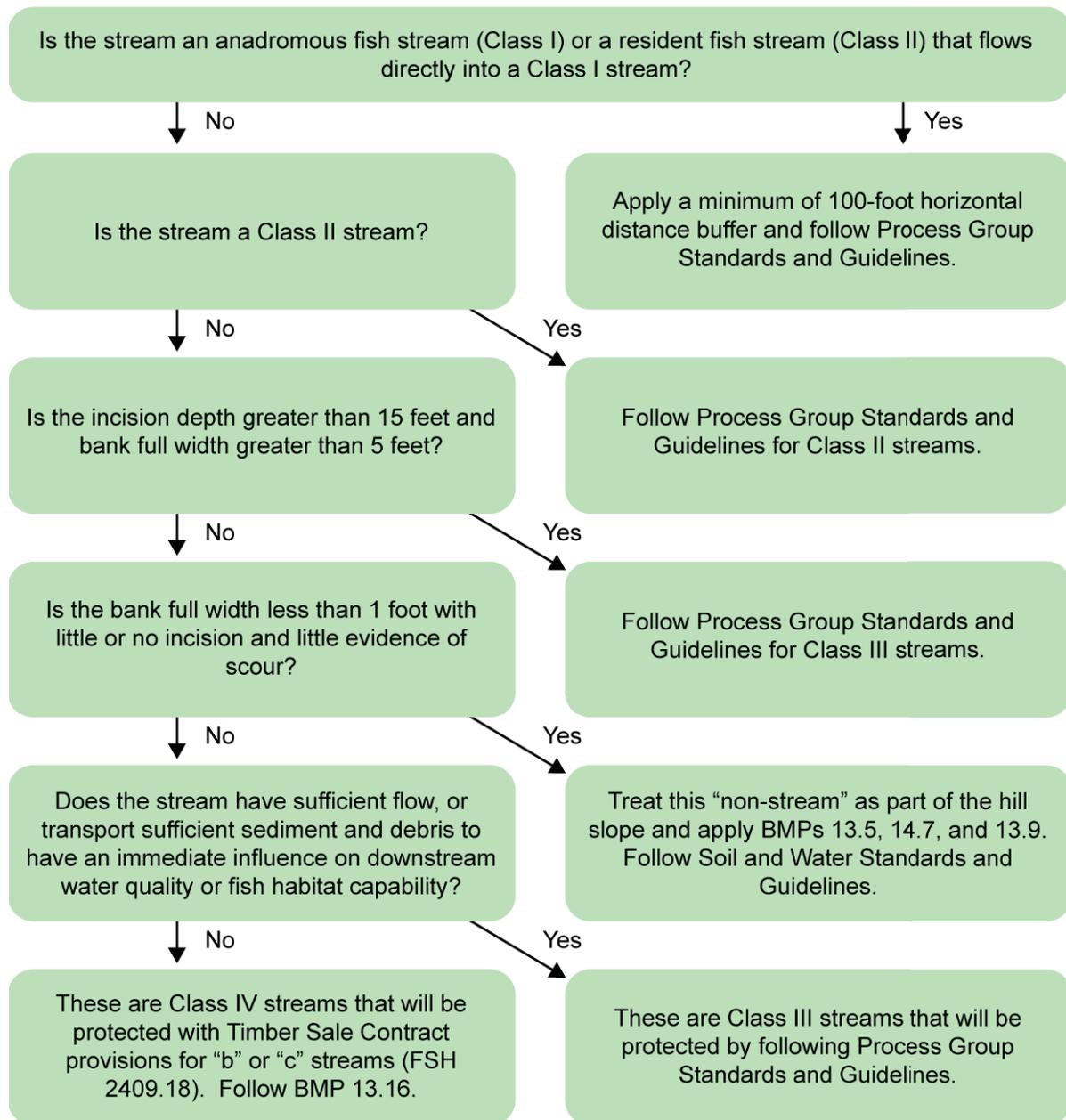
- C. Recreation Use Administration
 - 1. Locate, design, and operate only those recreation projects that are necessary to accommodate public use of the water and shoreline areas (i.e., boat or floatplane docks, launching ramps, and associated access roads and trails). Where feasible, locate parking, campgrounds, sanitation, and other recreation facilities outside the RMAs to avoid adverse effects on water quality and riparian function.
 - 2. For existing facilities, consider relocating the facility outside of the RMA. Consideration should be based on current and anticipated effects on riparian values, desired recreation experience, public issues, application of BMPs to minimize the effects of recreation facilities on the beneficial uses of water and costs of relocating the facility.
- D. Watershed Resource Planning
 - 1. Manage activities to meet state water quality standards and protect aquatic and terrestrial riparian habitats, channel and streambanks, and provide for flood plain stability.
 - a) Identify soil and water quality requirements for project-level activities.
 - b) Apply BMPs to minimize the effects of land disturbing activities on the beneficial uses of water.
 - c) Determine flood plain values and plan to avoid, where possible, the long- and short-term adverse impacts to soil and water resources associated with the occupancy and modification of flood plains.
 - d) Complete a watershed analysis before making project-level, site-specific adjustments to Process Group Standards and Guidelines. Adjustments to the guidelines may be made only if the objectives of the process group(s) can be met. Consult Appendix C of the Forest Plan for direction on watershed analysis. The intensity and scope of watershed analysis will vary according to the issues of concern.
- E. Timber Resources
 - 1. No commercial timber harvest is allowed within 100 feet horizontal distance either side of Class I streams and Class II streams that flow directly into a Class I stream. (Consult the Tongass Timber Reform Act.)
 - a) Included in the definition of Class II streams flowing directly into a Class I stream are all Class II tributaries of a Class II stream that flow into a Class I stream without an intervening Class III segment. Mandatory minimum 100-foot buffers will not apply to 1) a Class II stream that flows directly into the ocean or joins a Class I stream only at lower than mean high tide; and 2) a Class II tributary stream segment that flows into a Class III stream that in turn flows into a Class I stream.
 - b) The 100-foot measure is a horizontal distance measure from the bankfull margins.
 - 2. Protect RMAs, in accordance with the intent of the Alaska Anadromous Fish Habitat Assessment (1995), through application of the direction contained in Process Group Standards and Guidelines (Appendix D). Apply additional BMPs (National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook FSH 2509.22) to minimize the effects of timber harvest and related land disturbance activities on beneficial uses of water. In situations where multiple high risk factors are present, indicating a high windthrow risk, a Reasonable Assurance of Windfirmness (RAW) zone adjacent to the RMA buffer should be established (see RAW Guidelines: Landwehr 2007 and subsequent versions).
 - 3. Avoid RMAs when other feasible locations for personal use wood cutting are available. If personal (free) use timber harvest in RMAs is allowed, free use permit requirements must satisfy process group objectives (refer to Personal Use Program, section TIM4). Personal use timber harvest will be regulated and its cumulative effects monitored in LUDs that are not suitable for timber production to ensure that the LUD objectives are fulfilled.
 - 4. Provide protection to fish and wildlife during critical periods of their life cycles by applying seasonal restrictions on timber harvest and road use activities, to the extent feasible.

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5. When stream crossings are required to harvest timber, assess the environmental effects of road crossings versus yarding corridors, and select the action of least environmental impact where practicable.
 6. Streamcourse protection plans (consult BMP 13.16) are required for harvesting activities within the required minimum 100-foot buffers designated in E (1) above.
 - a) Provide thorough documentation of RMA design and BMP mitigation provision on timber sale unit cards and maps. "As-laid-out" (or phase II) unit cards are a useful tool for facilitating application of RMA and streamcourse protection during sale administration, and for monitoring compliance with and implementation of Riparian Forest-wide Standards and Guidelines.
 7. Allow no commercial timber salvage within 100 feet in width on each side of Class I streams or on those Class II streams that flow directly into Class I streams. In addition, allow no timber salvage in RMAs defined for each process group, with the following exception: salvage could be allowed, with Line Officer approval, following watershed analysis if the salvage activity is needed to meet or further riparian management objectives for the process group (see Appendix C for guidance on watershed analysis). RMA salvage timber will not contribute toward the Projected Timber Sale Quantity (PTSQ).
 8. Plan timber harvest settings that cross or are immediately adjacent to streamcourses (Class I, II, III, and IV Channels) so as to avoid adverse impacts to RMAs, and soil and water resources. (Consult FSH 2409.18 and FSH 2509.22.)
 9. Stream process group-specific standards and guidelines for timber harvest are presented in Appendix D, along with descriptions of each process group and channel type. The standards and guidelines (except for the minimum 100-foot buffers required by TTRA) may be adjusted for a project on a site-specific basis following completion of a watershed analysis. Adjustments to the standards and guidelines may be made only if the objectives of the process group(s) can be met. Consult Appendix C for direction on watershed analysis.
- F. Wildlife Resources
1. Integrate RMAs into any modifications to the design and location of small old-growth reserves. (Consult the Old-growth Habitat LUD and Appendix K.)
 2. Use riparian corridors in the design of wildlife travel corridors to provide horizontal connectivity between watersheds, and vertical connectivity between lowland and alpine areas.
 3. Consider wildlife needs in the design and management of RMAs. Give special emphasis to habitats of riparian associated species, for example, designated brown bear feeding areas. (See Wildlife Forest-wide Standards and Guidelines.)
- G. Transportation Systems
1. Use road closures, maintenance, and other measures to keep road-surface and road-side erosion at low or near background levels. Ensure long-term fish passage through structures at road crossings on Class I and II streams as described in Process Group direction and the Fish Standards and Guidelines. Use BMPs (National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook FSH 2509.22 [BMP 14-20]) to control effects of transportation systems on water quality and fish habitat. Also refer to the Alaska Forest Practices Act (11 AAC 95.320) for road closure requirements.

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Key to Streamcourse Protection on the Tongass National Forest



Special Provisions: If any of the above streams flow into karst features or contribute to public or domestic water supplies, more stringent standards may apply. Follow Karst Standards and Guidelines or guidance in State of Alaska Statute 18 AAC 80.

RURAL COMMUNITY ASSISTANCE

Forest-wide Standards and Guidelines

Activities: RUR

- I. *Resource Management Decisions Affecting Communities*
 - A. Emphasize, where appropriate, local needs and opportunities for rural community assistance in Forest programs and budgets.
 1. Consider rural interests, including Native organizations, in resource decisions by jointly identifying and developing natural resource opportunities.
 - B. Consider social, cultural, and economic issues in resource management by:
 1. Considering local communities' needs in project plans.
 2. Evaluating community-based sources of goods and services for implementing Forest projects.
 3. Considering community organization and protocol in resource planning and decision processes.
 4. Providing information pertaining to resource management and development on National Forests with communities.
 5. Encouraging local rural development entities to include Forest Service employees in their local rural development planning.

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SCENERY

Forest-wide Standards and Guidelines

Scenery Operations: SCENE1

I. *Scenery Management*

- A. This plan adopts Scenic Integrity Objectives (SIOs) that provide direction and objectives for landscapes within each Land Use Designation (LUD). The long-term desired future scenic condition for a specific area is the maintenance of a scenic integrity level that is at least as high as the adopted SIO for that area. Adopted SIOs are described in the scenery section of each LUD.
- B. Perform landscape/viewshed analysis, using as much of the available tools and technology as possible, when planning projects within viewsheds seen from Visual Priority Travel Routes and Use Areas (VPRs). Some level of analysis may be appropriate in some areas involving non-priority use areas. More comprehensive viewshed analysis such as long-term, full corridor planning may be used in the most sensitive viewsheds. See Appendix F of this Plan for a listing of the designated VPRs. As a part of the planning for major (e.g., large scale mining operations) land-disturbing activities, consider whether changes to the VPR list are necessary.
- C. Consider the scenic condition of adjacent non-National Forest System lands during the planning of development activities on the National Forest.
- D. Consult the USDA Forest Service Agriculture Handbooks (nos. 434, 462, 478, 483, 484, 559, 608, 617, 666) and Agriculture Handbook 701, Landscape Aesthetics, for scenery management guidance.

Scenery Preparation: SCENE2

I. *Scenery Integrity Objectives: Application*

SIOs are applied to any activity that has the potential to affect the scenic character of the landscape. The foreground, middleground, and background SIOs are adopted as seen from the VPR (Appendix F). Non-priority travel routes and use areas, as well as those areas not seen from the VPR, are managed according to the "Seldom Seen or Non-Priority" column. Activities could include, but are not limited to recreation facilities: trails, cabins, restrooms, interpretive displays; timber sales: roads, harvest units, logging camps, sort yards, log transfer facilities (LTFs); rock pits; gravel pits; mineral development; fish enhancement projects: in-stream fish pass structures, gabions; facilities authorized under special use authorizations: electronic facilities, hydroelectric projects, etc. In designing activities to meet specific SIOs, a number of factors must be considered. Some of these factors include the following:

- A. The landscape's Existing Scenic Integrity (ESI) rating. This is an inventoried condition that rates the degree of change that has already occurred on the ground. It is important to compare the ESI of the project area to the SIOs assigned by the Forest Plan. Should there be conflicting conditions presently existing and the intent of the LUD is not presently met, it would be appropriate to consider either 1) some specific rehabilitation measures, or 2) project deferral that would allow the landscapes in the project area time to regenerate sufficiently.
- B. Visual Absorption Capability (VAC), which is an estimate of the relative ability of a landscape to absorb management activities. High, Intermediate, and Low VAC ratings are used. These ratings reflect the degree of landscape variety in an area, viewing distance, and topographic characteristics. As examples, a Low VAC setting generally has steep slopes, with little landscape variety, while a High VAC setting may be relatively flat and/or has a high degree of variety in the landscape.
- C. Size, shape, orientation to viewer, color, texture, etc. are critical elements in determining whether or not an activity meets the adopted SIO. Consideration for the scenery is essential early on in planning processes, particularly in areas seen from a VPR. However, each landscape setting is different, and should be evaluated on a case-by-case basis. There may be instances where the SIO can be met while the proposed activity is greater than the guideline, or there also may be cases where the activity must be smaller to meet the intent of the SIO.

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Adopted Scenery Integrity Objectives for Each Land Use Designation^{1,9}

Land Use Designation	Foreground from Priority Travel Routes and Use Areas	Middleground from Priority Travel Routes and Use Areas	Background from Priority Travel Routes and Use Areas	Seldom Seen/ Non-Priority
Wilderness Wilderness Nat. Monument Research Natural Area Special Interest Area ^{2, 4} Remote Recreation Old-growth Habitat ⁴ LUD II ⁴	High	High	High	High
Special Interest Area ^{3, 4}	Low	Moderate	Moderate	Moderate
Semi-remote Recreation ⁴	Moderate	Moderate	Moderate	Moderate
Wild River ⁶	High	High	High	High
Scenic River ^{4, 6}	High	Moderate	Moderate	Low
Recreational River ⁴	Moderate	Low/Moderate ⁶	Low/Moderate ⁶	Very Low
Scenic Viewshed ^{4, 3}	High	Moderate	Moderate	Very Low
Modified Landscape ⁴	Moderate	Low	Low	Very Low
Timber production Minerals Experimental Forest ⁵	Low	Very Low	Very Low	Very Low
Municipal Watershed ⁷	High	High	High	High
Nonwild. Nat. Monument ⁸	High	High	High	High

¹ The foreground, middleground, and background Scenic Integrity Objectives (SIOs) are adopted as seen from the Visual Priority Travel Routes and Use Areas (Appendix F). Non-priority travel routes and use areas, and those areas not seen from the Visual Priority Routes and Use Areas, are managed according to the direction listed in the "Seldom Seen/Non-Priority" column.

² Except for the developed recreation and interpretive portions of Special Interest Areas such as Mendenhall Glacier, Ward Cove, and Blind Slough.

³ Applies only to the developed recreation and interpretive portions of Special Interest Areas such as Mendenhall Glacier, Ward Cove, and Blind Slough. Undeveloped areas are managed according to the guidance on the previous line.

⁴ Exceptions for small areas of non-conforming developments, such as recreational developments, transportation developments, log transfer facilities, and mining development, may be considered in these LUDs on a case-by-case basis.

⁵ The SIO may vary depending on the research objectives of the Experimental Forest.

⁶ Apply the Moderate SIO in corridors where scenic quality is included as one of the "outstandingly remarkable" values for that corridor. If it is not, apply the lower SIO.

⁷ SIO is High, but may range down to Very Low as a result of the municipality's watershed management objectives.

⁸ SIOs will range from High, in those portions of the Monument without access, to Very Low in those portions developed in connection with mineral activities. Site-specific SIOs will be identified in the specific Plan of Operations for mineral development.

⁹ See Young Growth, Renewable Energy, and Transportation Systems Corridors Plan Components in Chapter 5 (S-YG-SCENE-01, S-RE-SCENE-01 and S-TSC-SCENE-01).

D. Depending on the assigned SIO, specific time frames are allowed for meeting the SIO following project completion. Long-term projects (i.e., those with no specific completion date) should be initially designed to meet the assigned SIO as the project progresses.

II. Scenic Integrity Objectives: Specific Guidelines

A. SIO High. Design activities to not be visually evident to the casual observer. This objective should be accomplished within six months following project completion.

1. Facilities

- a) Keep vegetation clearing to a minimum and within proximity of the site.
- b) Select materials and colors that blend with those found in the natural surroundings.

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- c) Screening should be used from viewpoints and travel routes if feasible.
 - 2. Transportation
 - a) Rock Sources. When a forest development road is a VPR, locate rock sources off the road, when possible. Spur road access may be necessary to minimize the visual impact. Rock source development should not be apparent from the road, use area, or marine travel route to meet this scenic objective.
 - b) Corridor Treatment. Provide roadside cleanup of ground-disturbing activities. Depending on site conditions, cut stumps as low as possible and angled away from the viewer. Incorporate this treatment in the timber sale contract.
 - c) Log Transfer Facilities. LTFs are generally not appropriate in this SIO setting (with exceptions noted in the table above).
 - 3. Timber Harvest: VAC Setting, Typical Regeneration Method, and Unit Size
 - a) Low VAC: Single tree selection or group selection (group openings less than 2 acres)
 - b) Intermediate VAC: Single tree selection or clearcut (openings approximately 5 to 15 acres)
 - c) High VAC: Clearcut (openings approximately 15 to 30 acres)
- B. SIO Moderate. Design activities to be subordinate to the landscape character of the area. This SIO should be accomplished within one year of project completion.
 - 1. Facilities
 - a) Keep vegetation clearing to a minimum and within proximity of the site.
 - b) Emphasize enhancement of views from recreational facilities.
 - c) Select materials and colors that blend with those found in the natural surroundings.
 - 2. Transportation
 - a) Design rock sources to be minimally apparent as seen from VPRs. Rehabilitation is usually necessary following closure of rock source developments. It may be necessary to modify some ground-disturbing activities seen from the foreground of VPRs.
 - b) Corridor Treatment. Roadside cleanup of ground disturbance activities may be necessary.
 - c) LTFs (temporary or permanent). Perform a Scenic Integrity analysis during LTF planning and design. Consider low profile designs to minimize visibility from VPRs. For temporary LTFs, incorporate rehabilitation measures into the project analysis and contract package.
 - 3. Timber Harvest: VAC Setting, Typical Regeneration Method, and Unit Size
 - a) Low VAC: Group selection (group openings less than 2 acres) or clearcut (openings approximately 5 to 10 acres)
 - b) Intermediate VAC: Clearcut (openings approximately 15 to 40 acres)
 - c) High VAC: Clearcut (openings approximately 40 to 60 acres)
- C. SIO Low. Activities may visually dominate the characteristic landscape, but must have visual characteristics similar to those of natural occurrences within the surrounding area or character type. This SIO should be met within one year in the foreground distance zone and within 5 years in the middle and background distance zones following project completion.
 - 1. When planning activities, use naturally established form, line, color, and texture found in the landscape.
 - 2. Facilities. Siting and design should borrow from naturally occurring patterns in the landscape, and should not be visually dominant when viewed in the background distance zone.
 - 3. Transportation
 - a) Rock source operations and resulting landform modifications may be evident to the casual observer as seen from VPRs. However, the quarry location and design should mitigate, to the extent feasible, the apparent visual size and dominance of the activity (e.g., shaping of backwalls, roadside screening, and general orientation of the opening).
 - b) LTFs (temporary or permanent). Perform a Scenic Integrity analysis during LTF planning and design.

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4. Timber Harvest: VAC Setting, Typical Regeneration Method, and Unit Size
 - a) Low VAC: Clearcut (openings approximately 15 to 40 acres)
 - b) Intermediate VAC: Clearcut (openings approximately 40 to 60 acres)
 - c) High VAC: Clearcut (openings approximately 60 to 100 acres)
- D. SIO Very Low. Activities may dominate the characteristic landscape, yet when viewed as background, should appear to be a natural occurrence.
 1. Locate and design management activities to take advantage of existing (both natural and imposed) pattern and texture found in the landscape when viewed in the middleground from VPRs.
 2. Design activities to resemble natural occurrences as viewed in the background distance zone.
 3. Timber Harvest: VAC Setting, Typical Regeneration Method, and Unit Size
 - a) Low VAC: Clearcut (openings approximately 50 to 75 acres)
 - b) Intermediate VAC: Clearcut (openings approximately 80 to 100 acres)
 - c) High VAC: Clearcut (openings approximately 80 to 100 acres)
- E. Graphic illustrations of timber harvest activities designed to meet each SIO are located at the end of this section. The undeveloped landscape is provided for comparative purposes.

III. *Scenic Integrity Objectives - Silvicultural Prescriptions Other Than Clearcutting*

The timber harvest-related scenery management guidelines described previously are based on several analyses of harvested viewsheds throughout the Tongass that represented different VAC characteristics and different levels and scales of harvest. The following paragraphs provide some general guidelines concerning the use of silvicultural methods other than clearcutting.

- A. Two-aged Management. Based on a few observations of some recent treatments of this type, it would appear that if approximately 20 to 30 percent of the trees within a harvest unit are retained, the size of that harvest area might be increased and still meet the same SIO. It may also be possible to meet a higher SIO by leaving an appreciable percentage of reserve trees within an area. However, many factors such as natural vegetative patterns, steepness and obliqueness of slope, windfirmness, and viewing distance determine how to apply this silvicultural method in a specific landscape.
- B. Uneven-aged management - single-tree or group selection. Meeting a High or Moderate SIO in a low VAC setting requires a relatively small percentage of stems removed on a single-tree basis—anywhere from 5 to 20 percent. The exact amount depends on the slopes, viewing distances, and natural characteristics of the stand. To meet a Low SIO, a larger percentage could be removed. Exactly how much and what the limit would be is also based on the existing landscape characteristics. When using a group selection method, the appropriate size and distribution of the groups needs to be considered, as well as the natural landscape characteristics. The design of the groups should replicate natural openings and avoid the use of geometric shapes.

Scenery Administration: SCENE3

I. *Mitigation, Enhancement, and Monitoring*

- A. Minimize potential scenic impacts through scheduling or timing of management activities so that they are dispersed and not concentrated, subject to considerations given to other resources (e.g., wildlife).
- B. Rehabilitate, where feasible, existing projects and areas that do not meet the Adopted SIOs. Consider the following in setting priorities:
 1. Relative importance of the area (public sensitivity).
 2. Projected length of time to naturally attain the Adopted SIO in comparison to the use of rehabilitation techniques. Examples of rehabilitation include seeding road cuts and fills, recontouring temporary roads, removing roadside slash and debris, re-shaping harvest unit boundaries, cutting roadside stumps as low as possible, shaping or spreading excess overburden, etc.
 3. Benefits to other resources by accomplishing rehabilitation.

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- C. Use enhancement measures, where feasible, to create variety where little variety now exists through addition, subtraction, or alteration of vegetation, earth forms, water forms, etc. Examples include opening up vistas or screening out undesirable views and planting species to give unique form, color, or texture to an area.



High SIO

Standards and Guidelines 4



Undeveloped Landscape



Low SIO

4 Standards and Guidelines



Moderate SIO



Very Low SIO

SOIL and WATER

Forest-wide Standards and Guidelines

Soil Inventory: SW1

I. Inventory

- A. Maintain the Soil Resource Inventory (SRI) or National Hierarchical Framework of Ecological Units (TEUI). (Consult Forest Service Manual [FSM] 2550, Soil Management Handbook, Ecological Classification and Inventory Handbook [FSH 2090.11-91-1], National Soil Handbook-430-VI, Soil Survey Manual-430-V.)
 - 1. Determine and implement the level of SRI necessary to meet planning and implementation needs for proposed management projects.
- B. Use the TEUI to inventory and classify ecosystems.

Water Inventory: SW2

I. Inventory and Evaluation

- A. In conducting water investigations, consider and evaluate the following elements in Water Resource Inventories (WRIs):
 - 1. Climate
 - 2. Water quality
 - 3. Water quantity
 - 4. Channel types
 - 5. Water uses and developments
 - 6. Watershed condition
- B. Consult FSM 2530 and Aquatic Habitat Management Handbook FSH 2090.21.
 - 1. Determine the level of WRI to meet project planning and implementation needs.
 - 2. Use the TEUI (Aquatic ECOMAP) to inventory and classify watersheds, streams, lakes, and groundwater systems.
- C. Develop and maintain up-to-date inventories and case folders for all public water systems. (Consult FSM 2542.)
- D. Accomplish baseline inventory needs commensurate with other Forest inventory efforts.

Watershed Resources Planning: SW3

I. Land Use Activities

- A. Plan and conduct land use activities to avoid irreversible or serious and adverse effects on soil and water resources.
 - 1. Include soil and water resource data and interpretations in project analyses. (Consult FSM 2530 and 2550.)
 - 2. Maintain water quality and quantity to protect the state-designated beneficial uses. Consult the Alaska Nonpoint Source Pollution Control Strategy, the Soil and Water Conservation Handbook (Alaska Region Soil and Water Conservation Handbook FSH 2509.22, Chapter 10), the Soil Management Handbook (FSH 2509.18), and the Forest Service Alaska Regional Water Quality Management Plan addressed in the Memorandum of Agreement dated April 6, 1992 (as amended), with the Alaska Department of Environmental Conservation.
 - 3. Apply Best Management Practices (BMPs) to all land-disturbing activities as a process to protect the beneficial uses of water from nonpoint sources of pollution (National Core BMP Technical Guide FS-990a and FSH 2509.22). Also consult FSM 2530, Facilities, Transportation, and Fish Forest-wide Standards and Guidelines, U.S. Army Corps of Engineer Regulations (33 CFR 323.4), and the Clean Water Act.
 - 4. Apply soil conservation practices to meet regional Soil Quality Standards (SQS) on all land-disturbing activities as a process to prevent detrimental soil disturbance. Detrimental soil disturbance is defined as significant changes or impairment in soil properties that are expected to result in reduced short- or long-term productivity of the land. (Consult FSM 2520 and 2550, FSH 2509.18 and R10 Supplement to FSM 2554 #2500-92-1, effective

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- January 15, 1992 [as amended].) BMPs also include some soil conservation practices (National Core BMP Technical Guide FS-990a and FSH 2509.22, Chapter 10); develop other specific soil conservation practices during project planning, as needed.
5. Evaluate soil stability (BMP 13.5) potential soil mass wasting effects, and stability of Class IV channels and minor drainage ways (“nonstreams”). At the Forest Plan level, slope gradients of 72 percent or more are removed from the lands suitable for timber production due to high risk of soil mass movement and accelerated erosion of Class IV channel systems. At the project planning level, the Forest Supervisor or District Ranger may approve timber harvest on slopes of 72 percent or more on a case-by-case basis, based on the results of an on-site analysis of slope and Class IV channel stability and an assessment of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water, and other resources. It is anticipated that harvest of these areas will be a small percentage of the total harvest unit. To document the analysis for allowing harvest on steep slopes, the following checklist should be used:
 - a) Steepness
 - b) Channel dissection
 - c) Parent material
 - d) Soil drainage
 - e) Precipitation (rain-on-snow zone)
 - f) Potential impacts on downslope/downstream beneficial uses

If the stability analysis is undertaken prior to the signing of the decision document, the approval (if approved) should be documented in the decision document. If the slope stability information is not available prior to the signing of the NEPA decision document, it should be documented in the Change Analysis. (Also see Fish and Riparian Forest-wide Standards and Guidelines for definitions of Class IV streams and BMP 13.16 in the Soil and Water Conservation Handbook.)
 6. Avoid locating roads and landings on a slope greater than 67 percent, on an unstable slope, or in a slide-prone area, where feasible (BMP 14.7).
 7. Soil Map Units (SMUs) with McGilverly soil require harvest systems capable of at least partial suspension over the entire length of the yarding distance.
- B. Seek to avoid adverse impacts to soil and water resources (such as accelerated surface erosion or siltation of fish habitat) when conducting land use activities on wetlands, flood plains, and riparian areas. (Consult Executive Orders 11988, 11990, and 11514; FSM 2510 and 2520; U.S. Army Corps of Engineers regulations [33 CFR 323]; NFMA Planning Regulations [36 CFR 219.27]; BMPs [National Core BMP Technical Guide FS-990a and FSH 2509.22, Chapter 10] for wetlands, flood plains, and riparian areas; and Wetlands and Riparian Forest-wide Standards and Guidelines.)
 - C. Under applicable state and federal law, reserve both ground and surface water rights to manage National Forest System lands. (Consult FSM 2540.)
 1. Review projects and reserve water rights or notify the state of water uses for reservation management purposes, when it is determined such uses are necessary for carrying out the purposes of the project. Be sure review of uses and needs includes at least the following items:
 - a) In-stream flow needs
 - b) Adequate flow for fish passes and habitat
 - c) Forest Service administrative and domestic use
 - d) Developed special uses and recreation sites
 - D. Consult with state, federal, and local government agencies and Native American communities for the protection, mitigation, and/or improvement of the water and soil resources.
 - E. Participate actively in planning by other federal, state, and local agencies when these plans could affect the water resources on NFS lands.
 - F. Cooperate with state and federal agencies having overlapping resource management responsibilities, including the Alaska Department of Fish and Game, Alaska Department of Environmental Conservation, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service. Execute plans and decisions in consideration of the statutory responsibilities of these agencies.

Standards and Guidelines 4

II. *Watershed Analysis and Cumulative Watershed Effects*

- A. Watershed analysis (Appendix C) is required in the following circumstances:
 1. Before making site-specific adjustments to Forest-wide Riparian Standards and Guidelines (including timber salvage in riparian areas).
 2. Before authorizing management activities in public water system source watersheds. A watershed analysis must be documented as part of the NEPA decision in these circumstances.
 3. Watershed analysis (as described in Appendix C) is otherwise not required, but may be conducted at the discretion of the responsible official.
- B. Minimize cumulative watershed effects that could adversely affect soil and water resources and change stream channel equilibrium, such as 1) changes in sediment transport or stream flow leading to stream aggradation, degradation, and/or streambank erosion; 2) silting in of pools; and 3) reduction in aquatic habitat capability. Evaluate cumulative effects at the watershed scale during project planning and analysis; consider completing a watershed analysis. (Consult National Core BMP Technical Guide FS-990a and BMP 12.1 [FSH 2509.22] for cumulative watershed effects analysis guidance.)

III. *Public Water Systems/Domestic Source Waters*

- A. Secure "favorable conditions of water flows" (Organic Administration Act of 1897). Maintain water quality consistent with Alaska Water Quality Standards (18 AAC 70) and protect source watersheds consistent with the federal Safe Drinking Water Act and the Alaska Drinking Water Regulations (18 AAC 80). Do not authorize activities that create or maintain a condition that has a significant potential to cause or allow the pollution or contamination of a public water system. Conduct watershed analysis (see Appendix C) and consult with the Alaska Department of Environmental Conservation and the water system owner/operator before authorizing management activities in source watersheds for public water systems. Develop site-specific BMPs for all management activities that may affect public water supplies. Refer to FSM 2542 and 36 CFR 251.9 for guidance. Refer to 18 AAC 80.620(c)(3) for systems that seek to avoid filtration.
 1. In Municipal Watershed LUDs, refer to the Municipal Watershed LUD Management Prescriptions.
 2. For state classified public water systems (as defined by 18 AAC 80.1190), consult with ADEC and owners or operators of public water systems to meet watershed protection needs on a case-by-case basis.
 3. For other domestic source water systems, apply appropriate BMPs for all management activities that may affect the water supply.

Watershed Restoration: SW4

I. *Soil and Water Quality Protection and Restoration*

- A. Protect or restore water quality and sustain soil productivity.
 1. Conduct Watershed Condition Surveys and develop Watershed Restoration Plans to determine treatment priorities and needs. Consideration of treatment needs should include evaluating changed fish habitat and population levels, riparian vegetation community structure and function, and hydrology, as measured against natural conditions predicted by baseline objectives (see Fish Forest-wide Standards and Guidelines). Identify and prioritize needs in the NRIS Watershed Restoration Tracking database. Complete watershed restoration project plans and coordinate with fish habitat restoration projects. Include projects in Sale Area Improvement Plans and use K-V funds as appropriate. (Consult FSM 2510 and 2520.)
 2. Give priority to cost-effective watershed restoration projects with the most erodible conditions directly affecting the beneficial uses of water.
 3. For revegetation of disturbed sites, erosion control, fire rehabilitation, riparian restoration, forage enhancement, and other revegetation projects, consider natural revegetation as an alternative to seeding or planting. Encourage natural revegetation where seed source and soil conditions are favorable. Use native species of seeds and plant in revegetation

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projects where seeding or planting is appropriate. Native plant material sources include agency native seed programs and local seed collection.

4. Inspect all watershed restoration projects until the final evaluation indicates that maintenance is no longer needed.
5. Road decommissioning and storage projects to restore watershed conditions should pay special attention to fish passage, channel stability, and water quality issues. (Consult Transportation, TRAN 7 , National Core BMP Technical Guide FS-990a and FSH 2509.22.)

SUBSISTENCE

Forest-wide Standards and Guidelines

Subsistence: SUB

I. Subsistence

- A. In accordance with Title VIII of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), it is the policy of the Forest Service that:
 1. Consistent with the purposes for which National Forest System (NFS) lands in Alaska were established, sound management principles, and the conservation of healthy populations of fish and wildlife, the use of NFS lands in Alaska is to cause the least adverse impact possible on rural residents who depend upon subsistence.
 2. Provide for the continuation of the opportunity for subsistence uses by rural Alaskan residents, including both Natives and non-Natives.
 3. Non-wasteful subsistence uses of fish and wildlife shall be the priority consumptive uses of such resources on NFS lands in Alaska when it is necessary to restrict the taking of such resources.
 4. Cooperate with the State of Alaska, adjacent landowners, and land managers in managing subsistence activities and in maintaining the continued sustainability of all wild renewable resources on NFS lands.
- B. Consult the Southeast Alaska Federal Subsistence Regional Advisory Council for opinions and recommendations on current and proposed management actions, pursuant to ANILCA, Title VIII, Section 805.
- C. Locate and manage Forest management activities considering impacts upon rural residents who depend upon subsistence uses of the resources of NFS lands. (consult ANILCA, Title VIII, Sections 810 and 811, and the Region 10 Subsistence Management and Use Handbook FSH 2090.23), the Forest Service shall:
 1. In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of NFS lands, evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands, and other alternatives that would reduce or eliminate the use, occupancy, or disposition of NFS lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy, or disposition of such lands that may significantly restrict subsistence uses shall be effected until the following actions are accomplished:
 - a) Notice is given to the appropriate federal and state agencies, local committees, recognized tribal governments, and the Southeast Federal Subsistence Regional Advisory Council established pursuant to Section 805 of ANILCA;
 - b) Notice of a hearing is given and a hearing is held in the vicinity of the area involved;
 - c) A determination is made that: 1) such a significant possibility of a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands; 2) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and 3) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.
 2. The environmental analysis will include the notice, hearing, and findings required in 1 above.
 3. Regardless of whether or not an EIS is required, in all project scoping, include initial and ongoing contact with the appropriate federal and state agencies, local committees, recognized tribal governments, and the Southeast Alaska Federal Subsistence Regional Advisory Council.

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4. After compliance with the procedural requirements of Section 810 of ANILCA and other applicable law, the responsible Forest Service official may manage or dispose of public lands under their primary jurisdiction for any of those uses or purposes authorized by ANILCA or other laws. Management to accommodate identified subsistence uses could include:
 - a) Implementing planned project;
 - b) Canceling all or part of the planned project;
 - c) Substituting another site for the project and prepare another environmental analysis if the change is significant; and/or
 - d) Implementing appropriate mitigation measures.
- D. Evaluate changes in subsistence use patterns and activities in cooperation with appropriate state and federal agencies by conducting periodic surveys of fish and wildlife populations and subsistence harvest, and consulting with subsistent user groups.
- E. Make recommendations for subsistence regulations to the Southeast Alaska Federal Subsistence Regional Advisory Council and the Federal Subsistence Board, and provide technical support to these two bodies for analyzing the effects of proposed regulations on NFS lands.
- F. Provide for enforcement of subsistence use regulations promulgated by the Southeast Alaska Federal Subsistence Board.
- G. Provide public information concerning subsistence management on NFS lands.
- H. In cooperation with state and federal agencies, and recognized tribal governments, maintain a subsistence monitoring program and database.
- I. Maintain reasonable access to subsistence resources as required by ANILCA, Section 811. Address subsistence concerns when developing road management objectives (RMOs) for forest roads. (See Transportation Forest-wide Standards and Guidelines.)
- J. Seek to maintain abundance and distribution of subsistence resources necessary to meet subsistence user needs.
- K. Consider subsistence users' needs in the scheduling, locating, and designing of fish and wildlife habitat improvement projects.
- L. In the development of access and facilities, seek opportunities to provide for subsistence users (e.g., anchorages and shelters). Such access and facility opportunities should be identified and planned with local subsistence users.

TIMBER

Forest-wide Standards and Guidelines

Integrated Resource Inventory - Existing Vegetation: TIM1

I. Inventory

- A. Coordinate vegetative inventories with other data collection efforts to minimize duplication and to maximize the use of the resulting information. Emphasize multiple resource or integrated resource inventories.
- B. Reinventoried forest vegetation on a 10- to 15-year cycle.

Silvicultural Examination and Prescription: TIM2

I. Stage II Intensive Inventory

- A. Manage vegetation according to a silvicultural prescription certified by a Region 10 certified silviculturist; this applies to any vegetative manipulation activity.
- B. Conduct silvicultural examinations and develop silvicultural prescriptions for proposed resource management activities where vegetative manipulation of the Forest is involved. (Consult Region 10 Silvicultural Examination and Prescription Handbook - 2409.26d).
- C. Conduct silvicultural examinations as part of timber sale analysis. Silvicultural examination is the process of gathering vegetative data to provide a basis for silvicultural and other management decisions.
- D. Develop silvicultural prescriptions to be approved by a R10 certified silviculturist as part of project planning. Complete all prescriptions before project implementation where implementation is defined as either the Final Record of Decision, Environmental Assessment Decision Notice, or Decision Memo. Base silvicultural prescriptions on silvicultural examinations; include a written description of the current stand conditions, the anticipated future condition based on management activities, and a statement on land management and resource objectives. The prescription should also include silvicultural practices, cutting methods, or other management actions that will be applied sequentially to achieve the desired stand condition and structural attributes. A silvicultural analysis for project planning should address both stand and landscape conditions.
- E. Facilitate development of appropriate silvicultural system prescriptions by describing desired conditions in terms of structural attributes.
- F. Include an appropriate species mix for regeneration in the silvicultural prescription prepared during the environmental analysis. The "appropriate species" is based on the potential of the site as indicated by plant associations and adjacent stand conditions.
- G. Evaluate the natural reproduction potential and existing reproduction as part of the silvicultural analysis and prescription. Where possible, harvest prescriptions should consider leaving advance regeneration to meet reforestation needs and stand objectives.
- H. Consider regenerating and maintaining a mix of dominant overstory tree species, where appropriate, for the site, to provide for the diversity of future stands and to augment the future availability of forested habitats used by other species (wildlife and plants). Common, but less represented Forest-wide overstory species include yellow-cedar and western redcedar. Pacific yew, Pacific silver fir, and subalpine fir are considered rare tree species (see Plants Standards and Guidelines for rare plants).
- I. Select a silvicultural system that meets the resource and vegetation management objectives of the area, including objectives for biological diversity, long-term site productivity, scenic integrity, and forest health.
- J. Even-aged, two-aged, and uneven-aged systems shall be available for use.
- K. Select rotations that produce sawtimber products, unless otherwise provided for in the LUD.
- L. Even-aged timber stands shall not be scheduled for final harvest before stand growth has reached or surpassed 95 percent of the Culmination of Mean Annual Increment in cubic feet. Exceptions may be made where special resource considerations require earlier harvest. Exceptions also may be made where small inclusions of young stands in harvest units that otherwise meet this requirement will result in more logical management units allowing greater

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efficiency or less resource impacts. Additional exceptions are provided by Public Law 113-291 (See Chapter 5, S-YG-01).

- M. Even-aged stands may be regenerated without having reached Culmination of Mean Annual Increment where salvage is prescribed after windthrow, where stands are in imminent danger from insect or disease attack or cutting for experimental and research purposes.

Timber: TIM3

I. Information Gathering and Maintenance

- A. Provide timber resource information necessary to prepare timber harvest projects. This includes maintenance of inventories, analysis of data, and input for environmental analysis.
- B. Determine operability based on site-specific project conditions; classify the suitable lands according to the NIC definitions.
- C. Consider the management prescription of the LUDs within the project area in project design and environmental analysis for timber activities. Timber harvest unit cards will document resource concerns and protection measures. The unit cards, including a map with relevant resource features, will be provided electronically when Draft or Final NEPA documents and decisions are published. (Consult Tongass National Forest Supplement 1909.15-2015-1.)
- D. Develop the Sale Area Improvement Plan, including any projects that could be funded by Knutson-Vandenburg funds during the interdisciplinary NEPA process to identify resource improvement opportunities consistent with the Forest Service Renewable Resources Handbook. Schedule essential reforestation prioritized by mitigation or enhancement.

Timber Sale Preparation: TIM4

I. Regeneration Methods

- A. Regeneration methods refer to the manner in which a new stand is created. There are three categories of regeneration systems: even-aged, two-aged, and uneven-aged silvicultural systems. Even-aged systems include clearcutting, seed tree, and shelterwood. Two-aged systems include clearcutting with reserves, seed tree with reserves, and shelterwood with reserves. Uneven-aged systems include single-tree selection, group selection, and group selection with reserves.
 - 1. Consider silvicultural systems other than clearcutting to meet other resource objectives at the project level. As part of the project NEPA process, analyze current scientific information related to the applicability of alternative timber harvest methods.

II. Even-Aged Systems

- A. Apply even-aged silvicultural methods in such a way that isolated stands of timber will not be created. Avoid locating harvest units where future harvest activities will destroy regeneration under earlier regeneration harvest activities.
- B. Clearcutting is an even-aged regeneration method. There are a number of supportive reasons for the use of this method in Alaska's western hemlock-Sitka spruce forests. These include excellent regeneration of desired species, effective dwarf mistletoe control, viable harvest economics, and compatibility with the use of standard logging systems.
 - 1. Use clearcutting only where it is determined to be the best system to meet the objectives and requirements of LUDs.
 - 2. Apply clearcutting where trees are cut to achieve timber production objectives, where there is risk of dwarf-mistletoe infection and disease control is desired, or where there is a high risk of windthrow.
 - 3. Forest Service Manual (FSM) 2470 Supplement No.: R-10 2400-2005-1 clarifies limitations on "clearcutting." It is limited to areas where it is essential to meet Forest Plan objectives and may involve one or more of the following circumstances:
 - a) To establish, enhance, or maintain habitat for Endangered, Threatened and Sensitive species.
 - b) To enhance wildlife habitat or water yields, or to provide for recreation, scenic vistas, utility lines, road corridors, facility sites, reservoirs or similar development.
 - c) To rehabilitate lands adversely impacted by events, such as fires, windstorms, or insect or disease infestations.

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- d) To preclude or minimize the occurrence of potentially adverse impacts from insect or disease infestations, windthrow, logging damage, or other factors affecting forest health.
- e) To provide for the establishment and growth of desired trees or other vegetative species that are shade intolerant.
- f) To rehabilitate poorly stocked stands due to past management practices or natural events.
- g) To meet research needs.

III. *Size of Clearcuts/Even-Aged Openings*

- A. National Forest Management Act regulations provide that 100 acres is the maximum size of created openings allowed for the western hemlock-Sitka spruce forest type of coastal Alaska, unless standards for exceptions exist under specific conditions. Cedar and hardwoods are usually considered to be a component of the western hemlock-Sitka spruce ecotype in Southeast Alaska and, therefore, the 100-acre limit will also apply to these types of stands.
- B. Recognizing that harvest units must be designed to accomplish management goals, created openings may be increased in size where larger units will produce a more desirable contribution of benefits.
 - 1. Use the following factors when proposing units that would exceed 100 acres:
 - a) Natural and biological hazards to the survival of residual trees and surrounding stands
 - b) Topography
 - c) Relationship of units to other natural or artificial openings and the proximity of units
 - d) Coordination and consistency with adjacent LUDs
 - e) Effects on water quality and quantity
 - f) Visual Absorption Capability
 - g) Effect on wildlife and fish habitat, based on the best available science
 - h) Regeneration requirements for desirable tree species
 - i) Transportation and regeneration method requirements
 - j) Relative total costs of preparation, logging, and administration of harvest
- C. Where it is determined by an environmental analysis that exceptions to the size limit are warranted, the actual size of openings may be up to 200 acres, if required due to natural biological hazards to the survival of residual trees and surrounding stands, and up to 150 acres for the remaining factors, with the approval of the Forest Supervisor. (Consult R10 supplement FSM 2400-2002-1.)
- D. The established limits and exceptions do not apply to the size of areas harvested as a result of natural catastrophic conditions, such as insect and disease infestation or windthrow.
- E. Created openings will be adequately stocked with desirable tree species, which are approximately 5 feet in height, before the area will no longer be considered an opening for the purposes of determining limitations on the scheduling, locating, and calculating the size of additional created openings. Small inclusions within openings do not constitute division to the openings for purposes of reducing size.
- F. Leave strips between openings must be of sufficient size and composition to be managed as a separate stand (minimum stand mapping size is 10 acres).

IV. *Two-Aged System*

- A. Two-aged silvicultural systems are designed to maintain and regenerate a stand with two-age classes. The resulting stand may be two-aged or trend towards the uneven-aged condition as a consequence of both an extended period of regeneration establishment and the retention of reserve trees that may represent one or more age classes. The reserve trees provide structural diversity and a biological legacy. Two-aged management regimes can produce stands of greater structural diversity than even-aged management. This method may be used where windthrow or dwarf mistletoe are not major threats or can be tolerated.
 - 1. Emphasize green-tree and snag retention in landscape management. The actual number and attributes of the trees retained is dependent on Forest Plan and site-specific

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- silvicultural objectives. To the extent feasible, residual patches and single trees should include large, old trees and snags.
2. Retained patches or residual trees should not be scheduled for removal. The retained patches and residual trees will provide support for those organisms that require old forests.
 3. Address safety issues by using the guidelines in Reserve Tree Selection Guidelines, R10-MB-215, March 1993.
- V. *Uneven-Aged Systems*
- A. Uneven-aged silvicultural systems are methods of regenerating a forest stand, and maintaining an multi-aged/multi-layered structure, by removing some trees in all age groups and stratum either individually, in small groups, or in strips. Overstory density is regulated to avoid the suppression of understory trees and to maintain understory vigor.
 - B. All timber types on the Tongass National Forest may be harvested using uneven-aged silvicultural methods.
 1. Use uneven-aged management where the interdisciplinary process determines the system is appropriate to meet the goals, objectives, and requirements of the LUD, including the protection of excessively steep or unstable soils, scenery, wildlife and fish habitat, recreation, timber supply, economics, and to supply commercial and noncommercial wood products (fuelwood).
 2. Limit uneven-aged management systems to areas where yarding equipment suited to selective logging can be used.
- VI. *Intermediate Treatment Methods*
- A. These activities include those treatments that improve the composition, health, value, and growth of a timber stand.
 - B. Implement thinning treatments in young conifer stands to increase timber volume or value of remaining trees, improve wildlife habitat, improve scenic quality, and improve future growth. Promote and emphasize commercial treatments. Promote stewardship treatments as funding permits.
 - C. Assess areas that have received precommercial thinning, release and weeding, pruning, or commercial thinning treatments to ensure management objectives have been met. Certify that the treatment met the prescription objectives.
- VII. *Salvage Harvest*
- A. Salvage cutting is the removal of dead trees or trees being damaged or dying due to injurious agents other than competition. It is also used to recover value that would otherwise be lost.
 - B. Sale and utilization of dead, blown-down, and other deteriorating timber will receive high priority in LUDs where the harvest of timber is compatible with the LUD's management objectives. Salvage may include trees damaged by road construction or rock pit development.
 - C. For catastrophic events that occur on Forest lands within Non-development LUDs not withdrawn from harvest, consider an appropriate range of management alternatives to meet varying levels of resource protection and commodity outputs. These lands will not be substituted for lands suitable for timber production.
 1. LUD objectives need to be met before approving salvage harvest on these lands.
 - D. If beach log salvage involves both State and National Forest System lands, coordinate with the appropriate state agency.
 1. Beach log salvage of old-growth material does not count toward the annual PTSQ.
 - E. Where catastrophic events cause heavy tree losses on lands suitable for timber production, commercial timber harvest will be given high priority to maximize utilization.
 - F. Refer to the Riparian Forest-wide Standards and Guidelines for salvage in riparian areas.
- VIII. *Utilization Standards*
- A. Industrial wood products on the Tongass National Forest will be managed for quality sawtimber material and other merchantable wood products.

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1. Require utilization and optimum feasible use of wood material. Promote the use of wood for its highest value product commensurate with present and anticipated supply and demand.
2. Improvements in utilization will be made through sale preparation, appraisals, contract administration, and dissemination of research information.
3. Consult current regional direction for precise standards.

IX. *Competitive Bidding and Small Business*

- A. Private enterprise shall be encouraged to use National Forest timber resources.
 1. The Forest Service will plan sale offerings to encourage competitive bidding in a range of total sale volume and species that provides opportunities for purchasers.

X. *Windthrow*

- A. Special consideration will be required in the design of harvest units adjacent to LUDs or other areas that limit or prohibit timber harvest activities. Where the chance of windthrow in adjacent stands is increased by timber harvest, measures will be taken to contain the windthrow within the LUD where timber harvest is allowed. (Also see the Riparian Standards and Guidelines.)

Commercial Sale Administration: TIM5

I. *Contract Administration*

- A. Administer timber sale contract provisions, post-sale measurement, and financial oversight of all sales.
 1. Frequency of timber sale inspection will be determined by the complexity of the timber sale and operator performance, with the objective being to ensure full contract compliance.
 2. Sale administrators will work with the other specialist(s) to ensure that the project goals are obtained.
 3. Consult with the designated Forest Monitoring Coordinator to determine BMP measurement and reporting requirements.

Other Forest Products: TIM6

I. *Personal Use Program*

- A. Make fuelwood available in areas accessible to the public, consistent with NEPA requirements and LUD management objectives.
- B. Address requests for green personal use wood as soon as feasible.
- C. Designate green personal use timber planned for harvest.
- D. Any area that is off-limits for personal use timber harvest within Development LUDs should be identified by the District Ranger.
- E. Areas within Non-development LUDs can be considered for personal use if compatible with the LUD objectives (see Chapter 3) and other resource standards and guidelines, and should consider accessibility and other needs of the permittee. The District Ranger will determine if LUD objectives will be met before approving personal use on these lands.

II. *Commercial Non-Timber Forest Products*

- A. Allow harvest of non-timber forest products in ways that ensure the continued integrity of the forest stand and ecological values.

III. *Administrative Use of Timber*

- A. Administrative use on the Tongass National Forest consists mainly of trees used for improvements of value to the National Forest or other federal land. (Consult FSM 2463.)
- B. Administrative use includes, but is not limited to, those trees used in construction activities for roads, trails, and facilities, as well as wood used in restoration and enhancement projects.
- C. Administrative use of timber is allowed on lands suitable for timber production, but does not count towards the Projected Timber Sale Quantity (PTSQ).

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- D. Administrative use is also allowed on areas within Non-development LUDs if compatible with the LUD objectives (see Chapter 3) and other resource standards and guidelines. The District Ranger will determine if LUD objectives will be met before approving administrative use on these lands.

See the Plant section (Non-Timber Forest Products PLA4) for other products.

Pesticide Use and Vegetation Management: TIM7

I. Pesticide Use

- A. Pesticide use is not prescribed in the Forest Plan, but may be considered on a case-by-case basis. Biological, environmental, and economic costs and benefits of pesticide use are to be identified and weighed prior to Forest Service use of pesticides on the Forest.
- B. Pesticides will be employed only after such use has been evaluated in an environmental analysis and approved by the Forest Service officer with delegated authority.
- C. When pesticide use is judged necessary, selection and application will be based on the following guidelines:
 1. Those application methods and formulations will be used that are most effective in suppressing the pest, most specific to the target organisms, and least harmful to non-target components of the environment.
 2. In operational pest management programs, only those pesticides that are registered in accordance with the federal Insecticide, Fungicide and Rodenticide Act, as amended, will be used, except as otherwise provided in regulations issued by the Environmental Protection Agency or the Department of Agriculture.
 3. Application will be restricted to the minimal effective dosage that, when precisely applied to the target area at optimum times, will accomplish the resource management objectives.

Reforestation: TIM8

I. Site Preparation, Planting, Stocking

- A. This activity comprises all treatments and activities aiding the re-establishment of desirable tree cover following timber harvest.
 1. Examine all Forest lands treated.
 - a) No first-year surveys are required if the silvicultural prescription anticipates natural regeneration.
 - b) Examine artificial seeding or planting treatments 1 and 3 years after treatment.
 - c) Stands will be certified as stocked, if the third-year survey indicates that the area meets stocking standards. Permanent openings are allowed, and do not need certification, where created for wildlife habitat improvement, vistas, recreation uses, and similar practices.
 - d) Prescribe artificial regeneration if the third-year survey indicates that natural regeneration is highly unlikely.
 - e) Schedule another survey no later than five growing seasons after harvest if the third-year survey indicates the area is very likely to be stocked, but more time is required to make this determination.
 - f) Certify that every unit that receives a final harvest meets or surpasses the stocking guidelines and certification standards (consult Silvicultural Practices Handbook - FSH 2409.17) within the 5-year regeneration period established by law. A unit may be certified as adequately stocked at any time during this 5-year period. (Also see the Forest Plan Monitoring Program.)
 - g) Certify that a planted or seeded area has attained a stocking level above a defined minimum in terms of number and distribution of acceptable species, whether planted, seeded, or natural.

TRAILS

Forest-wide Standards and Guidelines

Trail Activities: TRAI1

I. Opportunities

- A. Provide for a diversity of outdoor recreation trail and waterway opportunities that are appropriate for the Land Use Designation (LUD). Include such activities as hiking, mountaineering, spelunking, cross-country skiing, snowmobiling, off-highway vehicle (OHV) use, motorized trail bike riding, mountain bike riding, motorboating, canoeing, and kayaking.
- B. Emphasize opportunities in all Recreation Opportunity Spectrum (ROS) classes, as applicable, for activities that are in harmony with the natural environment and consistent with the recreation role of the National Forest System lands in a given area. Wilderness and Wilderness Monument LUDs should accommodate trail features in the Primitive ROS class unless the design accommodates a mitigation of impacts to other resources such as soils, water quality, fisheries, etc.
- C. Locate and operate trails to make the best use of available recreation opportunities. Establish trail management objectives (TMOs) and associated management actions by examination of the interaction of all resource activities, opportunities inherently present, and the objectives of the LUD.
- D. Coordinate trail planning, location, design, and operation with the recreation management goals and objectives of other national, state, local agencies, and private operations. Make an effort to provide loop trail opportunities through the integration of systems regardless of jurisdiction. Design trails to be consistent with the ROS class approved by the deciding officer for the TMOs. A signed TMO is required to approve any additions or deletions to the Forest trails inventory managed for public use.
- E. Provide access to high quality recreation places with trail systems that will enhance the total experience of the user.
- F. Emphasize trail systems that offer the following opportunities as may be appropriate and feasible in a given area:
 1. Connected, multi-day trip opportunities for both land trails and water trails.
 2. Trails linked with existing (or emerging) road systems.
 3. Alpine trail systems with quick access from saltwater anchorages, cabins, local communities, and resorts.
 4. OHV trail systems using connections with existing road systems to form loop trips and access to recreation attractions.
 5. Loop trail systems in connection with recreation cabins.
 6. Access from local communities to snowline where snow trails are feasible.
 7. Heli-hiking trails within a reasonable distance (based on cost) from local communities and service centers.
 8. Trail use for health benefit opportunities to members of local communities.

Trail Administration: TRAI2

I. Inventory, Construction, and Maintenance

- A. Maintain an inventory of existing National Forest System trails that will assist in determining the desirability of retaining trails in their current locations, their contribution in meeting overall recreation objectives, their affordability, and actions needed to bring the system up to desired standards and to maintain those standards. (Consult FSH 2309.18 and Alaska Region Trail Construction and Maintenance Guide.)
- B. Construct, reconstruct, and maintain trails and waterway facilities as part of the Forest transportation system.
 1. Prioritize and schedule trail construction and maintenance to meet public needs as follows:
 - a) Existing trails that are causing resource damage or to protect investments.
 - b) Existing trails and waterways serving local community needs and tourist centers.

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- c) Existing trails and waterways providing access to recreation cabins.
 - d) Existing trails and waterways in Wildernesses.
 - e) New trails and waterways that will serve local communities, tourist centers, and resorts.
 - f) New trails in Wilderness that will disperse use and are needed to help protect Wilderness resources from degradation.
2. Provide trailheads in locations to allow access to the greatest number and types of trails practicable within an area. Consider use for both snow and snow-free trail access (during different seasons) from the same trailhead when practicable. Match the capacity of the trailhead with the desired capacity of the area being served.
 3. Construct and maintain trails to the standard appropriate for the type and amount of use desired in a given area. If the trail is to be used by multiple types of users, design and construct it to adequately and safely accommodate the most demanding or impacting type of use. (Consult FSH 2309.18.)
 4. Design and construct bridges to support the maximum expected snow and ice load, construction or maintenance equipment, and anticipated user equipment. Bridges must be appropriate for the prescribed ROS class and meet the adopted Scenic Integrity Objective for the area.
 5. Plan and provide trails for a variety of accessibility challenge levels, appropriate to the ROS setting.
 6. Use volunteer, human resource, and cooperative programs and partners to augment trail construction and maintenance budgets, as well as provide land use education opportunities for the public. Integrate these resources into the total trail management system. Encourage local organizations to "adopt a trail" to provide needed maintenance on a continuing basis. Crews must be under the supervision of a qualified trail supervisor. Help develop qualified supervisors in volunteer organizations and other cooperative programs. (Consult Alaska Region Trail Construction and Maintenance Guide.)
- C. Trails and associated waterways within LUDs and recreation places often become the principal tools for achieving management objectives. Construct and maintain trails and related facilities so that they contribute to desired conditions and appear to be an appropriate part of the Forest setting and not an intrusion upon it. (Consult FSH 2309.18.) Use Best Management Practices to reduce the effects of trail activities on the beneficial uses of water (Consult National Core BMP Technical Guide FS-990a, and FSH 2509.22).
1. Develop and incorporate in project plans an erosion control and stabilization plan for stabilizing all human-caused soil disturbances. Develop and incorporate into project an erosion control and stabilization plan for stabilizing all human-caused soil disturbances. Use approved seed mixtures for revegetation of disturbed sites.
 2. Locate trail crossings at right angles to streams and at suitable bridge locations. Design and maintain trail treads to protect riparian values and minimize soil erosion.
 3. Locate stream crossings only in stable reaches. Design crossings of V-notched drainages to prevent debris jamming. Drainage structure gradients should follow natural gradient for non-fish streams, where needed, to prevent downstream erosion. Require brow logs for dirt and rock-surfaced log stringer bridges and turnpike sections to contain materials and prevent entry of sediment into the stream. For further location and design guidance, consult the Trails Handbook and Drainage Structures Handbook.
 4. Allow construction of trails parallel to and crossing fish streams only where objectives for the management of fish habitat can be met. Where trails are located near fish streams, minimize the introduction of sediment during clearing, construction, and operation activities. Sidecasting and waste materials must not encroach upon the stream course, and as much undisturbed groundcover as practicable shall be left between the trail and the stream. Complete endhaul of waste material will be required where trails are located near fish streams when there is the probability of downhill movement of the material into the stream. Fill will be allowed in fish streams only when considered through the interdisciplinary team process to be the best alternative.

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5. Meet fish passage direction at all locations where trails cross fish streams. Refer to Fish Forest-wide Standards and Guidelines. Contracts will specify permissible uses of motorized equipment and the timing of trail construction activities based on agreement with the Alaska Department of Fish and Game and as determined by environmental analysis and line officer approval.

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TRANSPORTATION

Forest-wide Standards and Guidelines

Transportation System Inventory: TRAN1

I. Inventory Updating and Maintenance

- A. Maintain an inventory of all Forest transportation facilities, including National Forest System roads, bridges, and major culverts (including those which require fish passage); log transfer facilities (LTFs), and airfields. (Consult Forest Service Manual [FSM] 7710.)
 1. Use the Infrastructure (INFRA) system, or subsequently developed and approved system, as the data management system for the Forest road, bridge, and major culvert inventory.
 2. Update changes on transportation maps annually. Map all roads, as an historical record, regardless of administrative classification.

Road and Bridge Administration: TRAN2

I. Road Management

- A. Manage the National Forest System roads and bridges based on road management objectives using the criteria listed below:
 1. Keep the designated National Forest System roads open to public motorized use unless:
 - a) Use conflicts with Land Use Designation (LUD) objectives, such as the need to protect fish or wildlife habitat, or to retain a non-motorized recreation experience.
 - b) Financing is not available to maintain the road or manage the associated use of adjacent lands.
 - c) Use causes unacceptable damage to roadway or adjacent soil and water resources.
 - d) Use results in unsafe conditions.
 - e) There is little or no public need.
 2. Manage road use by seasonal closure if any of the following conditions are anticipated:
 - a) Seasonal conflicts with LUD objectives, such as the need to provide security for wildlife during critical times of the year.
 - b) Traffic hazards or unacceptable damage to roadway or adjacent soil and water resources due to weather or seasonal conditions.
 3. Restrict public use by temporary closure if:
 - a) Concurrent use between commercial and other traffic is unsafe.
 - b) The potential for damage to equipment from vandalism is high.
 4. Allow administrative use of closed or restricted roads where exempted by 36 CFR 261.13 and deemed appropriate by the Forest Service officer with delegated authority.
- B. Consider the opportunities to manage road use cooperatively with applicable state, tribal, and other federal agencies to meet resource management objectives.
- C. Consider future needs for transportation using the travel analysis process (Forest Service Handbook [FSH] 7709.55).
- D. Avoid the introduction or spread of invasive species during road construction, reconstruction, and maintenance. (Refer to FSM 2900, for specific guidance.)

II. Permitting

- A. Authorize, by issuing a road use permit, commercial use of the National Forest road system not otherwise authorized by a Forest Service contract, or special use authorization, operating plan, or other similar agreement. Include investment sharing and maintenance requirements and rules of use as terms of the road use permit. (Consult FSM 7730 R-10 supplement).
- B. Obtain needed permits for the construction of bridges across navigable waters, and for log transfer facilities.

III. Cost Share Management

- A. Administer cost-shared roads in accordance with the terms of the agreement between the Forest Service and the cooperators.

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1. Collect data about traffic volume and types of users on the National Forest road system, as needed, to determine investment sharing and commensurate maintenance responsibilities.

Transportation Improvement Planning: TRAN3

I. Planning

- A. Plan transportation facilities that will efficiently integrate and achieve Forest Plan direction, including consideration of landscape-scale ecological objectives. Take advantage of resource opportunities recognized during project scoping, such as providing access to a recreation attractor or mineral deposit.
- B. Direct the orderly development and management of the transportation system, and ensure the documentation of decisions affecting the system.
- C. Coordinate transportation corridor development with the applicable Canadian, federal, state, and local government agencies and private landowners. Consider opportunities to enhance the overall transportation system by locating roads coincident with the existing and proposed transportation systems corridors. Make no road connections between communities or emerging communities without the participation and collaboration of state and local governments, communities, and affected individuals.
- D. During project planning, identify resource concerns and site-specific mitigation measures. Clearly document these mitigation measures to facilitate project implementation and monitoring.

II. Access and Travel Management Planning and Road Management Objectives

- A. Undertake access and travel management planning based on Forest Plan goals, objectives, and desired conditions. As part of the planning process, update road management objectives for all National Forest System roads. Road management objectives include access objectives, design criteria, environmental and resource considerations, operation and maintenance criteria, and other road attributes.

Road and Bridge Preconstruction: TRAN4

I. Road Standards

- A. Perform route or site selection, location, geotechnical investigations, survey, and design to a technical level sufficient to meet the intended use and commensurate with both ecological objectives and the investment to be incurred. Ensure consistency with Forest-wide Standards and Guidelines and Best Management Practices. (Consult National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook FSH 2509.22.)
 1. Consider each of the following factors when determining standards for the intended uses:
 - a) Cost of transportation (including operation and maintenance),
 - b) Safety,
 - c) Intended purpose and ecological objectives, and
 - d) Impacts on land and resources on both local and landscape points of view.
- B. Construct roads in the most cost-effective manner consistent with LUDs and intended purposes. Use joint financing with other state and federal agencies to construct roads to a higher standard, when determined appropriate to meet road management objectives.
- C. Evaluate each proposed road construction or reconstruction project to determine the least cost road (considering cost of construction, maintenance, and hauling) that meets the intended purpose. Compare the road construction standard required for the immediate harvest and removal of timber with that needed to meet long-term road management objectives. When a higher standard facility is required to meet multiple-use objectives or for future management, include supplemental funding (Forest Service funds) to construct the higher standard. The purchaser of National Forest timber shall not bear that part of the cost necessary to meet the higher standard. (Consult FSM 2430.)
- D. Cooperate with the Alaska Department of Transportation and Public Facilities and the Federal Highway Administration in the administration of the Federal Highway Programs. Provide nominations of routes to be upgraded and encourage their transfer to state jurisdiction, in order to provide safe facilities and adequate maintenance between communities linked by the Forest Transportation System. (Consult FSM 7700.)

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- E. Build and manage roads primarily to meet public needs. Include considerations for a full range of access forms such as cars, trucks, bicycles, off-highway vehicles (OHVs), and foot travel. Where roads will provide potential access to private or State of Alaska lands, recognition of the route as a potential state route should influence location and alignment standards to avoid future duplication of construction. Such consideration must not, however, be considered justification for a higher cost road than is necessary for Forest Service resource management.
- F. Consider conservation of petroleum energy supplies in the location, design, and operation of the transportation system.

II. Location and Design

- A. Locate and design National Forest System roads in a manner that will use both local and landscape scale ecological objectives, as well as Best Management Practices. Seek to minimize effects on wildlife and fish habitat, riparian habitat, and wetlands. (Consult the Forest Service Road Preconstruction and Drainage Structures Handbooks, FSH 7709 section 56.44, and the Alaska Region Soil and Water Conservation Handbook, FSH 2509.22).
 - 1. Incorporate erosion control and stabilization measures in project plans for stabilizing all human-caused soil disturbances. Ensure Best Management Practices can be implemented in construction, operation, and maintenance of the road.
 - 2. Avoid construction on highly unstable uplifted marine sediment as identified in the Soil Resource Inventory (SRI), or use geotechnical engineering designs to maintain stability. Obtain line officer approval after on-site consideration and stability analysis.
 - 3. Roading on slopes in excess of the soil's internal angle of friction, as identified in SRIs, requires geotechnical investigation and appropriate designs. Obtain line officer approval after site-specific investigation has been conducted to determine degree of risk and the potential effects from mass wasting. Conduct stability analysis to determine the most effective and lowest cost method of reducing the risk of roadway failure. Consider constructing full bench roads and end-hauling excess excavation. End-hauled excess excavation shall be deposited at appropriate locations that prevent the excess material from entering streams. Stabilize and revegetate end-hauled materials in accordance with prescribed erosion control measures specified in the project plan.
 - 4. Locate stream crossings in stable reaches, unless mitigation measures are taken. Design crossings of V-notched drainages to prevent debris jamming. Design and install culverts to prevent downstream erosion. When embankment material is used for surfacing native log bridges, install side logs, wood chinking, and a geotextile fabric blanket prior to embankment placement to contain surfacing materials and prevent entry of sediment into the stream.
 - 5. Avoid locations of roads near fish-bearing streams. Seek locations that avoid fish streams, crossing streams when other locations are not feasible and fish habitat can be protected. Where roads are located near fish streams, avoid the introduction of sediment during clearing, construction, and operation activities. Excess excavation material must not encroach upon the stream course. Leave as much undisturbed ground cover between the road and the stream as feasible. Require complete endhaul of excess excavation where there is the probability of downhill movement of that material into the stream. Place fill into fish streams only when it is considered by the environmental analysis process to be the best alternative, and following consultation with the Alaska Department of Fish and Game (ADF&G).
 - 6. Meet fish passage direction at locations where roads cross fish streams. (Consult Forest-wide Standards and Guidelines for Fish Habitat Planning, FISH2.) Specify permissible uses of heavy machinery and the timing of road construction activities in contracts based on consultation with ADF&G and as determined by interdisciplinary analysis and on approval by the appropriate line officer.
 - 7. In areas where erosion due to heavy rains on disturbed soil is a resource protection concern, provide special project specifications that prescribe the maximum distance beyond the end of embankment placement that pioneering operations (preliminary clearing of the road right-of-way) may occur.

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8. Slope drainage ditches along the roadbed to the nearest relief culvert. Discharge from road ditches should be cross drained to filter on natural forest floor, rather than flowing directly into streams.
 9. Design bridge abutments to minimize disturbances to streambanks.
 10. Promptly rehabilitate temporary roads in accordance with erosion control and stabilization measures prescribed in the project plan. Establish vegetation on roadbeds of temporary roads within 10 years following termination of use. Design roads to conform to the Memorandum of Understanding with the U.S. Fish and Wildlife Service on eagles, or obtain variances.
 11. Avoid ditching across wetlands if surface water control is not required for safety or protection of the running surface.
- B. Design and construct roads to conform to the Adopted Scenic Integrity Objectives.
1. For guidance, consult National Forest Landscape Management Handbook, Volume 2, Chapter 4: Roads.
 2. Consider the following practices during road design on, or seen from, Visual Priority Travel Routes and Use Areas (see Appendix F):
 - a) Vegetating slopes seen from the road,
 - b) Providing "planting pockets" or terraces on slopes, where needed,
 - c) Minimizing landform modifications through road location and design, and
 - d) Considering vegetative treatment of clearing edges such as feathering or free-flowing, undulating edge to break up the straight line.
- C. Plan, design, and construct roads to minimize conflicts or mitigate conflicts with existing facilities such as trails, pipelines, utilities, and cabins.
- III. *Wetlands, Flood Plains, Estuaries, and Tidal Meadows*
- A. Locate and design National Forest System roads to minimize impact to soils, water, and associated resources in accordance with BMPs. Avoid development activities, to the extent feasible, in areas of important wetland value identified during project interdisciplinary team analysis.
1. Do not construct roads across alluvial flood plains, mass wastage areas, or braided stream bottom lands unless an interdisciplinary team investigation indicates that individual site-specific mitigation can be applied to provide protection for the soils, water, and associated resources.
 2. For roads or other facilities approved for location near estuaries, fills and excess excavation materials must not encroach upon such areas unless approved by the appropriate decision maker following interdisciplinary analysis.
 3. Use the following criteria for siting water-dependent transportation facilities, other than log transfer facilities (LTFs), such as docks, landings, floats, and boat ramps:
 - a) Locate far enough from known anadromous fish streams to avoid significant interference (generally a minimum of 300 feet away);
 - b) Locate far enough from tideflats or subtidal beds of aquatic vegetation to avoid significant impairment (generally a minimum of 300 feet away);
 - c) Restrict the filling of intertidal and subtidal areas to those sites having the least value as habitat for marine organisms and vegetation, unless interdisciplinary team and interagency (U.S. Fish and Wildlife Service [USFWS], National Marine Fisheries Service [NMFS], and ADF&G) joint analysis determines that for other resource reasons it is desirable to fill the more productive site;
 - d) Avoid areas with established uses, such as areas used for commercial and sport fishing, hunting, and anchorages for commercial and recreational vessels, unless interdisciplinary review determines that location of sites may be accomplished in a manner that is compatible with such uses; and
 - e) Ensure that all needed permits, leases, and accesses are acquired. Work cooperatively with other agencies such as NMFS, USFWS, U.S. Army Corps of Engineers, ADF&G, Alaska Department of Environmental Conservation, and ADNR on these efforts.

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IV. Quarry and Borrow Sites

- A. Locate and design quarry (shot rock pit) and borrow (gravel pit) sites, and time their use to minimize the impacts upon other resource values, existing facilities, and to meet LUD objectives. During the design phase, consider the potential for use of the pit to improve fish habitat and dispersed recreation opportunities.
 1. Plan rock quarries and borrow pits through the interdisciplinary team process. On potentially landslide-prone areas, blasting will be avoided during or within 72 hours following a 2-year, 24-hour storm (total amount of expected rainfall from a storm event that would statistically occur once every two years, or until determined that the soil groundwater level does not constitute a high-risk situation. Where other sources are available, do not locate borrow pits on landslide-prone areas. Where no other feasible alternative exists, strip quarries of their overburden and haul excavated material to a stable location. Stabilization of the overburden material will conform to the erosion control and stabilization measures developed during the planning of the quarry or borrow pit.
 2. Design quarry and borrow pits to minimize the possibility of sediment being carried into watercourses by run off. Whenever locations near streamcourses or other water bodies are considered, erosion control measures must provide for drainage to run off through a filter strip, buffer, or sediment basin prior to entering a water body, unless the quarry or borrow pit is to be used for fish habitat management.
 3. Limit blasting that adversely affects fish spawning beds to times when eggs and alevins are not vulnerable. Safe times and distances will be determined on a site-by-site basis after consultation with agencies such as ADF&G, NMFS, and USFWS.
 4. Do not allow the use of intertidal gravel as a source of borrow.
 5. Drain borrow pits and quarries no longer needed, unless developed for fish or waterfowl habitat, and revegetate mineral soil.
 6. Consider screening borrow pits, quarries, and access roads along priority travel routes (refer to Appendix F).

V. Log Transfer Facilities Siting, Construction, Operation, and Monitoring

- A. Site new LTFs in locations that will best avoid or minimize potential impacts on water quality, aquatic habitat, and other resources. During site analysis, cooperate with state and federal agencies to assemble required data and evaluate alternatives.
- B. When considering alternative siting, construction, and operation of LTFs, use both regulatory guidelines established by the Clean Water Act (40 CFR Part 230), and the Alaska Timber Task Force Log Transfer Facility Guidelines (See Appendix G). All LTFs are evaluated by regulatory agencies using these two sets of guidelines (items 1 and 2 below).
 1. The Log Transfer Facility Siting, Construction, Operation and Monitoring/Reporting Guidelines (1985), developed by the Alaska Timber Task Force (ATTF) Log Transfer Facility Guidelines Technical Subcommittee, are used by the regulatory agencies in evaluating applications for meeting requirements of the Clean Water Act. These guidelines are to be used when evaluating proposals for log transfer and associated facilities. The introduction to the guidelines say "the objective is to consider all the guidelines and develop the "best mix" which allows the activities to proceed while meeting all applicable statutory and regulatory requirements." The ATTF Guidelines may be found in Appendix G of this document.
 2. Alternatives for siting, construction, and operation must also be evaluated using the 40 CFR part 230 - section 404(b)(1) process of the Clean Water Act, as amended, and the requirements of 40 CFR 230.12(a)(3) to determine one of the following:
 - a) There is a feasible alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences;
 - b) The proposed discharge will result in significant degradation of the aquatic ecosystem;
 - c) The proposed discharge does not include all appropriate and feasible measures to minimize potential harm to the aquatic ecosystem;

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- d) There does not exist sufficient information to make a reasoned judgment as to whether the proposed discharge will comply with these guidelines; or
 - e) The "proposed discharge" refers to the discharge of logs, bark, any other dredged or fill material, and storm water into the aquatic systems.
- C. Use the additional following guidelines, consistent with 40 CFR part 230 - section 404(b)(1) process of the Clean Water Act, as amended, and the Log Transfer Facility Siting, Construction, Operation and Monitoring/Reporting Guidelines (1985) as described in Part A above, when evaluating alternatives for log transfer. The guidelines described in Part A take precedence over these guidelines.
1. Minimize the number of LTFs and storage areas by selecting locations that will accommodate future logging without requiring additional transfer or storage sites.
 2. Give preference to locating LTFs along straits or channels when feasible. When located in bays, large bays are preferred to small bays, and deep bays are preferred to shallow bays. Sites near the mouths of bays are preferred to sites near the heads of bays. Give preference to sites where marine vegetation is sparse or absent over sites with vegetation.
 3. Avoid, where practicable, siting log transfer, rafting, and storage facilities in areas with established commercial, subsistence, and sport fishing activity, high levels of recreation use, areas of high scenic quality, or documented concentrations of species commonly pursued by commercial, subsistence, and sport fishers.
 4. When an existing LTF in a less than optimal location is considered for reconstruction, perform environmental analysis to determine whether adverse impacts of relocating the facility exceed those resulting from continued use at the existing site.
 5. Site locations that have foundation materials, determined by appropriate subsurface investigation that can economically and effectively support the structure through the duration of its design life.
 6. Consider the visual impact of a proposed structure in the selection of alternative designs. In areas of high visual sensitivity, emphasize designs that would be less likely to dominate the landscape (such as a low-angled slide rather than a bulkhead design).

Road and Bridge Construction/Reconstruction: TRAN5

I. Construction

- A. Construct National Forest System roads and bridges that provide the stability and durability appropriate for their intended use as documented in the road management objectives.

II. Reconstruction

- A. Reconstruct roads and bridges in accordance with the following limitations:
 1. Correction of unsafe conditions that cannot be corrected by traffic restriction
 2. Repair of situations where use will cause environmental impacts inconsistent with Forest Plan direction
 3. Upgrading of a facility that was not originally constructed to accommodate current or anticipated use
 4. Repair of surfacing, bridges, and LTFs, where analysis clearly shows an economic advantage to protect the investment
 5. Removal of vegetation, repair of surfacing, repair or replacement of culverts and bridges where necessary to bring roads up to timber haul standards.
- B. Reconstruct roads and bridges using Best Management Practices (BMPs). Consult ADF&G on reconstruction activities affecting fish-bearing streams.

Road Maintenance: TRAN6

I. Maintenance Levels, Conditions, and Inspections

- A. Operate and maintain National Forest System roads in a manner which meets the road management objectives. Use road closures, maintenance, reconditioning, and other measures to keep road surface and road site erosion at low or near background levels. Maintain roads to meet BMPs regardless of the methods used to obtain the maintenance work. Manage roads to provide cost-effective support to LUD objectives and safe travel to users of the system, while

4 Standards and Guidelines

protecting the environment, adjacent resources, and the public investment. (Consult FSH 7709.59.)

1. Consider protection needs of adjacent resources when planning and conducting road maintenance activities. Where consistent with road management objectives, consider incorporating design features that will protect water quality by minimizing long-term maintenance needs (e.g., driveable dips adjacent to culverts, oversized culverts, outcropping roads).
 - a) Maintain road running surfaces and bridge decks to minimize the amount of road surface sediment entering adjacent streams and lakes.
 - b) Maintain ditches and culverts to keep water effectively flowing, and minimize sediment entering streamcourses.
 - c) Provide for the disposal of materials collected during road maintenance (soil, rock, and debris) in a manner that minimizes sediment entering streams and lakes and meets LUD objectives (particularly those regarding Scenic Integrity).
 - d) During snow plowing operations, do not use bodies of fresh water as disposal sites for snow (and accompanying road surface sediments).
2. Perform Condition Surveys in accordance with INFRA guidelines. The intensity of survey will be commensurate with the risks and potential effects of structure failure. Itemize deficiencies needing correction and present recommendations for corrective action.
3. Inspect bridges at frequency and standards specified in FSM 7730.
4. Implement requirements of the Forest Service Highway Safety Program (consult FSM 7730), which include recording the location of all known accidents and identifying locations, design, and operating features that are potential high hazards. Prioritize hazards for correction based on traffic volume, traffic mix, and degree of hazard. Program the elimination of identified hazards on a systematic basis, and as funding permits.
5. Use of traffic control devices will be in accordance with the guidelines contained in the Manual on Uniform Traffic Control Devices (U.S. Department of Transportation, Federal Highway Administration, Publication Number FHWA - SA-89-006; HTO-21/2-89 (15M)P.)
6. Place roads identified through environmental analysis as needed on an intermittent basis into storage (Maintenance Level I) to be in a self-maintaining status (Maintenance Level I), as funding permits. (Consult the National Core BMP Technical Guide FS-990a.)

Road Decommissioning: TRAN7

I. Planning

- A. Decommission roads identified through environmental analysis in a condition that maintains stream connectivity and minimize impacts to the watershed.
- B. Use an interdisciplinary process to develop project objectives.

II. Design

- A. Use an interdisciplinary process to identify standards and/or typicals to be used for units of work and problem locations along the road. (Consult National Core BMP Technical Guide FS-990a, and FSH 2509.22 [BMPs 14.9, 14.12, 14.14, 14.24].)
 1. Consider headcut potential on removed culverts in live streams and ditches, especially in AF, MM, FP, PA channels (see Appendix D) and in channels and ditch lines with high erodible soils.
 2. Consider the effect of sediment pulses from sediment accumulated above undersized culverts and long-term accumulations in the ditches.
 3. Reconstruct channel connectivity and planform in fish bearing streams after culvert removal.
 4. Establish grade control structures in steep gradient streams and as necessary to prevent headcuts.
 5. Maintain water quality with sufficient drainage structures (waterbars), headcut control, minimizing disturbances in well vegetated ditches, and revegetative measures (bioengineering, seeding, and planting).
 6. Design channel form for steep streams.

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III. Review

- A. Decommission projects will be field reviewed before contract implementation by Ranger District and Supervisor Office specialists.

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WETLANDS Forest-wide Standards and Guidelines

Wetlands: WET

I. Objectives

- A. Avoid alteration of, or new construction on, wetlands wherever there is a practicable, environmentally preferred alternative, considering the functions of wetlands as well as other non-wetland ecosystems in the project area. Practicable alternatives take into consideration costs, existing technology, and logistics in light of overall project purposes. (Consult 40 CFR 230.3[q].)
- B. Minimize the loss of higher value wetlands (especially fens) and the adverse impacts of land management activities on wetlands. (Consult Executive Order 11990 and Alaska Region Soil and Water Conservation Handbook FSH 2509.22 [BMP 12.5] for guidance on wetland protection.)
- C. Seek to maintain the natural and beneficial functions of wetlands.

II. Inventory and Evaluation

- A. Use the most current technical criteria for wetland identification and delineation. Consult the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, 1987 (or its revision), as appropriate. Refer to the Interim Regional Supplement to the U.S. Army Corps of Engineer's Wetland Delineation Manual for the Alaska Regional, 2006.

III. Land Use Activities

- A. The discharge of dredged or fill material onto wetlands is regulated under Section 404 of the Clean Water Act, which is administered by the U.S. Army Corps of Engineers (Corps) and U.S. Environmental Protection Agency (EPA). Certain categories of activities are exempt from regulation, while others may be permitted (refer to 33 CFR 323.4 Part 330 Appendix A 325). Consult with the Corps early in the planning process to determine whether a 404 permit is required. For non-exempt activities, permit requirements may include compensation or replacement of any lost aquatic function.
- B. Consistent with the Clean Water Act, as amended, use Best Management Practices (BMPs) in all management activities that could affect water quality of wetlands. BMPs are intended to ensure that flow and circulation patterns, as well as chemical and biological characteristics of water are not impaired. (Consult Alaska Region Soil and Water Conservation Handbook FSH 2509.22 [BMP 12.5], and National Core BMP Technical Guide FS-990a)
- C. Before issuing authorizations, leases, easements, rights-of-way, or exchanging lands containing wetlands, identify uses that are restricted under identified federal, state, or local wetlands regulations. Incorporate appropriate restrictions, where necessary, to protect or minimize wetland impacts, or withhold such properties from exchange.
- D. Cooperate with state and federal agencies having overlapping resource management responsibilities for wetlands, including the Alaska Department of Fish and Game, Alaska Department of Environmental Conservation, Alaska Department of Natural Resources, Corps, EPA, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service.
- E. Mitigate to minimize impacts caused by activities when BMPs do not perform as expected.
- F. When decommissioning roads through wetlands, restore natural drainage patterns.
- G. Timber harvest may occur on forested wetlands on lands identified as suitable for timber production in development LUDs.

WILDLIFE

Forest-wide Standards and Guidelines

Wildlife Habitat Planning: WILD1

- I. *Coordination/Cooperation with Other Agencies, Institutions, and Partners*
 - A. Coordinate 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 wildlife.
 1. The Forest should meet at least annually with state and federal wildlife agencies to review resource activities, present progress reports on implementation of past cooperative work or agreements, and schedule cooperative work.
 2. Seek to maintain Memoranda of Understanding with appropriate state, federal, and local agencies and associations.
 - B. Emphasize management for native wildlife species and natural habitat, except in cases where the Forest Service, in cooperation with the ADF&G and USFWS, find desirable alternatives. Special consideration should be given to the possible adverse effects on habitat of sensitive, threatened, and endangered species.
 - C. Coordinate wildlife habitat surveys, studies, plans, and improvement projects with the ADF&G, USFWS, NMFS, and other appropriate state, federal, tribal, local, and private agencies. Use the Sikes Act authorities for cooperative work with the state. Use agreements and other partnerships to cooperate with other partners.
 - D. Coordinate with the ADF&G in development of state strategic plans and population goals and objectives for wildlife species, and attempt to incorporate wildlife goals and objectives into forest management.
 - E. Provide habitat information to the ADF&G to assist in correlating hunting seasons, permits, and bag limits to on-the-ground habitat conditions so that population and habitat objectives can be achieved.

- II. *General Habitat Planning/Coordination*
 - A. Recognize as wildlife habitat, areas of land and water that can contribute to achieving wildlife objectives for consumptive and non-consumptive uses.
 - B. Provide the abundance and distribution of habitat necessary to maintain viable populations of existing native and desirable non-native species well-distributed in the planning area (i.e., the Tongass National Forest). (Consult 36 CFR 219.19 and 36 CFR 219.27 (1982).)
 - C. Cooperate with the state and, as appropriate, the USFWS in managing vehicle, boat, and other human use (e.g., hunting and fishing seasons and bag limits), as necessary, to achieve wildlife objectives, recognizing the access provisions of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA). Emphasize management to reduce human disturbance in high value habitat areas and during critical periods of wildlife use.
 - D. Maintain a Forest program schedule that includes anticipated wildlife habitat and population inventory needs, monitoring requirements, and proposed habitat improvement and maintenance projects.
 - E. Use Forest Plan Management Indicator Species to evaluate the potential effects of proposed management activities affecting wildlife habitat. (Consult FSM 2620.)
 - F. Develop interagency habitat capability models for any or all of the management indicators to systematically assess the impacts of proposed projects during project level analysis. Periodically review and update models to reflect the most current habitat relationships and habitat modeling technology.
 - G. Cooperate with ADF&G to seek to prevent existing populations of invasive species from dispersing into Wilderness areas. Address issues regarding management, introduction, and re-introduction of wildlife species consistent with national and regional policy.
 - H. When population or habitat declines for a plant or animal species or subspecies indicates that long-term persistence is at risk, evaluate the particular species for designation as a Regional Sensitive Species by the Regional Forester. (Consult FSM 2670.)

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- III. *Habitat Improvement Planning*
- A. Identify habitat improvement projects to meet wildlife habitat and population objectives.
1. Consider the following factors to assess habitat improvement project opportunities and priorities:
 - a) To meet state wildlife population objectives
 - b) To meet subsistence use needs
 - c) Existing habitat in poor condition compared to its potential
 - d) Habitat with a history of receiving high levels of use
 - e) Treatments with a favorable benefit/cost ratio.
 2. Use silvicultural practices, where applicable, to accomplish wildlife habitat objectives.
- IV. *Legacy Forest Structure*
- A. Objectives
The intent of the Legacy Standard and Guideline is to ensure that sufficient residual trees, snags, and clumps of trees remain in timber harvest units within value comparison units (VCUs) that have had concentrated past timber harvest activity and are at risk for not providing the full range of matrix functions (as shown in Section D), in order to meet the intent of the conservation strategy while providing flexibility to address on-the-ground implementation issues.
- B. Legacy Standard
In harvest units greater than 20 acres within VCUs identified in Section D, leave 30 percent of the entire unit (based on area) in legacy forest structure. For the purpose of this standard, the unit is defined as the original Logging System/Transportation Analysis (LSTA) boundary prior to field verification. Legacy forest structure should remain indefinitely after harvest and shall be tracked through the life of the next stand. Salvage logging of legacy trees is generally prohibited unless the rationale is clearly documented and the effects are clearly neutral or an improvement.
- C. Distribution and Composition of Legacy Forest Structure
Legacy forest structure should be arranged primarily in clumps. The intent of leaving legacy forest structure is to provide structure within the opening; therefore, clumps should be left well inside the unit, compatible with logging system capabilities. Clumps may be placed along the external yarding boundaries within harvest units in situations where cable logging systems make leaving residual trees in other parts of the unit impractical due to operational or safety considerations. Structure left within units for other resources counts towards the 30 percent, provided it meets the old growth stand characteristics below. Mapped TTRA stream buffers do not count toward the 30 percent. Legacy forest structure shall be representative of the existing old-growth stand characteristics, including age, size class, species composition, and structural components. Clumps and dispersed retention trees should include some of the largest, oldest live trees, decadent or leaning trees, and hard snags occurring in the unit.
- D. VCUs where the Legacy Standard Applies
This standard is to be applied in VCUs where 33 percent or more of the productive old growth has been harvested from 1954 to 2005, or VCUs where less than 33 percent has been harvested but more than 67 percent of the productive old growth is projected to be harvested by the end of the Forest Plan planning horizon (see glossary). In 2008, there were 49 VCUs in this category; they are listed below by Ranger District:
- | | |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Craig Ranger District | 6100, 6200, 6210, 6240 |
| Hoonah Ranger District | None |
| Juneau Ranger District | None |
| Ketchikan/Misty Ranger District | 7360, 7380, 7560 |
| Petersburg Ranger District | None |
| Thorne Bay Ranger District | 5320, 5350, 5371, 5380, 5390, 5440, 5450, 5460, 5500, 5542, 5550, 5560, 5570, 5580, 5590, 5600, 5610, 5620, 5700, 5710, 5720, 5790, 5810, 5830, 5840, 5850, 5860, 5871, 5872, 5880, 5900, 5972 |

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Wrangell Ranger District	4550, 4570
Sitka Ranger District	2930, 2990, 3070, 3120, 3130
Yakutat Ranger District	3620, 3640, 3670

Legacy Standards and Guidelines do not apply in other VCUs because they contain enough old-growth forest to provide habitat for old-growth associated species. See Appendix D in the 2008 FEIS. VCUs should be verified during project-specific planning and analysis to see if Legacy Standards and Guidelines apply based on the criteria above.

V. *Reserve Tree/Cavity-Nesting Habitat*

- A. Provide habitat for cavity-nesting wildlife species. The legacy forest structure standard and guideline considers snags and replacement snag needs for those VCUs at risk for not providing sufficient snags within the watershed. Other VCUs will have snags retained within the development LUDs because habitat will be maintained in riparian buffers, the beach fringe, old-growth habitat reserves, and other Non-development LUDs within the VCU.
 - 1. Retain reserve trees in all LUDs.
 - a) Retain reserve trees (which may be soft or hard snags) with a reasonable assurance of windfirmness, while meeting management objectives and considering safety needs for people and equipment. Use the Reserve Tree Selection Guidelines (R10-MB-215) for guidance.
 - b) Reserve trees do not need to be evenly distributed; clumped distributions are preferred.
 - c) Favor saving reserve trees away from roads to reduce loss from firewood gathering activity.
 - d) After timber harvest in an area, remaining reserve trees may be designated as wildlife trees and marked to make them illegal for cutting.
 - e) Retain live trees for future reserve tree recruitment.

VI. *Landscape Connectivity*

- A. Design projects to maintain landscape connectivity.
 - 1. The objective is to maintain corridors of old-growth forest among large and medium old-growth reserves (Appendix K) and other forested Non-development LUDs at the landscape scale.
 - 2. During the environmental analysis for projects proposing to harvest timber, construct roads, or otherwise significantly alter vegetative cover, conduct an analysis at the landscape scale to identify blocks of contiguous old-growth forest habitat within large and medium reserves and other Non-development LUDs to determine whether forest connectivity exists among old-growth blocks in large and medium reserves and natural setting LUDs. Consider existing features of the old-growth strategy such as the beach fringe, small old-growth reserves, riparian buffers, or other lands not suitable for timber production as contributing to maintaining connectivity among large and medium Old-growth Habitat reserves and Non-development LUDs. Use the following parameters to determine if a large or medium reserve is connected: a) only one connection is needed; b) the beach fringe serves as a connector; and c) the connection does not have to be the shortest distance between reserves. Where these features do not provide sufficient productive old-growth forest connectivity to meet the objective in 1 above, provide stands, where they exist, of productive old-growth forest or other forest that provides adequate wildlife habitat values (i.e., older young growth that provides adequate snow intercept for deer). Designed corridors should be of sufficient width to minimize edge effect and provide interior forest conditions. Consider elevation, natural movement corridors, length of corridor, tree heights, adjacent landscapes, and windthrow susceptibility in corridor design.
- B. Forest-wide, within the beach fringe, riparian buffers, and other lands not suitable for timber production, consider designing young-growth treatments to accelerate old-growth characteristics in order to increase connectivity for wildlife.

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- VII. *Sitka Black-tailed Deer*
- A. Consider Sitka black tailed deer habitat needs before or as part of project analysis.
 - B. Ensure interdisciplinary involvement and consideration of deer habitat in project planning and in the environmental analysis process.
- VIII. *Bald Eagle Habitat*
- A. The Bald and Golden Eagle Protection Act provides for special management for the bald eagle. Manage bald eagle habitat 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.
- IX. *Bear Habitat Management*
- A. Continue to implement strategies, in cooperation with the Alaska Department of Environmental Conservation, ADF&G, cities, and boroughs, that prevent habituation of bears to human foods/garbage and reduce chances of human/bear incidents. Strategies that can be used to reduce human/bear incidents include the following:
 1. Phasing out and rehabilitating any remaining open garbage sites on National Forest System land. Establish timetables for phase out and rehabilitation in cooperation with appropriate state agencies. (Consult Lands Forest-wide Standards and Guidelines on sanitary landfills.)
 2. Requiring incinerators and/or other bear-proof garbage disposal methods at work camps, recreation sites, administrative and research facilities, and special use authorizations in bear habitats.
 3. Where feasible, locating seasonal and permanent work camps, recreation facilities, mineral exploration and operational facilities, LTFs, where allowed by the LUD, more than one mile from sites of important seasonal bear concentrations to reduce chances of human/bear confrontations.
 4. On Forest Service-approved projects and special use authorizations in brown bear habitat, minimizing adverse impacts to the habitat and seeking to reduce human/bear conflicts. Specific plans could include seasonal restrictions on activities and other measures determined on a case-by-case basis.
 5. Maintaining an aggressive public education program on bear behavior to reduce the number of human/bear incidents.
 6. Requiring storage of human food in ways to make it unavailable to bears to reduce habituation of bears and reduce human/bear incidents.
 - B. During project planning, evaluate the need for additional protection of important brown bear foraging sites (e.g., waterfalls used as fishing sites) in addition to the buffers already provided by the Riparian and Beach and Estuary Fringe Forest-wide Standards and Guidelines, and the Old-growth Habitat and other Non-development LUDs. Consult with the ADF&G in identifying and managing important brown bear foraging sites. Establish forested buffers, where available, of approximately 500 feet from the stream at sites where, based upon the evaluation, additional protective measures are needed to provide cover among brown bears while feeding, or between brown bears and humans. This may be especially important on Class I anadromous fish streams within the Moderate Gradient/Mixed Control and Flood Plain Process Groups (see Appendix D) where a large amount of bear feeding activity on salmon occurs. Consider the combination of bear foraging behavior, stream channel types, and adjacent landform to help identify probable important feeding sites.
 - C. Manage human/bear interactions to limit brown bear mortality from both illegal kills and defense of life and property. Work with the ADF&G to develop and implement a bear management program that considers both access management and season and bag limits to manage bear mortality rates within sustainable levels.
 - D. Manage road use where concentrations of brown bear occur to minimize human/bear interactions and to help ensure the long-term productivity of brown bears. To meet this direction, develop and implement road management objectives through an interdisciplinary process. (Consult Transportation Forest-wide Standards and Guidelines.)

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- E. Cooperate with the state to develop sites for safe public bear viewing opportunities.
- X. *Marine Mammal Habitats*
- A. Provide for the protection and maintenance of harbor seal, Steller sea lion, and sea otter habitats.
1. Ensure that Forest Service authorized or approved activities are conducted in a manner consistent with the Marine Mammal Protection Act (MMPA), Endangered Species Act, and NMFS guidelines for approaching seals and sea lions. Consult with the appropriate agency for identification of critical timing events, such as molting, parturition, etc., and recommended distances to avoid disturbances. "Taking" of marine mammals is prohibited; "taking" includes harassment (adverse disturbance), pursuit, or attempting any such activity.
 2. Locate Forest Service authorized and approved facilities and concentrated human activities as far from known marine mammal haul outs, rookeries, and known concentration areas as feasible to meet MMPA. The following distances are provided as general guidelines for maintaining habitats and reducing human disturbance:
 - a) Locate camps, LTFs, campgrounds, and other developments (where allowed by the LUD) one mile from known haul outs (farther if the development is large).
 - b) Forest Service authorized or approved activities will not intentionally approach within 100 yards, or otherwise intentionally disturb or displace any hauled-out marine mammal.
 - c) Dispose of waste oil and fuels off site as regulated by the Alaska Department of Environmental Conservation.
 3. Cooperate with the state and other federal agencies to develop sites and opportunities for the safe viewing and observation of marine mammals by the public. Maintain a public education program explaining forest management activities related to marine mammals in cooperation with state and other federal agencies.
- XI. *Seabird Colonies*
- A. Provide for the protection and maintenance of seabird (marine bird) colonies.
1. Locate facilities and concentrated human activities requiring Forest Service approval as far from known seabird colonies as feasible consistent with the Migratory Bird Treaty Act. The following distances are provided as general guidelines for maintaining habitats and reducing human disturbance:
 - a) For aircraft flights on Forest Service authorized or approved activities, when weather ceilings permit, maintain a constant flight direction and airspeed and a minimum flight elevation of 1,500 feet (458 meters) for helicopters and fixed-winged aircraft. If at all possible, avoid flying over seabird colonies.
 - b) Regulate human use to maintain a 250 meter no-disturbance distance from seabird colonies on upland habitats.
 2. The availability of garbage to gulls should be eliminated by requiring holders of special use authorizations to collect and dispose of their garbage.
 3. Cooperate with state and other federal agencies to develop sites and opportunities for the safe public viewing of these species. Maintain a public education program explaining forest management activities related to these species in cooperation with state and other federal agencies.
- XII. *Waterfowl and Shorebird Habitats*
- A. Maintain or enhance wetland habitats that receive significant use by waterfowl and shorebirds. (The Tongass National Forest is a "Priority Forest" in the national Taking Wing Strategic Plan.) "Significant" is relative, but generally relates to use of a specific area by tens or hundreds of individuals of one or more species.
1. Support the international significance of wetland habitats on the Tongass National Forest by participating in partnerships such as the North American Waterfowl Management Plan and the Western Hemisphere Shorebird Reserve Network.

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2. Identify during project analysis, in cooperation with the ADF&G and the USFWS, wetlands that receive concentrated waterfowl or shorebird use during fall/winter/spring concentrations or nesting, brood rearing, or molting habitats.
 3. Locate facilities and concentrated human activities requiring Forest Service approval as far from known waterfowl or shorebird concentration and nesting areas as feasible. Minimize disturbance of waterfowl by restricting, when feasible, development activities to periods when waterfowl are absent from the area.
 4. During project analysis, consider the need to rehabilitate waterfowl habitat following development activities if there is no feasible alternative to the habitat disturbance. (Consult the Wetlands Forest-wide Standards and Guidelines.)
 5. Maintain habitat capability in coastal wetlands and intertidal areas that are important migratory staging areas and fall/winter/spring concentration areas, and wetlands that are important nesting and brood-rearing habitats, by avoiding, where feasible, all development activities that could fill wetlands, drain wetlands, or alter water levels resulting in loss of desirable vegetation, or direct loss of habitat. (Consult the Migratory Bird Treaty Act.)
 6. Minimize human disturbance of habitats during important periods of the year (nesting and brood-rearing, molting, and winter) by managing human use (such as trails and off-highway vehicle use) in significant wetland areas. To reduce human disturbance, provide a minimum distance of 330 feet (100 meters) between human activities on the ground and significant areas being used by other waterfowl.
 7. Develop waterfowl habitat improvement projects in cooperation with appropriate state, federal, and local agencies, partner organizations, and individuals.
 8. For special use administration (non-recreation), issue only authorizations that meet the objectives of Executive Order 11990 (Protection of Wetlands). Issue authorizations that preserve, enhance, or aid in the management of the natural and beneficial values of wetlands.
 9. Perform integrated logging system and transportation analysis to determine if other feasible routes avoiding areas where concentrated waterfowl use exists.
 10. If the need to restrict road access is identified during project interdisciplinary review, roads will be closed either seasonally or year-long to minimize adverse effects on waterfowl.
 11. Cooperate with state and other federal agencies to develop sites for safe-public viewing opportunities that do not adversely disturb wildlife. Maintain a public education program explaining forest management activities related to these species in cooperation with state and other federal agencies.
- B. Conduct activities to avoid or minimize disturbance to habitats within the forest, riparian, and estuarine areas that are important nesting, brooding, rearing, and molting areas for Vancouver Canada geese, sandhill cranes, or trumpeter swans.

XIII. *Heron and Raptor Nest Protection*

- A. Provide for the protection of raptor (hawk and owl) nesting habitat and great blue heron rookeries.
 1. Conduct project-level inventories to identify heron rookeries and raptor nesting habitat using the most recent inventory protocols.
 2. Protect active rookeries and raptor nests. Active nests will be protected with a forested 600-foot windfirm buffer, where available. Road construction through the buffer is discouraged. Prevent disturbance during the active nesting season (generally March 1 to July 31).
 3. Protection measures for the site may be removed if the nest is inactive after two consecutive years of monitoring.
 4. Bald eagle nest protection standards are outlined in WILD1 Section VIII.
 5. Northern goshawk and osprey nest protection standards are included under Threatened, Endangered, and Sensitive species Forest-wide Standards and Guidelines for wildlife (WILD4 Section II).

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XIV. *Alexander Archipelago Wolf*

- A. Implement a Forest-wide program, in cooperation with ADF&G and USFWS, to assist in maintaining long-term sustainable wolf populations.
1. Where wolf mortality concerns have been identified, develop and implement a Wolf Habitat Management Program in conjunction with ADF&G. To assist in managing legal and illegal wolf mortality rates to within sustainable levels, integrate the Wolf Habitat Management Program (including road access management) with season and harvest limit proposals submitted to federal and state boards.
 - a) Participate in interagency monitoring of wolf populations on the Forest.
 - b) Where wolf population data suggest that mortality exceeds sustainable levels, work with ADF&G and USFWS to identify probable sources of mortality. Examine the relationship among wolf mortality, human access, and hunter/trapper harvest. Conduct analyses for smaller islands (e.g., Mitkof Island), portions of larger islands, or among multiple wildlife analysis areas (WAAs).
 - c) Where road access and associated human-caused mortality has been determined, through an interagency analysis, to be a significant contributing factor to locally unsustainable wolf mortality, incorporate this information into Travel Management planning and hunting/trapping regulatory planning. The objective is to reduce mortality risk and a range of options to reduce this risk should be considered. In these landscapes, both open and total road density should be considered. Total road densities of 0.7 to 1.0 mile per square mile or less may be necessary. Options shall likely include a combination of Travel Management regulations, establishing road closures, and promulgating hunting and trapping regulations to ensure locally viable wolf populations. Local knowledge of habitat conditions, spatial locations of roads, and other factors need to be considered by the interagency analysis rather than solely relying upon road densities. Road management objectives would be developed and implemented through an interdisciplinary Access and Travel Management or comparable process. (See Transportation Forest-wide Standards and Guidelines.) Suggested wolf hunting and trapping changes would be developed and forwarded to the Federal Subsistence Board and the Alaska Board of Game.
 2. Provide, where possible, sufficient deer habitat capability to first maintain sustainable wolf populations, and then to consider meeting estimated human deer harvest demands. This is generally considered to equate to the habitat capability to support 18 deer per square mile (using habitat capability model outputs) in biogeographic provinces where deer are the primary prey of wolves. Use the most recent version of the interagency deer habitat capability model and field validation of local deer habitat conditions to assess deer habitat, unless alternate analysis tools are developed. Local knowledge of habitat conditions, spatial location of habitat, and other factors need to be considered by the biologist rather than solely relying upon model outputs.
 3. Design management activities to avoid abandonment of wolf dens.
 - a) Maintain a 1,200-foot forested buffer, where available, around known active wolf dens. Road construction within the buffer is discouraged and alternative routes should be identified where feasible. No road construction is permitted within 600 feet of a den unless site-specific analysis indicates that local landform or other factors will alleviate potential adverse disturbance.
 - b) If a den is monitored for two consecutive years and found to be inactive, buffers described in a), above, are no longer required. However, in the spring, prior to implementing on-the-ground management activities (timber harvest or road construction), check each known inactive den site to see if it has become active.

XV. *Mountain Goat*

- A. Provide for the long-term productivity of mountain goat habitat and viability of mountain goat populations, both native and introduced.
1. Locate facilities and concentrated human activities as far from important wintering and kidding habitat as feasible.

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- a) Where feasible, locate facilities, camps, log transfer facilities, campgrounds, and other developments one mile or more from important wintering and kidding habitat.
 - b) If the one mile or more distance cannot be achieved, mitigate possible adverse impacts by seasonally restricting or regulating human use and other site-specific mitigation measures.
2. Forest Service and all other authorized or approved aircraft flights (fixed wing and helicopter), including helicopter yarding of timber, should maintain a 1,500-foot vertical or horizontal clearance from traditional summer and kidding habitat and animals whenever feasible. Where feasible, flight paths should avoid known mountain goat kidding areas from May 15 through June 15. Pilots will not compromise safety.
 3. Where feasible, maintain mountain goat important winter habitat capability. During project planning, use the most recent version of the interagency mountain goat habitat capability model, which shows the most important habitat to generally be productive old-growth forest within 1,300 feet of escape terrain (greater than 50 degree slope or cliff). Travel corridors used by mountain goats between important seasonal sites should be identified and maintained, especially when they occur in forested areas.

XVI. *Marbled Murrelet*

- A. Cooperate and coordinate with state and other federal agencies to better understand the life history requirements and distribution of the marbled murrelet. Nesting habitat relationships are poorly understood.
- B. If nests are found during project implementation, maintain a 600-foot, generally circular, radius of undisturbed forest habitat surrounding identified murrelet nests, where available. Minimize disturbance activities within this buffer during the nesting season (May 1 to August 15). Maintain the buffer zone and monitor the site for nesting activity for not less than two nesting seasons after nest discovery. Maintain the buffer if the nest site is active during the monitoring period. Buffer protection may be removed if the site remains inactive for two consecutive nesting seasons.

XVII. *Moose Habitat*

- A. Develop habitat management direction for moose habitats. Coordinate planning with ADF&G.
 1. During project planning, inventory vegetative conditions in moose habitat areas to help identify short- and long-term changes in habitat conditions, and to assess the effects of various management activities.
 2. Plan habitat improvement projects using a variety of techniques such as silvicultural treatments, young-growth management activities, prescribed burning, planting, and other vegetative manipulation techniques as appropriate.
 3. Coordinate other resource management activities to maintain or improve habitat conditions for moose. Where roads and human access are adversely affecting moose populations, incorporate this information into Travel Management planning objectives.

XVIII. *American Marten*

- A. Implement a Forest-wide program, in cooperation with ADF&G, to assist in maintaining long-term sustainable marten populations.
 1. Where marten mortality concerns have been identified through interagency analysis, cooperate with ADF&G to assist in managing marten mortality rates to within sustainable levels. Both access management and hunter/trapper harvest regulations administered by the ADF&G shall be considered.
 - a) Participate in interagency monitoring of marten populations on the Forest.
 - b) Where marten harvest data suggest that mortality exceeds sustainable levels, work with ADF&G to identify probable sources of mortality. In an interagency analysis, examine the relationship between hunter/trapper marten harvest and human access.

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- c) Where road access and associated human-caused mortality has been determined, through this analysis to be the substantial contributing factor to unsustainable marten mortality, incorporate this information into Travel Management planning with the objective of reducing mortality risk. Local knowledge of habitat conditions, spatial location of roads, and other factors need to be considered by the biologist rather than solely relying upon road densities. Road management objectives would be developed and implemented through an interdisciplinary Access and Travel Management process or comparable process. (Consult Transportation Forest-wide Standards and Guidelines.)

XIX. *Endemic Terrestrial Mammals*

- A. The objective is to maintain habitat to support viable populations and improve knowledge of habitat relationships of rare or endemic terrestrial mammals that may represent unique populations with restricted ranges.
 - 1. Use existing information on the distribution of endemic mammals to assess project-level effects. If existing information is lacking, surveys for endemic mammals may be necessary prior to any project that proposes to substantially alter vegetative cover (e.g., road construction, timber harvest, etc.). Surveys are necessary only where information is lacking to assess project-level effects.
 - a) Survey islands smaller than 50,000 acres in total size (e.g., Heceta Island and smaller) that have productive old-growth forest on lands suitable for timber production. Conduct surveys on larger islands if there is a high likelihood that endemic taxa are present and a high likelihood that they would be affected by the proposed project.
 - b) The extent and rigor of surveys will be commensurate with the degree of existing and proposed forest fragmentation, and potential risk to endemic mammals that may be present.
 - c) Surveys should emphasize small (voles, mice, and shrews) and medium sized (ermine and squirrels) endemic mammals with limited dispersal capabilities that may exist within the project area.
 - d) Use the most recent inventory protocols for surveys.
 - 2. Assess the impacts of the proposed project relative to the distinctiveness of the taxa, population status, degree of isolation, island size, and habitat associations relative to the proposed management activity.
 - 3. Where distinct taxa are located, design projects to provide for their long-term persistence on the island.
- B. Consider habitat needs of endemic mammals in design of thinning treatments.

Wildlife Habitat Improvement: WILD2

I. *Improvement Projects*

- A. Develop an aggressive young-growth management program to maintain, prolong, and/or improve understory forage production and to increase the development of old growth characteristics in young-growth timber stands for a variety of wildlife species (deer, moose, black bear, small mammals, birds, and other species of interest).
 - 1. Consider stands for young-growth treatments that meet the following conditions:
 - a) Historical deer winter range with high deer use.
 - b) Historical or potential moose winter range.
 - c) Areas with important and accessible consumptive and non-consumptive human uses of wildlife benefited by young-growth management.
 - d) High risk VCUs and within beach fringe—these areas have significant young growth and are important habitat for a variety of wildlife species. Young-growth treatments may be used to accelerate development of old-growth characteristics and improve habitat conditions.
 - e) Young-growth timber stands that have a relatively high tree stocking density that would result in early loss of understory forage. Plant associations containing

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- hemlock or spruce and Vaccinium or skunk cabbage on high site potential should be considered for treatment.
2. Consider the following for precommercial thinning:
 - a) Time precommercial thinning before desirable forage species are shaded out by trees, although trees should fully occupy the site. Generally, highly productive sites will need to be thinned at a younger age (15 to 20 years) than moderate or low productive sites (20 to 25 years). Use site-specific conditions to determine the timing of precommercial thinning.
 - b) Vary tree spacings according to site-specific information and dependent on a desired condition. Consider spacings from 16 feet by 16 feet to 24 feet by 24 feet. Site-specific objectives should be developed in conjunction with silvicultural staff, and should identify spacings to be used. Consider variable spacings and leaving some unthinned thickets and corridors to create future structural diversity.
 - c) Generally, slash disposal treatments will not be necessary. In some site-specific areas, slash treatments may be needed to facilitate animal movements or increase forage production and availability. Slash treatments may include girdling trees, falling trees away from high forage areas, piling trees, or lopping and scattering of slash.
 3. Consider the following for canopy gaps:
 - a) It is generally recommended that canopy gaps be created at the same time as precommercial thinning activity.
 - b) Generally, slash disposal treatments will not be necessary. In some site-specific areas, slash treatments may be needed to facilitate animal movements or increase forage production and availability. Slash treatments may include girdling trees, falling trees away from high forage areas, piling trees, or lopping and scattering of slash.
 - c) Site-specific objectives and analysis should identify the gap sizes.
 - B. Coordinate habitat improvement projects with the ADF&G, the USFWS, and other appropriate agencies.
 - C. Coordinate the timing and location of habitat improvement projects with other resources so as to provide opportunities to decrease treatment costs and provide multi-resource benefit.
 - D. Coordinate any new projects to enhance the use of National Forest System lands with the recreation program managers.

Wildlife Habitat Maintenance: WILD3

- I. *Maintenance*
 - A. Provide for the maintenance of wildlife habitat improvements.
 1. Fund maintenance of existing structures prior to the construction of new structures.
 2. Include funding for maintenance in planning and budgeting all structures.
 3. Maintain structures to ensure objectives of the original project are met.
 4. If the improvement becomes inefficient to operate or maintain, redesign or stop maintenance of that improvement.
 5. If a structure becomes inoperable, consider removal or reconstruction, as appropriate.
 - B. Develop a written agreement with project cooperators on maintenance responsibilities prior to project construction.

Threatened, Endangered, and Sensitive Wildlife Species: WILD4

Consult FSM 2670 for Threatened, Endangered, and Sensitive Species.

- I. *Threatened or Endangered Species*
 - A. Steller Sea Lion⁴

⁴ On November 4, 2013 the National Marine Fisheries Service issued a final rule (78 FR 66140) to remove the eastern distinct population segment (DPS) of Steller sea lion from the List of Endangered and Threatened Wildlife. A species removed from listing under the Endangered Species Act because recovery criteria have been met will automatically be added to the sensitive species list for at least five years (2009 Alaska Region Sensitive Species List). The western DPS remains endangered and may also occur within waters surrounding the Tongass National Forest.

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1. Protect Steller sea lion habitats.
 2. Ensure that Forest Service funded, permitted, or authorized activities are conducted in a manner consistent with the requirements, consultations, or advice received from the appropriate regulatory agencies for the Marine Mammal Protection Act, Endangered Species Act, and NMFS guidelines for approaching seals and sea lions. "Taking" of sea lions is prohibited; "taking" includes harassing or pursuing, or attempting any such activity.
 3. Locate facilities, camps, log transfer facilities, campgrounds, and other developments one mile from known haulouts, and farther away if the development is large.
 4. Cooperate with state and other federal agencies to develop sites and opportunities for the safe viewing and observation of sea lions by the public. Maintain a public education program explaining forest management activities related to sea lions in cooperation with state and other federal agencies.
- B. Humpback Whale
1. Provide for the protection and maintenance of whale habitats.
 2. Ensure that Forest Service permitted or approved activities are conducted in a manner consistent with the Marine Mammal Protection Act, Endangered Species Act, and NMFS regulations for approaching whales, dolphins, and porpoise. "Taking" of whales is prohibited; "taking" includes harassing or pursuing, or attempting any such activity.
- II. *Sensitive Species*⁵
- A. Northern Goshawk (including the Queen Charlotte goshawk subspecies).
1. Preserve nesting habitat around all goshawk nest sites. Protection measures may be removed from probable nest stands if, after two consecutive years of monitoring, there is no further evidence of confirmed or probable nesting.
 - a) Consider the following evidence for determining confirmed nest sites:
 - (1) A goshawk observed on or near a nest;
 - (2) Nestlings or branchers (young not able to fly) observed on or near a nest;
 - (3) Goshawk feathers or eggs obtained from the nest;
 - (4) One or more nest structures indicative of goshawk were found with goshawk prey remains, but without positive identified goshawk on the nest and without positive identified feathers from nest;
 - b) Consider the following evidence for determining probable nest sites:
 - (1) Aggressive, territorial breeding season adults vocalizing or attacking an observer (without locating a nest); or
 - (2) Adults observed during the breeding season in a territory and recently fledged young were observed (without locating a nest).
 - c) Nesting Habitat: Maintain an area of not less than 100 acres of productive old-growth (POG) forest if it exists, or the largest diameter young-growth forest if sufficient POG is not adjacent to the nest, generally centered over the nest tree or probable nest site to provide for prey handling areas, perches, roosts, alternate nests, hiding cover, and foraging opportunities for young goshawks. Vegetative structure should include, where available, multi-layered, closed (over 60 percent) canopy stands, a relatively open understory, with large trees (usually 20+ inches diameter at breast height) and low ground vegetation.
 - d) Management: No commercial timber harvest is permitted Existing roads may be maintained. New road construction is permitted if no other reasonable roading alternatives outside the mapped nesting habitat exist. Permit no continuous disturbance likely to result in nest abandonment within the surrounding 600 feet from March 15 to August 15. Activity restrictions are removed for active nests that become inactive or unsuccessful. Other management activities that maintain the integrity of the forest stand structure are consistent with the objectives for this area. Activities such as cabin, trail, or campground construction should be consistent if designed with minimal vegetative manipulation.

⁵ The Forest Service Alaska Region Sensitive Species List was updated in 2009 and supersedes previous lists.

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- e) Consider surrounding landscapes when managing for goshawk nest sites. Plans for an alternate nest management strategy to c) and d) above may be implemented if the rationale is documented.
 - f) Conduct inventories to determine the presence of nesting goshawks for proposed projects that affect goshawk habitat. Use the most current inventory protocols developed in cooperation with state and federal agencies.
- B. American Peregrine Falcon (Removed from Alaska Region Sensitive Species List in 2009)
1. Provide for the protection and maintenance of habitats for migrating American peregrine falcons.
 2. Obtain increased understanding and knowledge about the migration of American peregrine falcons through southeast Alaska (e.g., the timing of migrations, the length of stay in southeast Alaska, important foraging areas, important prey items, etc.).
 3. Protect seabird rookeries and waterfowl concentration areas that provide important prey foraging habitat. (Consult Wildlife Forest-wide Standards and Guidelines.)
- C. Peale's Peregrine Falcon (Removed from Alaska Region Sensitive Species List in 2009)
1. Provide for the protection and maintenance of Peale's peregrine falcon habitat.
 2. Maintain nest site location data in cooperation with USFWS.
 3. Plan project activities to avoid adverse impacts to the falcons and their habitats. Evaluate the effects of proposed projects within 2 miles of known falcon nests considering such items as a) human activities (aircraft, ground and water transportation, high noise levels, and permanent facilities) that could cause disturbance to nesting pairs and young during the nesting period April 15 to August 31; and b) activities or habitat alterations that could adversely affect prey availability. Coordinate all project activities that may affect known or potential nesting habitat with the USFWS.
 4. Within 15 miles of all known or historical nest sites, prohibit all use of herbicides and pesticides.
- D. Trumpeter Swan (Removed from Alaska Region Sensitive Species List in 2009)
1. Provide for the protection and maintenance of trumpeter swan habitats.
 2. Avoid disturbance of trumpeter swans, particularly during nesting, brood-rearing, and wintering periods, to prevent abandonment of their nests, brood-rearing areas, and winter habitats. As a general guideline, limit developments within 0.5 mile (2,640 feet) of wetlands used by nesting, brood-rearing, and wintering trumpeter swans. The District Ranger will take feasible measures to minimize disturbance.
 3. Avoid placement of overhead wires, fences, or other structures that could interfere with the flight paths of swans and cause injury or mortality.
 4. Cooperate with state, federal, and local agencies, partner organizations, and individuals to develop sites and opportunities for the safe viewing of trumpeter swans by the public and maintain a public education program explaining Forest management activities related to trumpeter swans.
- E. Osprey (Removed from Alaska Region Sensitive Species List in 2009)
1. Maintain and improve osprey populations and habitat.
 2. Establish a minimum 330-foot radius habitat management zone around each existing osprey nest tree. Determine the exact boundary based on local topography, timber type, a reasonable assurance of windfirmness, and other factors.
 3. Within the osprey nest zones, prohibit all land use activity which would likely disturb nesting osprey. Infringement may be acceptable depending on the nature of the project and timing of the activity.
 4. Maintain the osprey nest zone even though the nest or nest tree becomes inactive.
 5. Provide trees suitable for use by osprey for nesting, feeding and perching. Consider the following:
 - a) Reserve trees and live trees that dominate or co-dominate a shoreline.
 - b) Reserve trees with broken tops and live trees with branches large enough to support birds.
 6. New nests will receive the same level of management protection as existing nests; however, osprey that select new nests in proximity to existing human activities will not cause those human activities to be modified.

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F. Kittlitz's Murrelet⁶

1. Provide for the protection and maintenance of known Kittlitz's Murrelet nesting habitats.

⁶ On May 4, 2004, the U.S. Fish and Wildlife Service (USFWS) published a candidate notice of review (CNOR) in the Federal Register (69 FR 24876) in which the Kittlitz's murrelet was included in the *Summary of New Candidates*. On October 3, 2013, the USFWS issued a final rule (78 FR 61764) that concluded listing the Kittlitz's murrelet as an endangered or threatened species under the Act is not warranted. Species identified as Candidates by the USFWS and/or the National Marine Fisheries Service (NMFS) will automatically be designated as sensitive species (2009 Alaska Region Sensitive Species List).

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ATTACHMENT C

JUNEAU ACCESS IMPROVEMENTS PROJECT

**OLD-GROWTH ANALYSIS AND
INTERAGENCY OLD-GROWTH RESERVE REVIEW**

**USDA Forest Service
U.S. Fish and Wildlife Service
Alaska Department of Fish and Game
2015**

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Juneau Access Improvements Project – Old-growth Analysis and Interagency Old- growth Reserve Review

SUMMARY

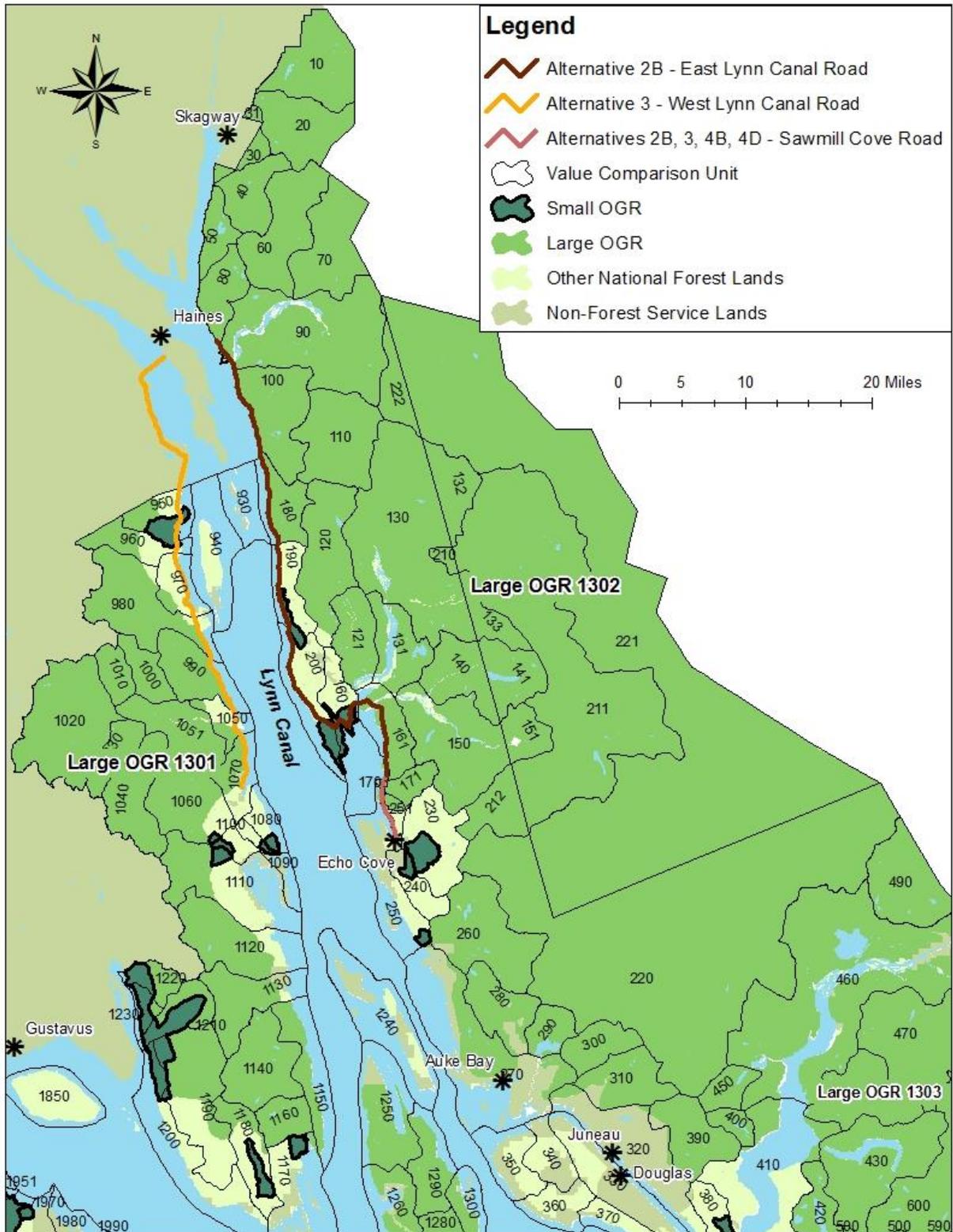
This report documents an interagency analysis of the effects of the Juneau Access Improvements (JAI) Project on Old-Growth Reserves (OGRs) in the project area. Recommendations of the Interagency Review Team to adjust, as appropriate, small OGRs to meet the Tongass National Forest Land and Resource Management Plan (Forest Plan) standards and guidelines are included. In addition, this report analyzes how well each OGR meets the objectives for which it was established and the effects of the Juneau Access Improvement Project on the functional capabilities of the OGR system across the project area.

The road corridor itself would not be part of the Old-Growth Land Use Designation (LUD); instead, it would become Transportation and Utility System (TUS) LUD, but in some cases would be within the boundaries of the individual OGRs. The analysis indicates that the various project alternatives could impact up to four small OGRs and two large OGRs. The analysis was based on Forest Plan OGR criteria (see below). Impacts include loss of productive old-growth (POG) forest habitat, increased roads within OGR boundaries, habitat fragmentation, and impacts to wildlife travel corridors (connectivity). The total acreage of one small OGR (small OGR 10, in Value Comparison Unit [VCU] 160) and the amount of POG in one small OGR (small OGR 9, in VCU 190) would be reduced below Forest Plan standards by Alternative 2B. The interagency review team met to review and make recommendations on the small OGRs. The team recommended increasing the size of the VCU 190 OGR to meet POG requirements. The team also recommended including additional acreage in the VCU 160 OGR as suggested by the 2008 Forest Plan Amendment interagency review team, except that it should not include area impacted by the Kensington Mine tailings disposal site. The interagency review team recommended no changes for the small OGRs in VCU 200 and 950.

INTRODUCTION

Several Project alternatives would construct roads in areas that currently have LUDs that contribute to the OGR network of the Tongass National Forest (see Figure 1). The LUDs will change at the location of the road to the TUS LUD, which will “overlay” the existing LUD. Thus, the construction of the road will not be inconsistent with existing LUD standards and guidelines, but the removal of lands from the original LUD (easement) and the footprint of the road within the boundaries of the OGR has the potential to impact the functional capabilities of the OGR to provide for the maintenance of old-growth dependent wildlife species as intended. This analysis displays the expected effects the JAI Project on the functional capabilities of the OGR system and how the OGRs meet the objectives of the OGR network within the project area. The analysis will review the OGR design criteria to determine how the project will impact the OGRs.

Figure 1. Existing Old-growth Reserve network in the Juneau Access Improvements Project area.



PROJECT DESCRIPTION

The JAI Project is a proposed action by the Federal Highway Administration (FHWA) and Alaska Department of Transportation and Public Facilities (DOT&PF) to improve surface transportation to and from Juneau, Alaska, within the Lynn Canal corridor. The following paragraphs describe the project alternatives developed by the FHWA and DOT&PF. The alternatives are described in greater detail in the project Environmental Impact Statement (EIS).

Alternative 1: No Action

The No Action Alternative includes a continuation of mainline ferry service in Lynn Canal and incorporates two new Day Boat Alaska Class Ferries already programmed for construction by AMHS. The No Action Alternative is not a direct continuation of 2013–2014 ferry service. Rather, it is a continuation of the AMHS’s current plan and reflects the most likely AMHS operations in the absence of any capital improvements specific to the JAI Project.

Alternative 1B: Enhanced service with existing Alaska Marine Highway System Assets

Alternative 1B is a Transportation System Management alternative that includes operational improvements that focus specifically on increasing the service provided by the transportation system (including programmed improvements and other system enhancements) within Lynn Canal using existing AMHS assets. Alternative 1B would incorporate all of the programmed improvements described under Alternative 1 and, as with Alternative 1, no new roads or terminals would be built.

Alternative 2B (Preferred): East Lynn Canal Highway to Katzehin with Shuttles to Haines and Skagway

Alternative 2B would construct the East Lynn Canal Highway from Echo Cove to a new ferry terminal two miles north of the Katzehin River, with ferry service connecting Katzehin to Haines and Skagway. The highway would be 50.8 miles long, including 47.9 miles of new highway and widening of 2.9 miles of the existing Glacier Highway from Echo Cove to Cascade Point. The highway would have a 30-foot pavement width, with two 11-foot-wide vehicle lanes and 4-foot shoulders. The minimum design speed would be 40 mph.

Alternative 3: West Lynn Canal Highway

Alternative 3 would widen Glacier Highway from Echo Cove to Cascade Point and extend Glacier Highway from Cascade Point to Sawmill Cove in Berners Bay (5.2 miles total). New ferry terminals would be constructed at Sawmill Cove in Berners Bay and at William Henry Bay on the west shore of Lynn Canal. A new West Lynn Canal Highway (38.9 miles) would be constructed from the William Henry Bay Ferry Terminal to Haines with a bridge across the Chilkat River/Inlet. The highway would connect to the existing Mud Bay Road at Haines. The highway design features for this alternative would be the same as those described for Alternative 2B in terms of design speed and typical section.

Alternative 4A: Fast Vehicle Ferry Service from Auke Bay

Alternative 4A would construct two new FVFs to provide daily summer service between Auke Bay and Haines and between Auke Bay and Skagway. No new roads would be built for this alternative.

Alternative 4B: Fast Vehicle Ferry Service from Berners Bay

Alternative 4B would widen and extend Glacier Highway from Echo Cove to Sawmill Cove in Berners Bay (5.2 miles total) using the same design standards described in Alternative 2B. A new ferry terminal would be constructed at Sawmill Cove in Berners Bay with two end berths to accommodate both FVFs at

the same time. This alternative would construct two new FVFs to provide service between Sawmill Cove and Haines/Skagway in the summer and between Auke Bay and Haines/Skagway in the winter. Mainline ferry service between Auke Bay and Haines/Skagway would continue, with two weekly trips estimated in the summer and one in the winter. The Day Boat ACFs would no longer operate in Lynn Canal. A new conventional monohull ferry would be constructed for use between Haines and Skagway.

Alternative 4C: Conventional Monohull Service from Auke Bay

This alternative would use the two Day Boat ACFs to operate between Auke Bay and Haines/Skagway. The Auke Bay Ferry Terminal would be expanded to include a new double end berth, to accommodate both Day Boat ACFs at once. A new conventional monohull ferry would be constructed for use between Haines and Skagway. The Skagway Ferry Terminal would be modified to include a new end berth to accommodate the Haines-Skagway shuttle ferry. Mainline ferry service between Auke Bay and Haines/Skagway would continue, with two weekly trips estimated in the summer and one in the winter. No new road construction would occur.

Alternative 4D: Conventional Monohull Service from Berners Bay

Alternative 4D would widen the existing Glacier Highway from Echo Cove to Cascade Point and extend it from Cascade Point to Sawmill Cove in Berners Bay (5.2 miles total) using the same design standards described in Alternative 2B. A new ferry terminal would be constructed at Sawmill Cove in Berners Bay with a double end berth, to accommodate both Day Boat ACFs at once. The Auke Bay Ferry Terminal also would be expanded to include a new double end berth. A new conventional monohull ferry would be constructed for use between Haines and Skagway. The Skagway Ferry Terminal would be modified to include a new end berth to accommodate the Haines-Skagway shuttle ferry. Mainline service from Auke Bay to Haines-Skagway would continue, with two weekly trips estimated in the summer and one in the winter.

OLD-GROWTH RESERVE STRATEGY

One goal of the Tongass National Forest Land and Resource Management Plan (Forest Plan) is to maintain healthy forest ecosystems with a mix of habitats at different spatial scales capable of supporting the full range of naturally occurring flora, fauna, and ecological processes characteristic of Southeast Alaska. To accomplish this goal, an old-growth habitat conservation strategy was incorporated into the Forest Plan. This strategy consists of two components. The first component is a forest-wide system of old-growth reserves comprised of lands classified by the Forest Plan as non-development LUDs. These LUDs include, among others, Wilderness, Wilderness National Monument, Remote and Semi-Remote Recreation, Wild Rivers, Municipal Watersheds, and Old-growth Habitat. Together, these non-development LUDs comprise a system of small, medium, and large old-growth reserves. The second component of the old-growth strategy is the set of standards and guidelines for habitats that occur within the “matrix” or lands outside of the non-development LUDs.

Forest Plan Direction

Chapter 3 of the Forest Plan identifies the goals, objectives, desired conditions, and management prescriptions for each LUD, including Old-growth Habitat (page 3-57). Appendix K of the Forest Plan and Appendix D of the Forest Plan FEIS describe the purpose, design criteria, and review process for OGRs.

Forest Plan Goals and Objectives for Old-growth Habitat LUD (page 3-57)

- Maintain areas of old-growth forests to provide habitat for old-growth associated resources.

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- Provide old-growth forest habitats to maintain viable populations of fish and wildlife species and subspecies that are closely associated with old-growth forests.
- Contribute to the habitat capability of fish and wildlife resources to support sustainable human subsistence and recreational uses.
- Maintain biodiversity and ecological processes associated with old-growth forests.
- Limit roads, facilities, and permitted uses to those compatible with old-growth forest habitat objectives.

Wildlife Habitat Planning in Old-growth Habitat LUD (page 3-62)

- A. Maintain contiguous blocks of old-growth forest habitat in a forest-wide system of old-growth reserves to support viable and well-distributed populations of old-growth associated species and subspecies.
- B. A system of large, medium, and small old-growth habitat reserves has been identified and mapped in the Forest Plan as part of a Forest-wide Old-growth Habitat reserve strategy. The mapped large and medium reserves generally achieve reserve strategy objectives, and few major modifications are anticipated. The small mapped reserves have received differing levels of ground-truthing and integration of site-specific information in their design. During project-level environmental analysis, for projects areas that include or are adjacent to mapped old-growth habitat reserves, the size, spacing, and habitat composition of mapped reserves may be further evaluated (See Appendix K for mapping criteria.)
 1. Adjust reserves not meeting the minimum criteria to meet or exceed the minimum criteria.
 2. Reserve location, composition, and size may otherwise also be adjusted. Alternative reserves must provide comparable achievement of the Old-growth Habitat LUD goals and objectives. Determination as to comparability must consider the criteria listed in Appendix K.
 3. Adjustments to individual reserves are not expected to require a significant plan amendment. Adjustments Forest-wide shall be monitored yearly to assess whether a significant plan amendment is warranted on the basis of cumulative changes.

Forest-wide Standards and Guidelines for Landscape Connectivity (page 4-91)

Design projects to maintain landscape connectivity. The objective is to maintain corridors of old-growth forest among large and medium Old-growth Habitat reserves (Appendix K) and other Non-development LUDs at the landscape scale.

Review forest connectivity within and between OGRs and non-development LUDs during environmental review of projects proposing timber harvest, road construction, or other significant vegetation alteration. Where existing corridors are insufficient or vulnerable to harvest, stands of POG should be provided as corridors or small reserves should be relocated.

Project Level Review Process (TLMP Appendix K)

Under limited circumstances, a line officer may decide to modify the size and location of an OGR. Modifications of OGRs will require completion of a project level review. This review may be necessary if:

- A. The project occurs in certain VCUs identified in Appendix K.

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- B. Site-specific information for a small OGR indicates that the OGR habitat criteria are not met in the mapped location.
- C. Actions are proposed within the OGR that will reduce the integrity of the old-growth habitat in the OGR.
- D. The OGR will be affected by a land conveyance, power line, mine, or other project that was not considered in the Forest Plan.

Project-level reviews will ensure that OGRs meet Forest Plan OGR criteria while addressing forest-wide multiple use goals and objectives. There are two levels of review included in the project-level review: 1) the interagency review, and 2) the decision process.

Step 1, Interagency Review Process—The purpose of an interagency review is to identify the biologically preferred location for the OGR. An interagency team of USDA Forest Service, USFWS, and ADF&G biologists will jointly evaluate the location and habitat composition of the OGR by reviewing all the large productive old growth blocks within a VCU. The interagency review team will develop a proposal for the OGR that meets the criteria of this appendix and document why other proposals were not recommended.

The review will include the following steps:

- A. Review the purpose and rationale for current location of the Forest Plan OGR as documented in the current Tongass Old Growth database.
- B. Assess whether the purpose and rationale for the location of the OGR has changed.
- C. Use the design criteria to define the biologically preferred location for the OGR.
- D. Document this proposal as the interagency proposed OGR in the Tongass Old Growth database and in an Interagency OGR Review report.

Step 2, Decision Process—Line officers will incorporate the interagency review team OGR recommendation in the NEPA process, considering the best biological location for the OGR while balancing other considerations. The interagency team will work with the decision maker to develop alternate proposals, if necessary to meet other Forest Plan objectives. The implemented OGR must meet the minimum criteria as described below.

The Decision process will include the following steps:

- A. Attempt to develop a viable project that avoids conflicts with the biologically preferred OGR. At a minimum, the biologically preferred OGR will be considered in an alternative in the NEPA document.
- B. Where modifications to the biologically preferred OGR are required to meet Forest-wide multiple use goals and objectives:
 - 1. Follow the management prescriptions as defined for the Old-growth Habitat LUD; and
 - 2. Document the rationale for modifications to the biologically preferred OGR.
- C. Changes to the OGR LUD require a NEPA analysis and are generally a nonsignificant Forest Plan amendment.
- D. Analyze the amount of suitable Forest land impacted by the change in OGR.

- E. Add the updated information (including the rationale for the final location) to the Tongass Old Growth database.

Criteria for Small OGRs (TLMP Appendix K)

- A. Review Appendix D of the Final EIS, which includes the assumptions for the design of the old-growth reserve system.
- B. Small reserves are a contiguous landscape of at least 16 percent of the National Forest System land area of each VCU and at least 50 percent of the small reserve, should be productive old growth. The size and location of small OGRs will consider the following:
 - 1. OGRs shall contain a minimum of 400 acres of productive old-growth forest. Do not map isolated reserves with less than 400 acres of productive old growth.
 - 2. The preferred biological objective is for each reserve to contain at least 800 acres of productive old-growth forest.
 - 3. In VCUs that are partially allocated to a Non-development LUD, compare the computed acreage required to the acres of productive old growth in the Non-development LUD. If the Non-development LUD acres are less than the area necessary for a small reserve, first use the productive old growth acres in the existing Non-development LUD to establish a small reserve, and then add additional acres of productive old growth to achieve the required small reserve size and composition.
 - 4. In VCUs that are separated by saltwater channels, reserves may be separated, but attempt to retain 800 acres of productive old growth in each.
 - 5. In very large VCUs, generally larger than 10,000 acres, the allocated old growth may be mapped in separate reserves as long as each reserve has a minimum of 800 acres of productive old growth. However, larger contiguous reserves are preferred to multiple smaller reserves.
 - 6. In very large VCUs that contain relatively little productive old growth and the computational rule requires an amount of productive old growth that exceeds 50 percent of the existing productive old growth in the VCU, map a reserve of at least 400 acres of productive old growth.
 - 7. Where VCU boundaries do not match watershed or ecological boundaries, up to 30 percent of the allocated old growth acres in a VCU may be mapped in an adjacent VCU if the resulting reserve achieves old-growth reserve objectives. The resulting small reserve in both VCUs must be contiguous. Total acreage is attributed to the VCU with 70 percent of the OGR.
 - 8. OGR boundaries should follow recognizable features that are identifiable on the ground. Features should be permanent and easily identifiable. Features may include but are not limited to streams, roads, distinctive ridges and ridge-tops, watershed boundaries, and v-notches.

General Design Criteria (TLMP FEIS Appendix D, 2.2.1.2)

- A. OGRs were located so that spacing is maintained in the four cardinal directions.
- B. Reserves are more circular rather than linear in shape to maximize the amount of interior (secure from the effects of forest edge) forest habitat.

- C. The amount of early seral habitat within mapped reserves was minimized to the extent feasible. In VCUs where managed stands constitute a high portion of the total acres, including seral habitat that previously supported high volume stands to the OGR was favored if it achieved a more circular shape, maintained connectivity or included rare habitats (e.g., karst).
- D. The amount of roads and log transfer facilities within mapped reserves were minimized to the extent feasible.
- E. Riparian, beach and estuary habitats were considered as contributing elements to OGRs.
- F. Site-specific factors in placing reserves were considered to help meet multiple biodiversity or wildlife habitat objectives. Factors included, but were not limited to:
 - 1. The largest remaining blocks of contiguous old growth within a watershed. Old-growth forest that constitutes scattered fragments of unsuitable timberland generally did not contribute to meeting small reserve design.
 - 2. Rare features such as underrepresented forest plant associations or stands with some of the Forest's highest volume timber stands.
 - 3. Known or suspected goshawk nesting habitat.
 - 4. Known or suspected marbled murrelet nesting habitat
 - 5. Important deer winter range to maintain important deer habitat capability to meet public demand for use of the deer resource.

There was no requirement to ensure connectivity among all small OGRs or between small OGRs and non-development LUDs (which form parts of large and medium OGRs). POG forest occurring within other features of the strategy (e.g., beach fringe, riparian, other non-development LUDs) contributes to overall landscape connectivity in the evaluation. It was anticipated that there would be a need to provide additional corridors only in rare situations. Medium and large OGRs were designed to provide connectivity between other old-growth LUDs and other non-development LUDs. The following parameters were used to ensure OGRs maintained connectivity.

- A. Only one connection in one direction was necessary.
- B. The beach fringe serves as a connector.
- C. The connection did not have to be the shortest distance.

ANALYSIS

The old-growth reserve network was implemented with the Forest Plan revision in 1997. It included a coordinated network of large, medium and small OGRs. There are two large OGRs in the project area. Large OGR 1301 is located on the west side of Lynn Canal and Large OGR 1302 is on the east side of Lynn Canal (Figure 1). These large OGRs contain large amounts of alpine, ice, and rock and relatively small amounts of POG habitat (approximately 16% POG in OGR 1301 and 6% in OGR 1302). Large OGRs were thoroughly reviewed during the Forest Plan analysis and the need for major changes was considered unlikely. However, this analysis will document the expected effects of the project alternatives on the large OGRs. Small OGRs established for the 1997 Forest Plan received less analysis and mapping precision than was necessary to meet the Forest Plan standards. Therefore, the Forest Plan provided for the further evaluation and possible adjustment of the locations of small OGR during project level environmental analyses. The small OGRs in VCUs 160, 190, and 200 were created for the 1997 Forest Plan. They were modified by a non-significant Forest Plan amendment based on project level interagency review team recommendations for the Kensington Gold project environmental analysis in 2004. These OGRs were further refined by the 2008 Forest Plan amendment. The small OGR in VCU 950 was created for the 2008 Forest Plan amendment because the non-development LUD in the area did not include POG habitat.

Alternatives 1, 1B, 4A, and 4C, would not construct roads in old-growth reserves. These alternatives will not impact the OGRs and will not be discussed further.

Alternative 2B would construct a road that would pass through three small OGRs, located in VCUs 160, 200, and 190 and large OGR 1302 in Berners Bay and along the east shore of Lynn Canal north of VCU 190. Alternative 3 would construct roads that would pass through one small OGR, in VCU 950 and 960 and large OGRs 1302 and 1301. This project level review and potential boundary modifications are consistent with criteria in Appendix K of the 2008 Forest Plan. Alternatives 4B and 4D would build a road to Sawmill Cove in Berners Bay which would impact large OGR 1302.

This analysis will discuss how the roaded alternatives will affect the OGRs in terms of acres of POG removed, as well as how the roads will affect small OGR design criteria discussed in the Tongass Forest Plan.

The affected acres were analyzed in two ways. The Alaska Department of Transportation provided GIS files of the expected cut and fill design as well as the expected centerline for the road alignments. The cut and fill design was buffered by 10 feet which is the expected average clearing width outside the cut and fill area. The centerline was buffered by 150 feet on each side to represent the leased area which would also correspond to the TUS LUD overlay. These GIS layers were overlaid on the USFS corporate GIS vegetation layer (SizeDensity) to determine the acres of old-growth forest that would be impacted. In the Kensington Mine area, where the road alignment overlaps with a portion of an existing road but the GIS layer still shows old-growth forest, the affected acres were adjusted to exclude the existing road area.

Alternative 2B

Alternative 2B would reduce the total OGR acreage in three small OGRs and one large OGR by transferring land within the OG LUD (or other non-development LUD) to the TUS LUD. In small OGR 10 (VCU 160), up to 98 acres would be transferred and would result in this OGR not meeting the Forest Plan minimum total acre criteria (Table 1). Changes to OGR 10 recommended by the interagency review team would help bring it in compliance with the Forest Plan criteria for total acreage (see Interagency Review section below). Alternative 2B would transfer approximately 894 acres, from the LUDs incorporating Large OGR 1302 (see Figure 1) to the TUS LUD (easement).

This alternative would also reduce the amount of POG in three small OGR (see Table 1) and one large OGR. The amount of POG in small OGR 9 (VCU 190) would be reduced below the acreage prescribed by the Forest Plan (see Table 1). Consistent with Forest Plan direction, an interagency review was conducted as described above. Changes to OGR 9 recommended by the interagency review team would bring it in compliance with the Forest Plan criteria for POG acreage (see Interagency Review section below). Thus, all three small OGRs would meet minimum Forest Plan POG standards. However, compared to the existing condition and no-build alternatives, all three small OGRs would not provide comparable achievement of Old-Growth LUD goals and objectives following construction of a road, because of increased road miles, reduced POG acreage, impacts to connectivity, and fragmented large blocks of POG. There are not suitable locations (i.e. suitable patches of productive old-growth forest) in these VCUs to move the OGRs to avoid the road location. This alternative would not remove any SD6/7 habitat (i.e., rare/underrepresented features on the landscape) within small OGRs. Alternative 2B would reduce high-volume POG (HPOG) by 2-11 acres within the small OGR 10 but would not reduce high-volume POG in any of the other small OGRs (See Table 1).

Alternative 2B would remove approximately 702 acres of POG, including 238 acres of HPOG, from large OGR 1302. An estimated 268 acres of this POG, including approximately 92 acres of HPOG, would be cleared for the road (cut and fill footprint). This large OGR currently is 1,334,270 acres of which 83,422 acres are POG, including 27,920 acres of HPOG.

In all OGRs, the road will bisect blocks of continuous POG, isolating small remnants to the ocean side of the road. For much of its length, the road is located within the beach buffer, which is considered some of the most important habitat for wildlife because it provides horizontal (along the beach) corridors, winter habitat, and bald eagle nesting habitat. The road will disrupt travel corridors between the beach buffer and higher elevation summer habitat for mountain goats, moose and other species (White *et al.* 2012g, White *et al.* 2012m). Bears utilize beach habitats during much of the year and would be similarly impacted by roads across existing vertical corridors and paralleling horizontal corridors (Flynn *et al.* 2012). Small OGR 9 is particularly important for mountain goats and they have been documented using winter habitat down to saltwater in this area (White *et al.* 2012g). The effect of the road on each species is discussed in more detail in the individual species accounts in the EIS and wildlife technical reports.

Table 1. Comparison of Alternatives' impacts to Old-growth Reserves based on Forest Plan design criteria.

	OGR 10 (VCU 160) – Kensington			OGR 9 (VCU 190) – Independence			OGR 11 (VCU 200) – Point St Mary			OGR 1 (VCU 950) - Sullivan		
	Alt 1, 1B, 4A, 4C	Alt 2B	Alt 3	Alt 1, 1B, 4A, 4C	Alt 2B	Alt 3	Alt 1, 1B, 4A, 4C	Alt 2B	Alt 3	Alt 1, 1B, 4A, 4C	Alt 2B	Alt 3
Forest Plan Appendix K Criteria												
Required OGR (acres) ^{1/}	1,276			1,438			1,632			1,402		
Required POG (acres) ^{2/}	638			719			816			701		
OGR acres	1,282	1,242/1,178 ^{8/}	1,282	1,744	1,698/1,630 ^{8/}	1,744	3,312 ^{9/}	3,292/3,249 ^{8/}	3,312	3,385 ^{11/}	3,385	3,355/3,288 ^{8/}
POG acres	1,173 ^{7/}	1,142/1,082 ^{7,8/}	1,173 ^{7/}	732	709/676 ^{8/}	732	1,450 ^{9/}	1,443/1,433 ^{8/}	1,450	836 ^{11/}	836	812/761 ^{8/}
Acreage requirements met?	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Appendix D General Design Criteria												
Circular rather than linear to maximize interior habitat/minimize fragmentation effects	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Minimizes roads (total road miles) ^{12/}	2.29	4.08	2.29	0	3.26	0	0	1.73	0	0	0	2.66
Minimizes early seral habitat (acres)	58	58/58 ^{8/}	58	84	84/83 ^{8/}	84	0	0/0 ^{8/}	0	500	500	494/480 ^{8/}
Riparian/beach/estuary habitats (Road miles in beach/estuary buffer)	0.87	1.95	0.87	0	3.26	0	0	0.25	0	0	0	1.97
Includes largest remaining block of POG in VCU?	Yes	Yes	Yes	Yes	Yes	Yes	No ^{10/}	No ^{10/}	No ^{10/}	Yes	Yes	Yes
Rare/Underrepresented features (large tree POG acres) ^{3/}	8	8/8	8	0	0/0	0	0	0/0	0	145	145	145/145 ^{8/}
Deep snow deer & marten habitat (acres) ^{4/}	208 ^{7/}	205/198 ^{7,8/}	208 ^{7/}	65	65/65 ^{8/}	65	124	124/124 ^{8/}	124	635	635	612/565 ^{8/}
Goshawk & murrelet nesting habitat (acres) ^{5/}	244 ^{7/}	241/233 ^{7,8/}	244 ^{7/}	80	80/80 ^{8/}	80	136	136/136 ^{8/}	136	778	778	755/707 ^{8/}
Other Considerations												
Maintains Connectivity	Yes	Road cuts through beach buffer at Berners River	Yes	Yes	Road impacts entire length of beach buffer	Yes	Yes	Road impacts use of Slate Creek as elevational corridor	Yes	Yes	Yes	Road impacts most of beach buffer
Low elevation POG (acres) ^{6/}	1014 ^{7/}	983/922 ^{7,8/}	1014 ^{7/}	422	399/366 ^{8/}	422	1413	1406/1396 ^{8/}	1413	694	694	670/618 ^{8/}

1/ 16% of VCU acres

2/ 50% of OGR acres

3/ SD67 type

4/ High-volume POG ≤ 800 feet in elevation

5/ High-volume POG all elevations (indicative of optimal goshawk and marbled murrelet nesting habitat due to presence of large trees and snags, though both species may use all POG types; see Issue 3)

6/ All POG ≤ 800 feet in elevation (representative of low-elevation travel corridors important for many species)

7/ Excludes footprint of the existing Kensington Road

8/ Shown as acres remaining after subtracting cut and fill footprint/easement footprint

9/ Includes 1,217 acres (of which 802 acres are POG) that are associated with this OGR but occur in VCU 160

10/ Incorporates a larger block from adjacent VCU (160), and is contiguous with VCU 160 OGR which also incorporates part of this large POG block

11/ Includes 200 acres (of which 132 acres are POG) that are associated with this OGR but occur in VCU 960

12/ Except for OGR 10 (VCU 160) all roads would be within the OGR boundary but would be in the Transportation and Utility System LUD.

Alternative 3

This alternative would reduce the amount of POG in small OGR 1 (VCU 950, see Table 1) and two large OGRs. However, small OGR 1 would remain consistent with Forest Plan acreage prescriptions. The interagency review team recommended no changes to small OGR 1. However, compared to the existing condition and no-build alternatives, this small OGR would not meet comparable achievement of Old-Growth LUD goals and objectives following construction of a road, because of increasing road miles, reducing POG acreage, impacts to connectivity, and fragmenting large blocks of POG. There are not suitable locations (i.e. suitable patches of productive old-growth forest) in this VCU to move the OGR to avoid the road location.

Alternative 3 would result in approximately 73 total acres including 61 acres of POG and 23 acres of HPOG, transferred from the LUD incorporating Large OGR 1302 (east side of Lynn Canal) and 388 total acres including 365 acres of POG and 242 acres of HPOG from large OGR 1301 (west side of Lynn Canal) to the TUS LUD (easement, see Figure 1). An estimated 22 acres of this POG, including 9 acres of HPOG on the east side and 129 acres of POG including 85 acres of HPOG on the west side, would be cleared for the road (cut and fill footprint). Large OGR 1302 currently is 1,334,270 acres of which 83,422 acres are POG, including 27,920 acres of HPOG. Large OGR 1301 currently is 300,854 acres of which 47,096 acres are POG, including 20,761 acres of HPOG.

Similarly to Alternative 2B, the road is located for much of its length within the beach buffer. This will bisect blocks of continuous POG, isolating small remnants to the ocean side of the road. It will disrupt winter habitat, travel corridors, and bald eagle nesting habitat.

Alternatives 4B and 4D

Alternatives 4B and 4D would not build road in any small OGRs but a portion of the road from Cascade Point to Sawmill Cove would intrude into large OGR 1302 east of Berners Bay. Approximately 73 acres containing 61 acres of POG would be transferred to the TUS LUD (easement). Approximately 22 of those POG acres would be cleared for the road footprint (cut and fill footprint).

The types of impacts would be similar to those described for Alternatives 2B and 3, but to a lesser extent.

INTERAGENCY REVIEW TEAM RECOMMENDATIONS

Historical and background information on these small OGRs is from the “OGR Tracking Table 29 September 2009.xls” which documents the history and review of all small OGRs for the 2008 Tongass NF Plan Amendment.

OGR 9 (VCU 190)

This OGR was initially mapped for the 1997 Tongass Forest Plan. It was reviewed during the environmental analysis for the Kensington Gold project in 2004 and modified by the associated non-significant Forest Plan amendment, also in 2004. The adopted changes were suggested by an interagency review team to meet minimum acre criteria and improve connectivity between higher elevations and beach and estuary fringe habitats. The most recent revision of this OGR came during the environmental analysis for the 2008 Tongass Forest Plan Amendment. The northwest and north boundaries were moved to the saltwater shoreline and a stream, respectively. This was done to make boundaries follow recognizable features. Notes in the OGR Catalog and OGR Tracking Table state that during the revisions for the Kensington Gold project and 2008 Forest Plan Amendment, this OGR was designed to exclude the proposed Juneau Access Road. However, there is no further description of how this was to be accomplished and GIS mapped boundaries do not indicate any exclusion. There is no reference to the exclusion in any documents in the Kensington Gold 2004 EIS planning record. Bill Hansen of the US Fish and Wildlife Service and J.T. Stangl of the US Forest Service, who were members of the interagency

review team that reviewed this OGR for the 2008 Forest Plan Amendment, could not recall specific information about the exclusion (B. Hanson personal communication with D. Chester Oct. 20, 2014; J. Stangl personal communication with Dennis Chester Oct. 20, 2014). As a result, the current interagency review team analyzed this OGR assuming no part of it had been excluded. Table 2 shows how the existing OGR (Alternative 1) compares to the Forest Plan design criteria and how the alternatives would modify the OGR.

Alternative 2B is the only alternative that would impact this OGR. It would reduce POG below Forest Plan minimums (Table 2). This reduction would occur in low elevation POG which would reduce winter habitat for goats and other species. The road would disrupt travel corridors between higher elevations and beach buffer habitat as well as along the beach buffer through the entire OGR. The road would bisect blocks of continuous POG, isolating small remnants to the ocean side of the road. Under Alternative 2B, OGR 9 would not provide comparable achievement of Old-Growth LUD goals and objectives compared to the existing condition and no-build alternatives because of increased road miles, reduced POG acreage, impacts to connectivity, and fragmented large blocks of POG.

To address the reduction in POG below Forest Plan minimums the interagency review team recommends an extension to the OGR. There are limited opportunities for expansion in this VCU and there is no alternative location within this VCU that would avoid the road corridor and has sufficient POG to meet the small OGR standards. The interagency review team recommends extending the existing OGR boundary north to include a 98 acre POG stand that is heavily used by goats (White *et al.* 2012g). The eastern boundary would be the 2000 foot contour, consistent with the existing OGR; the western boundary would be the saltwater shoreline; and the northern boundary would be an unnamed stream (Figure 2). Flynn *et al.* (2012) also demonstrated use of the beach fringe in this area by brown bears. This would keep the OGR within VCU 190, maintain connectivity between higher elevations and beach fringe habitat, and tie the northern boundary to an identifiable feature. There was some concern that the POG stands in this area of the VCU are isolated and separated by non-productive lands, thus reducing connectivity. This modification constitutes the interagency teams' biologically preferred alternative and would meet Forest Plan minimum criteria for small OGRs. Table 2 compares how the biologically preferred alternative compares to the original OGR and project alternatives.

The team also looked at alternative areas south of the OGR in VCU 200. This area includes larger stands of higher volume POG and is more important for bears than the northern area. However, goats, which are the primary species documented to use the VCU 190 area, did not use the southern area as much due to its less rugged terrain. A large block of POG to the southeast was higher in elevation and not expected to provide connectivity to beach habitat or provide habitat for as many species. In the southern area it was hard to identify suitable boundaries without including too large an area, and it did not meet the preference to stay within VCU 190. There was some concern about the proximity of the Kensington mine and associated potential future development.

Interagency Old-growth Reserve Review – Juneau Access Improvements Project

Table 2. Comparison of existing condition, project alternatives, and interagency review team recommendations for the small OGR in VCU 190.

	OGR 9 (VCU 190) – Independence (existing)		OGR 9 (VCU 190) – Independence (biologically preferred)	
	Alt 1, 1B, 3, 4A, 4C	Alt 2B	Alt 1, 1B, 3, 4A, 4C	Alt 2B
Forest Plan Appendix K Criteria				
Required OGR (acres) ^{1/}	1,438		1,438	
Required POG (acres) ^{2/}	719		719	
OGR acres	1,744	1,698/1,630 ^{7/}	2,327	2,262/2,162 ^{7/}
POG acres	732	709/676 ^{7/}	854	824/779 ^{7/}
Acreage requirements met?	Yes	No	Yes	Yes
Appendix D General Design Criteria				
Circular rather than linear to maximize interior habitat/minimize fragmentation effects	No	No	No	No
Minimizes roads (total road miles)	0	3.26	0	4.68
Minimizes early seral habitat (acres)	84	84/83 ^{7/}	165	159/149 ^{7/}
Riparian/beach/estuary habitats (Road miles in beach/estuary buffer)	0	3.26	0	4.68
Includes largest remaining block of POG in VCU?	Yes	Yes	Yes	Yes
Rare/Underrepresented features (large tree POG acres) ^{3/}	0	0/0 ^{7/}	0	0/0 ^{7/}
Deep snow deer & marten habitat (acres) ^{4/}	65	65/65 ^{7/}	65	65/65 ^{7/}
Goshawk & murrelet nesting habitat (acres) ^{5/}	80	80/80 ^{7/}	80	80/80 ^{7/}
Other Considerations				
Maintains Connectivity	Yes	Road impacts entire length of beach buffer	Yes	Road impacts entire length of beach buffer
Low elevation POG (acres) ^{6/}	422	399/366 ^{7/}	488	458/413 ^{7/}

1/ 16% of VCU acres

2/ 50% of OGR acres

3/ SD67 type

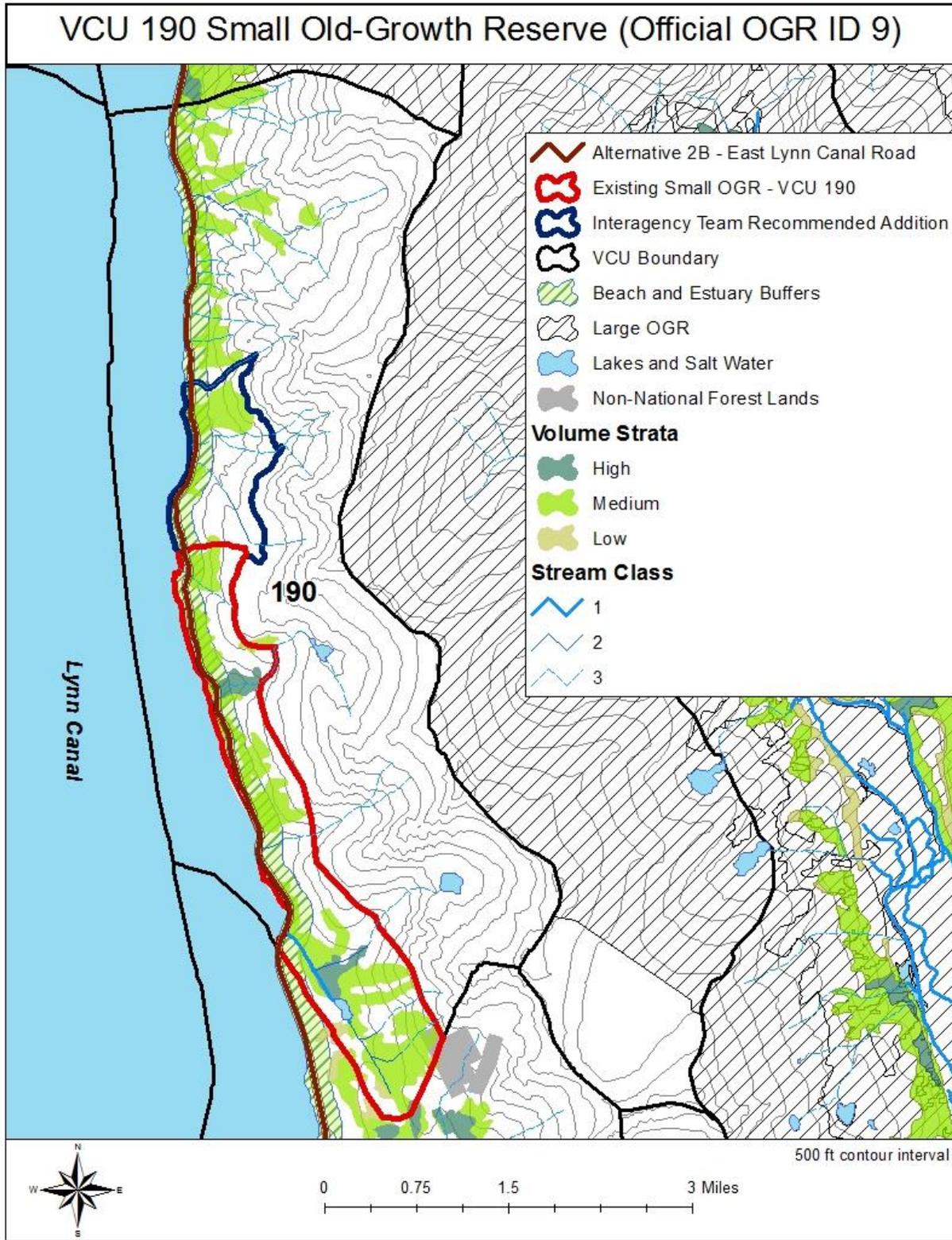
4/ High-volume POG ≤ 800 ft elevation

5/ High-volume POG all elevations (indicative of optimal goshawk and marbled murrelet nesting habitat due to presence of large trees and snags, though both species may use all POG types; see Issue 3)

6/ All POG ≤ 800 ft elevation (representative of low-elevation travel corridors important for many species)

7/ Acres remaining determined by subtracting cut and fill footprint/easement footprint

Figure 2.VCU 190, showing the small Old-growth Reserve and interagency review team biologically preferred alternative.



OGR 10 (VCU 160)

This OGR was initially mapped for the 1997 Forest Plan. It was reviewed during the environmental analysis for the Kensington Gold project in 2004 and modified by the associated non-significant Forest Plan amendment, also in 2004. The adopted changes were suggested by an interagency review team to meet minimum acre criteria and improve connectivity. The changes included important beach, estuary and riparian habitat and quality POG. The most recent revision of this OGR came during the environmental analysis for the 2008 Tongass Forest Plan Amendment. The interagency review team for the 2008 Forest Plan Amendment recommended modifications to the Kensington Forest Plan Amendment that would follow recognizable landscape features. This recommendation excluded the Kensington Mine tailings storage facility, access roads, pipeline and maintenance access facilities but included the existing mine access road. The final 2008 Forest Plan Amendment decision removed the northern portion of interagency recommendation to exclude the Kensington tailings storage facility and associated facilities and to exclude a potential LSTA road and maintain harvest opportunities. The interagency review team for the Forest Plan Amendment noted that the final version of OGR 10 excludes the majority of volume class 6 habitat from the OGR. They recommended a project level review to reevaluate maintaining volume class 6 habitat and goshawk nesting/foraging habitat in the OGR.

Alternative 2B is the only alternative that would impact this OGR. Transferring the road corridor to the TUS LUD would reduce the total OGR acres below the Forest Plan minimum by an estimated 34-98 acres (Table 3). Alternative 2B would create a road through the OGR that would disrupt travel corridors and fragment low elevation POG blocks. This alternative would remove an estimated 31-92 acres of low elevation POG from the OGR, but the OGR would still meet minimum POG standards. Under Alternative 2B, OGR 10 would not provide comparable achievement of Old-Growth LUD goals and objectives compared to the existing condition and no-build alternatives because of increased road miles, reduced POG acreage, impacts to connectivity, and fragmented large blocks of POG.

The Juneau Access Improvement project interagency review team recommends a modification to OGR 10 that includes the volume class 6 stand in the eastern portion of the area excluded from the interagency team recommendation during the 2008 Forest Plan Amendment. The western boundary would be adjusted to exclude the area affected by the Kensington tailings disposal facility and would follow the line of muskegs in the north and center of T.35S, R.62E, Section 26 (see Figure 3). The east and northern boundaries would be essentially as recommended by the interagency review team for the Forest Plan amendment except that it would continue north along the small creek to a pond that would provide a more identifiable boundary. This addition would include the volume class 6 stand and other HPOG which are rare components of this landscape (see Figure 3), provide suitable habitat for goshawks and marbled murrelets, and make more identifiable boundaries. This stand is known to have been used by goshawks nesting in the area. With this addition OGR 10 would be 16 acres short of the Forest Plan minimum total acre criteria. It would make up for the acreage lost to the road footprint, but not the easement (Table 3). However, OGR 11 (for VCU 200) overlaps into VCU 160 and is contiguous with OGR 10 (see Figures 1 and 3). OGR 11 is sufficiently above Forest Plan minimums (Table 1) that it could make up the difference in the overlap area.

This modification constitutes the interagency teams' biologically preferred alternative. It would effectively make the OGR consistent with Forest Plan minimum criteria for small OGRs. Table 3 compares how the biologically preferred alternative compares to the original OGR and project alternatives.

Interagency Old-growth Reserve Review – Juneau Access Improvements Project

Table 3. Comparison of existing condition, project alternatives, and interagency review team recommendations for the small OGR in VCU 160.

	OGR 10 (VCU 160) – Kensington (existing)		OGR 10 (VCU 160) – Kensington (biologically preferred)	
	Alt 1, 1B, 3, 4A, 4C	Alt 2B	Alt 1, 1B, 3, 4A, 4C	Alt 2B
Forest Plan Appendix K Criteria				
Required OGR (acres) ^{1/}	1,276		1,276	
Required POG (acres) ^{2/}	638		638	
OGR acres	1,282	1,242/1,178 ^{8/}	1,363	1,324/1260 ^{8/}
POG acres	1,173 ^{7/}	1,142/1,082 ^{7,8/}	1,244 ^{7/}	1213/1153 ^{7,8/}
Acreage requirements met?	Yes	No	Yes	Yes
Appendix D General Design Criteria				
Circular rather than linear to maximize interior habitat/minimize fragmentation effects	Yes	Yes	Yes	Yes
Minimizes roads (total road miles)	2.29	4.08	2.29	4.08
Minimizes early seral habitat (acres)	58	58/58 ^{7,8/}	58	58/58 ^{7,8/}
Riparian/beach/estuary habitats (Road miles in beach/estuary buffer)	0.87	1.95	0.87	1.95
Includes largest remaining block of POG in VCU?	Yes	Yes	Yes	Yes
Rare/Underrepresented features (large tree POG acres) ^{3/}	8	8/8 ^{7,8/}	22	22/22 ^{7,8/}
Deep snow deer & marten habitat (acres) ^{4/}	208 ^{7/}	205/198 ^{7,8/}	230	227/219 ^{7,8/}
Goshawk & murrelet nesting habitat (acres) ^{5/}	244	241/233 ^{7/}	290	287/279 ^{7,8/}
Other Considerations				
Maintains Connectivity	Yes	Road cuts through beach buffer at Berners River	Yes	Road cuts through beach buffer at Berners River
Low elevation POG (acres) ^{6/}	1,014 ^{7/}	983/922 ^{7,8/}	1,038 ^{7/}	1,007/946 ^{7,8/}

1/ 16% of VCU acres

2/ 50% of OGR acres

3/ SD67 type

4/ High-volume POG ≤ 800 feet in elevation

5/ High-volume POG all elevations (indicative of optimal goshawk and marbled murrelet nesting habitat due to presence of large trees and snags, though both species may use all POG types; see Issue 3)

6/ All POG ≤ 800 feet in elevation (representative of low-elevation travel corridors important for many species)

7/ Excludes footprint of the existing Kensington Road

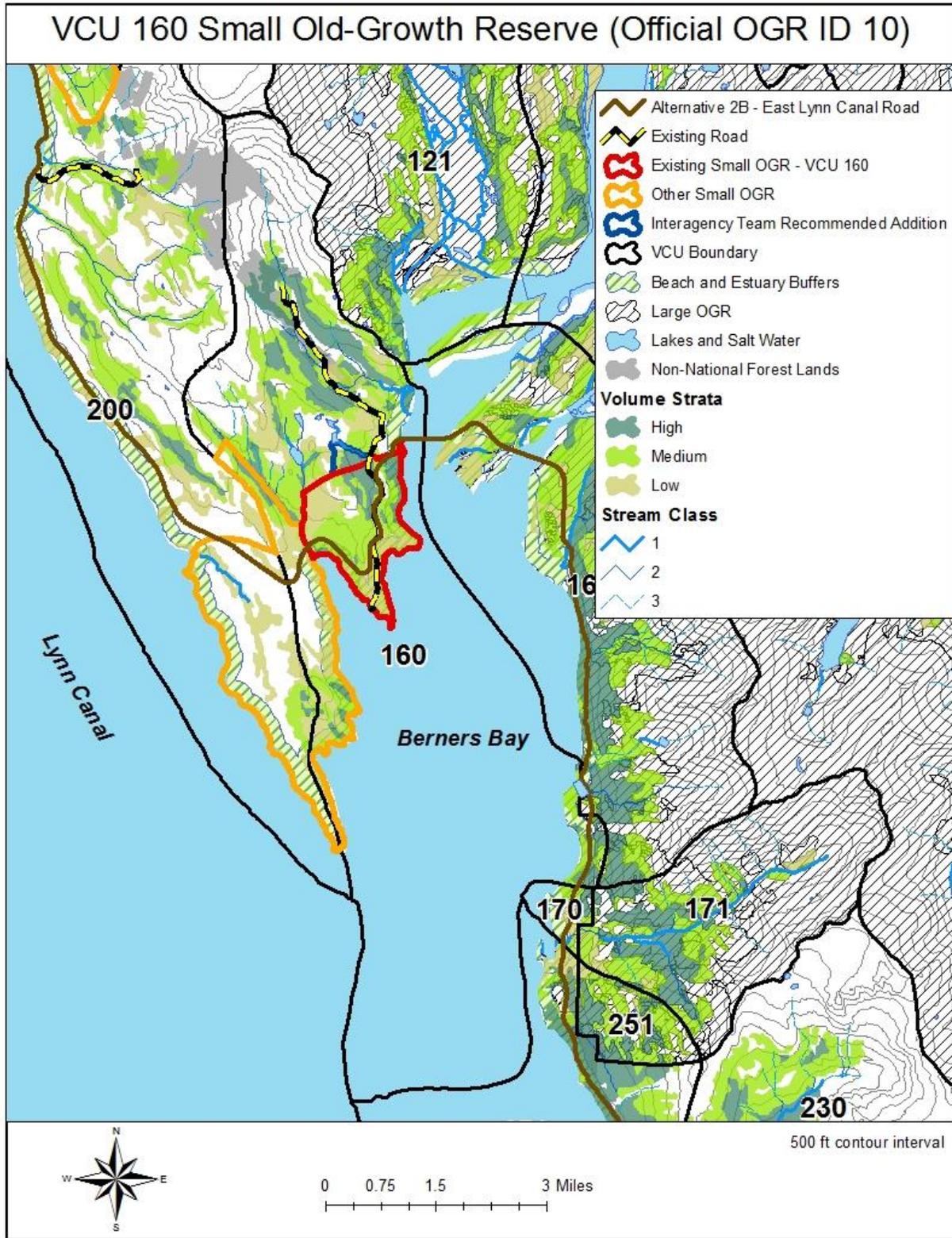
8/ Shown as acres remaining after subtracting cut and fill footprint/easement footprint

9/ Includes 1,217 acres (of which 798 acres are POG) that are associated with this OGR but occur in VCU 160

10/ Incorporates a larger block from adjacent VCU (160), and is contiguous with VCU 160 OGR which also incorporates part of this large POG block

11/ Includes 200 acres (of which 132 acres are POG) that are associated with this OGR but occur in VCU 960

Figure 3. VCU 160, showing small Old-growth Reserve and interagency review team biologically preferred alternative.



OGR 11 (VCU 200)

This OGR was initially mapped for the 1997 Forest Plan. It was reviewed during the environmental analysis for the Kensington Gold project in 2004 and modified by the associated non-significant Forest Plan amendment, also in 2004. The adopted changes were suggested by an interagency review team to meet minimum acre criteria and improve connectivity. VCU 200 is predominantly non-productive and low volume POG forest, with little medium and high volume POG. To meet the minimum POG acreage criteria, OGR 11 had to incorporate POG that occurs in VCU 160. The current boundaries were established by the 2008 Forest Plan Amendment. The 2008 modifications included extending the boundary of the Slate Creek section west to the VCU 200/160 boundary (a ridge) to make a more identifiable boundary. It also modified the northern boundary of the Slate Creek section to exclude a potential LSTA (logging systems and transportation analysis) road and maintain future harvest opportunities. The LSTA road could be used as the northern boundary.

Alternative 2B is the only alternative that would impact this OGR (Table 1). This alternative would reduce total and POG acres but the OGR would still meet minimum Forest Plan criteria (Table 1). This OGR would lose relatively little POG and beach habitat compared to other OGRs. Approximately 1.73 miles of road would be constructed within the OGR boundary. The road would cross a wildlife travel corridor along Slate Creek which provides connectivity between beach habitat and higher elevation habitat. Under Alternative 2B, OGR 11 would not provide comparable achievement of Old-Growth LUD goals and objectives compared to the existing condition and no-build alternatives because of increased road miles, reduced POG acreage, impacts to connectivity, and fragmented large blocks of POG. However, there is no alternative location within this VCU that would avoid the road corridor and has sufficient POG to meet the small OGR standards.

The Juneau Access Improvement project interagency review team did not recommend any changes to this OGR.

OGR 1 (VCU 950)

OGR 1 was created for the 2008 Forest Plan Amendment to meet minimum POG acre criteria for this VCU because the non-development LUD in the area (part of large OGR 1301) did not include POG habitat. The objectives for this OGR are to maintain POG along the beach and provide connectivity between the beach and high elevation habitat for bear, goat, and moose. This OGR is larger than required to provide connectivity with large OGR 1301 at higher elevation and follow recognizable boundaries. OGR 1 overlaps into VCU 960 to follow a recognizable boundary (stream). This OGR was designed to avoid a potential LSTA road and log transfer facility and includes young-growth from a previously harvested area.

Alternative 3 is the only alternative that would impact this OGR (Table 1). This alternative would reduce total and POG acres but the OGR would still meet minimum Forest Plan criteria (Table 1). Alternative 3 would build an estimated 2.66 miles of road within the OGR boundary. The road would be located within the beach buffer through much of the OGR. This would disrupt travel corridors between higher elevations and beach buffer habitat as well as along the shoreline. The road would bisect blocks of continuous POG, isolating small remnants to the ocean side of the road. Under Alternative 3, OGR 1 would not provide comparable achievement of Old-Growth LUD goals and objectives compared to the existing condition and no-build alternatives because of increased road miles, reduced POG acreage, impacts to connectivity, and fragmented large blocks of POG. However, there is no alternative location within this VCU that would avoid the road corridor and has sufficient POG to meet the small OGR standards.

The Juneau Access Improvement project interagency review team did not recommend any changes to this OGR.

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- USDA Forest Service. 2008b. Tongass land and resource management plan. Forest Service, R10-MB-603b.

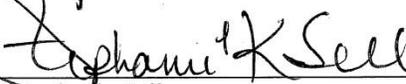
Interagency Old-growth Reserve Review – Juneau Access Improvements Project

Interagency Review Team Signature Page



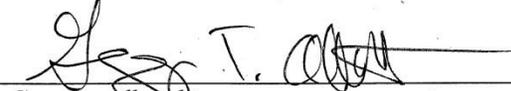
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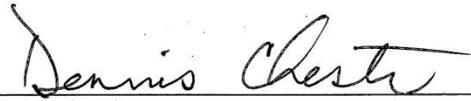
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