



United States  
Department of  
Agriculture

**Forest Service**

Tongass  
National Forest  
R10-MB-632b

March 2009

# Navy Timber Sale

## Final Environmental Impact Statement

Wrangell Ranger District  
Wrangell, Alaska



## Key Acronyms and Other Terms

<b>ANILCA</b>	Alaska National Interest Lands Conservation Act
<b>AHMU</b>	Aquatic Habitat Management Unit
<b>ASQ</b>	Allowable Sale Quantity
<b>BMP</b>	Best Management Practice
<b>CEQ</b>	Council on Environmental Quality
<b>CFR</b>	Code of Federal Regulation
<b>DBH</b>	Diameter at Breast Height
<b>DEIS</b>	Draft Environmental Impact Statement
<b>EFH</b>	Essential Fish Habitat
<b>EVC</b>	Existing Visual Condition
<b>FACTS</b>	Forest Service Activity Tracking System
<b>FEIS</b>	Final Environmental Impact Statement
<b>Forest Plan</b>	Tongass Land and Resource Management Plan, 2008
<b>FSM or FSH</b>	Forest Service Manual or Forest Service Handbook
<b>GIS</b>	Geographic Information System
<b>GMU</b>	Game Management Unit
<b>HSI</b>	Habitat Suitability Index
<b>HUC</b>	Hydrologic Unit Code
<b>IDT</b>	Interdisciplinary Team
<b>LTF</b>	Log Transfer Facility
<b>LUD</b>	Land Use Designation
<b>LWD</b>	Large Woody Debris
<b>MAF</b>	Marine Access Facility
<b>MBF</b>	Thousand Board Feet
<b>MIS</b>	Management Indicator Species
<b>MMBF</b>	Million Board Feet
<b>NEAT_R</b>	NEPA Economic Analysis Tool Residual Value
<b>NEPA</b>	National Environmental Policy Act of 1969
<b>NFMA</b>	National Forest Management Act
<b>NMFS</b>	National Marine Fisheries Service
<b>OGR</b>	Old-growth Reserve
<b>POG</b>	Productive old-growth (forest)
<b>RAW</b>	Reasonable Assurance of Windfirmness
<b>RCS</b>	Road Condition Survey
<b>RMA</b>	Riparian Management Area
<b>RMO</b>	Road Management Objective
<b>ROS</b>	Recreation Opportunity Spectrum
<b>SRA</b>	Sediment Risk Assessment
<b>TES</b>	Threatened, Endangered, Sensitive [species]
<b>TPIT</b>	Tongass Plan Implementation Team
<b>TTRA</b>	Tongass Timber Reform Act
<b>VAC</b>	Visual Absorption Capability
<b>VCU</b>	Value Comparison Unit
<b>VQO</b>	Visual Quality Objective
<b>WAA</b>	Wildlife Analysis Area
<b>WCA</b>	Wrangell Cooperative Association

Cover photo: view of Navy Peak and Cannery Point

# Navy Timber Sale

## Final Environmental Impact Statement

Tongass National Forest  
USDA Forest Service, Alaska Region

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### Abstract:

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The USDA Forest Service proposes to harvest up to approximately 87.5 million board feet (MMBF) from up to approximately 6,107 acres of NFS land on Etolin Island in one or more offerings on Wrangell Ranger District, Tongass National Forest. The actions analyzed in this EIS are designed to implement direction contained in the 2008 Tongass Land and Resource Management Plan (Forest Plan). The Draft EIS describes six alternatives, which provide differing outputs and responses to issues identified for this project. The significant issues identified include timber supply and economics, wildlife habitat fragmentation, and inventoried roadless areas.

The alternatives include:

- A) No Action, proposes no harvest or road construction in the project area at this time;
- B) the Proposed Action Alternative proposes to harvest 3,212 acres producing 45.5 MMBF of timber;
- C) proposes to harvest 6,107 acres producing 87.5 MMBF of timber, which emphasizes maximizing the amount of timber harvested;
- D) the Preferred Alternative focuses on trying to select the more economical units, with greater use of conventional yarding methods, harvesting 2,369 acres producing 37.2 MMBF of timber;
- E) addresses wildlife habitat impacts, proposing to harvest 3,326 acres producing 38.4 MMBF of timber; and
- F) no entry into inventoried roadless areas, proposes to harvest 1,251 acres producing 18.3 MMBF of timber.



# Summary

## Introduction

The Forest Service prepared this Final Environmental Impact Statement (FEIS) to address the potential effects of timber harvest in the Navy project area in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations.

## Project Area

The Navy project area is located on central Etolin Island approximately 22 air miles southwest of Wrangell, Alaska (Figure 1-1). The project area encompasses approximately 77,500 acres of National Forest System (NFS) land. There are approximately 14,000 acres considered suitable and available for timber management. The project area is within portions of Value Comparison Units (VCUs) 4640, 4650, 4660, 4670, and 4680. VCUs are comparable to large watersheds, and generally follow major watershed divides.

## Proposed Action

A "Proposed Action" is defined early in the project-level planning process. This serves as a starting point for the Interdisciplinary Team (IDT), and gives the public and other agencies specific information on which to focus comments. Using these comments and information from preliminary analysis, the IDT develops alternatives to the Proposed Action. **The Proposed Action is Alternative B.**

The Proposed Action for the Navy project area is to harvest approximately 45.5 million board feet (MMBF) from approximately 3,212 acres of NFS land on Etolin Island in one or more offerings. This would require about 7.5 miles of new NFS road construction and reconstruction, and 6.3 miles of temporary road construction. Timber harvested would be hauled to the two existing Anita Bay log transfer facilities (LTFs). For this analysis, harvest is expected to begin in 2009.

## Purpose and Need

The Purpose and Need of the Navy Timber Sale project is to respond to goals and objectives of the Forest Plan and help move the project area toward the desired conditions described in that Plan (see Forest Plan, pp. 2-1 to 2-9). The Forest Plan includes forest-wide goals and objectives and area-specific LUD goals, objectives, and desired conditions. Applicable forest-wide goals and objectives include:

- Provide a diversity of opportunities for resource uses that contribute to the local and regional economies of Southeast Alaska (p. 2-5)
- Support a wide range of natural resource employment opportunities within Southeast Alaska's communities (p. 2-5)
- Manage the timber resource for production of sawtimber and other timber products from suitable forest lands made available for timber harvest, on an even-flow, long-term sustained yield basis and in an economically efficient manner (p. 2-7)
- 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 (p. 2-7)

## Decisions to be Made and Responsible Official

Based on this environmental study, analysis, and public comment, the Tongass National Forest Supervisor will decide whether and how to make timber available from the Navy project area in accordance with Forest Plan goals, objectives, and desired conditions. This decision will include:

- Whether or not to implement any of the action alternatives, and if one is selected,
- Unit and road location and design, road construction and reconstruction, LTFs, and silvicultural practices,
- The estimated timber volume available from the project area,
- Access management measures on proposed roads and LTFs,
- Mitigation measures and monitoring requirements, and
- Whether there may be a significant possibility of a significant restriction on subsistence uses.

## Issues

The following three issues were identified through internal information and public scoping, and were determined to be significant and within the scope of the project decision in the Final EIS. Each issue includes measurements that were used to determine the effects of the different alternatives. Similar issues were combined into one statement, where appropriate. The IDT developed alternatives to the Proposed Action to address these issues; Chapter 2 of this FEIS discusses and compares the alternatives. The issues are described and discussed in more detail in Chapter 1 under "Issues", and in Chapter 3.

**Issue 1: Timber Supply and Economics:** Timber harvest in the project area may affect local and regional economies.

**Issue 2: Wildlife Habitat Fragmentation:** Concerns were expressed about the effects of fragmentation on wildlife habitat by removing habitat and/or connectivity.

**Issue 3: Inventoried Roadless Areas:** Concerns were expressed that timber harvest and road construction in inventoried roadless areas could affect the characteristics of the area.

Two additional issues identified in the Draft EIS included: 1) concerns that the location and configuration of small OGRs may affect their quality and value as a habitat reserve for wildlife; and 2) concerns about the construction of a road system and LTF in the Navy watershed. The 2008 Forest Plan amendment, which became effective on March 17, 2008, adjusted the small OGRs in the project area, and identified the Navy watershed as a 'Phase 2' area, excluding it from proposed activities at this time. Therefore, these are no longer issues for the Navy project.

Other resource concerns were considered, which while important, were not used to drive alternative development. These concerns are identified in Chapter 1 under "Other Environmental Considerations", and discussed in Chapter 3.

## Alternatives Considered in Detail

The Proposed Action (Alternative B) and five alternatives are considered in detail. The action alternatives represent different means of satisfying the Purpose and Need, responding with differing emphasis to the significant issues.

**Alternative A**, the No-action Alternative, harvests no timber and builds no roads at this time.

**Alternative B**, the Proposed Action, harvests 45.5 million board feet (MMBF) by cable, shovel, and helicopter yarding systems. It would convert 1,207 acres of old-growth stands to an even-aged condition and 2,005 acres to an uneven-aged condition. This alternative includes 6.6 miles of new NFS road construction, 0.9 mile of reconstruction, and 6.3 miles of temporary road construction. All temporary roads built under this alternative would be decommissioned after the timber sale. The other roads, including the reconstructed NFS roads, would be closed at the end of the timber sale.

**Alternative C** emphasizes attaining the maximum volume allowed under Forest Plan Standards and Guidelines. This alternative harvests 87.5 MMBF by cable, shovel, and helicopter yarding systems. It would convert 2,185 acres of old-growth stands to an even-aged condition, 268 acres to a two-aged condition, and 3,654 acres to an uneven-aged condition. Alternative C includes 12.0 miles of new NFS road construction, 3.2 miles reconstruction, and 15.7 miles of temporary road construction. All temporary roads built under this alternative would be decommissioned after the timber sale. The other roads, including the reconstructed NFS roads would be closed at the end of the timber sale.

**Alternative D** is the Preferred Alternative. This alternative harvests 37.2 MMBF by cable, shovel, and helicopter yarding systems. It would convert 1,180 acres of old-growth stands to an even-aged condition and 1,180 acres to an uneven-aged condition.

## Summary

Alternative D includes 4.8 miles of new NFS road construction, 0.4 mile of reconstruction, and 5.4 miles of temporary road construction. All temporary roads built would be decommissioned, and all NFS road constructed and reconstructed would be closed at the end of the timber sale.

**Alternative E** primarily responds to the Wildlife Habitat Fragmentation issue (Issue 2). It would harvest 38.4 MMBF by cable, shovel, and helicopter yarding systems. It would convert 487 acres of old-growth stands to an even-aged condition and 2,839 acres to an uneven-aged condition. Alternative E includes 2.2 miles of new NFS road construction, 2.2 miles reconstruction, and 2.3 miles of temporary road construction. All temporary roads built would be decommissioned, and all NFS road constructed and reconstructed would be closed at the end of the timber sale.

**Alternative F** responds to the Inventoried Roadless Area issue (Issue 3) by not harvesting timber or constructing roads in inventoried roadless areas. This alternative would harvest 18.3 MMBF by cable, shovel, and helicopter yarding systems. It would convert 559 acres of old-growth stands to an even-aged condition and 692 acres to an uneven-aged condition. Alternative F 0.5 mile of new NFS road construction, 2.2 miles reconstruction, and 4.0 miles of temporary road construction. All temporary roads built under this alternative would be decommissioned and the NFS roads constructed and reconstructed under this alternative would be closed at the end of the timber sale.

These alternatives are described in more detail in Chapter 2, Alternatives, including foldout maps of the alternatives at the end of Chapter 2. See also Table 2-2, in Chapter 2. The environmental effects of the alternatives on resources are analyzed in Chapter 3 of this Final EIS.

## Items Common to Action Alternatives

All the action alternatives are consistent with the Forest Plan. All applicable Forest Plan Standards and Guidelines, best management practices (BMPs), laws and Forest Service manual and handbook direction were incorporated into the design of the proposed units and alternatives.

The Forest Service uses mitigation and protection measures in the planning and implementation of land management activities. The application of these measures begins during the planning and design phases of a project. Additional direction comes from applicable Forest Service manuals and handbooks.

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# **Chapter 1**

## **Purpose and Need**

# Chapter 1

## Purpose and Need

### Introduction

The Forest Service prepared this Final Environmental Impact Statement (Final EIS) to address the potential effects of timber harvest in the Navy project area (Figure 1-1) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Final EIS states the Purpose and Need for the Navy Timber Sale, and discloses the direct, indirect, and cumulative environmental impacts, and any irreversible or irretrievable commitment of resources that would result from the Proposed Action and alternatives.

This Final EIS is prepared according to the format established by the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508).

In preparing this Final EIS, the Interdisciplinary Team (IDT) used a systematic approach for analyzing the proposed project and alternatives to it, estimating the environmental effects. The planning process complies with NEPA and the CEQ regulations. Planning was coordinated with the appropriate Federal, State, local agencies, and local federally recognized tribes. The public, agencies, and tribes were involved in the planning process through meetings, letters, and personal conversations.

#### Document Organization

**Chapter 1**, in addition to explaining the Purpose and Need for the Proposed Action, discusses how the Navy project relates to the 2008 Tongass Land and Resource Management Plan (Forest Plan), and identifies the issues driving the environmental analysis.

**Chapter 2** describes the Proposed Action, compares alternatives to the Proposed Action, and describes mitigation and monitoring.

**Chapter 3** describes the environments potentially affected by the Proposed Action and alternatives and discloses potential effects.

**Chapter 4** contains the list of preparers, the Final EIS distribution list, literature cited, glossary, and index.

Appendices provide additional information on specific aspects of the proposed project. **Appendix A** of this document provides information on how this project relates to the overall Tongass Timber Sale Program and why the project is being scheduled at this time. **Appendix B** contains the Response to Comments on the Draft EIS. **Appendix C** contains the log transfer facility (LTF) siting information. This EIS summarizes and incorporates additional analyses by reference where appropriate.

Additional documentation, including detailed analyses of project-area resources, may be found in the project record located at the Wrangell Ranger District Office in Wrangell, Alaska.

# 1 Purpose and Need

Additional copies of the Final EIS may be obtained at the Wrangell Ranger District, P.O. Box 51, Wrangell, AK 99929, or (907) 874-2323.

## Project Area

The Navy project area is located on central Etolin Island approximately 22 air miles southwest of Wrangell, Alaska (Figure 1-1) and is within the Wrangell Ranger District, Tongass National Forest (Tongass), Alaska. The project area encompasses approximately 77,500 acres of National Forest System (NFS) land. There are approximately 14,000 acres considered suitable and available for timber management. The project area is within portions of Value Comparison Units (VCUs) 4640, 4650, 4660, 4670, and 4680. VCUs are comparable to large watersheds, and generally follow major watershed divides.

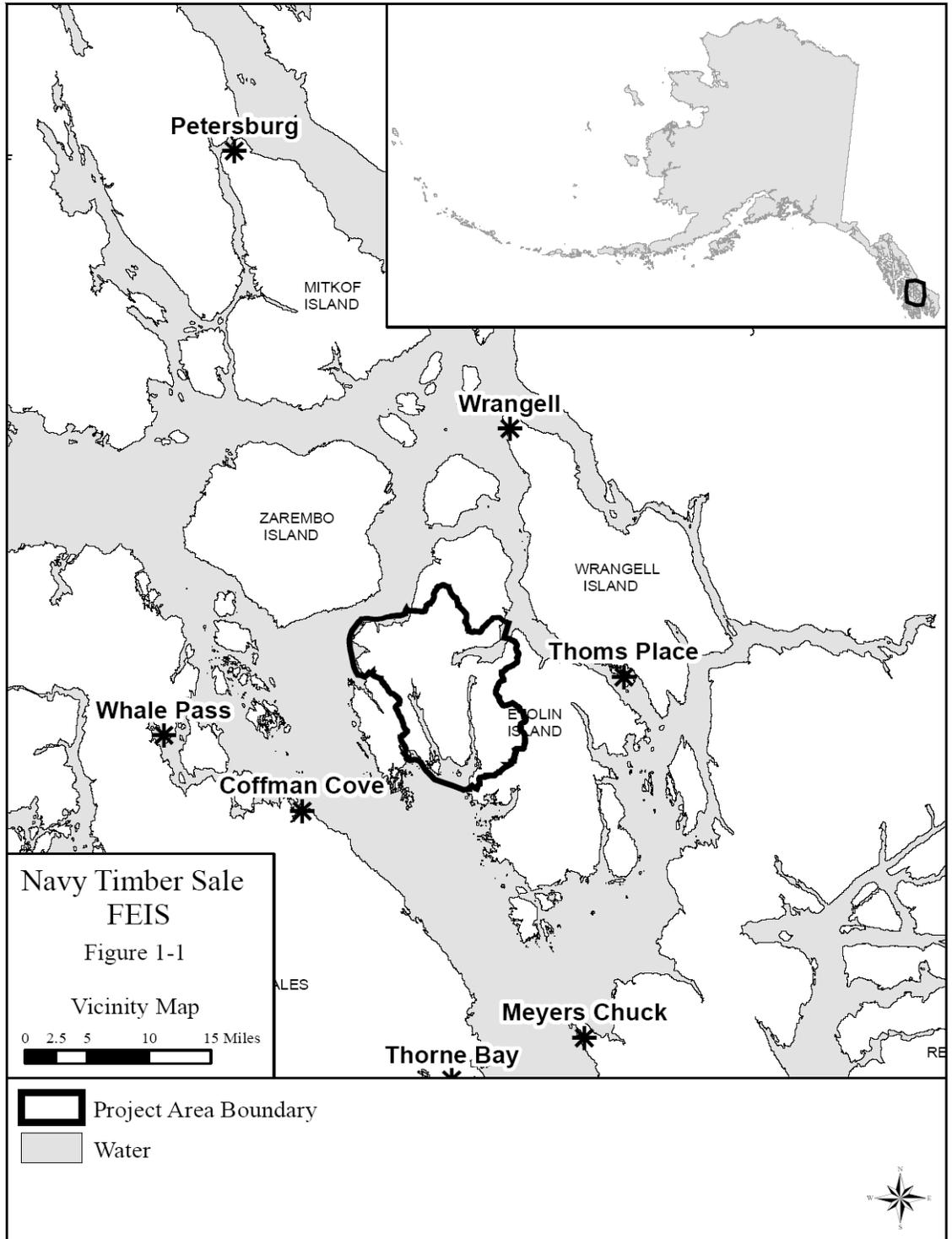
## Proposed Action

A Proposed Action is defined early in the project-level planning process. This serves as a starting point for the IDT, and gives the public and other agencies specific information on which to focus comments. Using these comments and information from preliminary analysis, the IDT develops alternatives to the Proposed Action.

**Alternative B is the Proposed Action.**

The Proposed Action for the Navy project area is to harvest approximately 45.5 million board feet (MMBF) from approximately 3,212 acres of NFS land on Etolin Island in one or more offerings. This would require about 7.5 miles of new NFS road construction and reconstruction, and 6.3 miles of temporary road construction. The timber harvested would be hauled to the existing Anita Bay LTF. For this analysis, harvest is expected to begin in 2009.

Figure 1-1  
Navy Timber Sale Vicinity Map



Source: WRD GIS 2007

# 1 Purpose and Need

## Purpose and Need

### Forest Plan Goals and Objectives

The Purpose and Need of the Navy Timber Sale project is to respond to goals and objectives of the Forest Plan and help move the project area toward the desired conditions described in that Plan (see Forest Plan, pp. 2-1 to 2-9). The Forest Plan includes forest-wide goals and objectives and area-specific LUD goals, objectives, and desired conditions. Applicable forest-wide goals and objectives include:

- Provide a diversity of opportunities for resource uses that contribute to the local and regional economies of Southeast Alaska (p. 2-5)
- Support a wide range of natural resource employment opportunities within Southeast Alaska's communities (p. 2-5)
- Manage the timber resource for production of sawtimber and other timber products from suitable forest lands made available for timber harvest, on an even-flow, long-term sustained yield basis and in an economically efficient manner (p. 2-7)
- 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 (p. 2-7)

Goals, objectives, and desired conditions of the LUDs within the project area are described in the section, "Relationship to the Forest Plan."

Harvesting timber on Etolin Island is reasonable to propose, based on the information contained in Appendix A, and the September 2006 Etolin Island Landscape Assessment (Etolin LA), which listed several timber opportunities and recommendations. The Etolin LA stated "...the project area continues to play an important role in the region's economy. The area's geographic location places it within easy reach of three medium-sized sawmills. Additionally, several small sawmills are located in the area. These small sawmills have moved away from procuring logs from private entities, mainly due to the closure of the region's large sort yards, and have begun purchasing timber sales on the open market. These smaller sawmills rely on lower investment, road-accessible timber. The current road system in the project area makes it a potential location of viable timber for both the small and medium sawmills."

## Decisions to Be Made

Based on this environmental study, analysis, and public comment, the Tongass National Forest Supervisor will decide whether and how to make timber available from the Navy project area in accordance with Forest Plan goals, objectives, and desired conditions. This decision will include:

- Whether or not to implement any of the action alternatives, and if one is selected,
- Unit and road location and design, road construction and reconstruction, LTFs, and silvicultural practices,
- The estimated timber volume available from the project area,

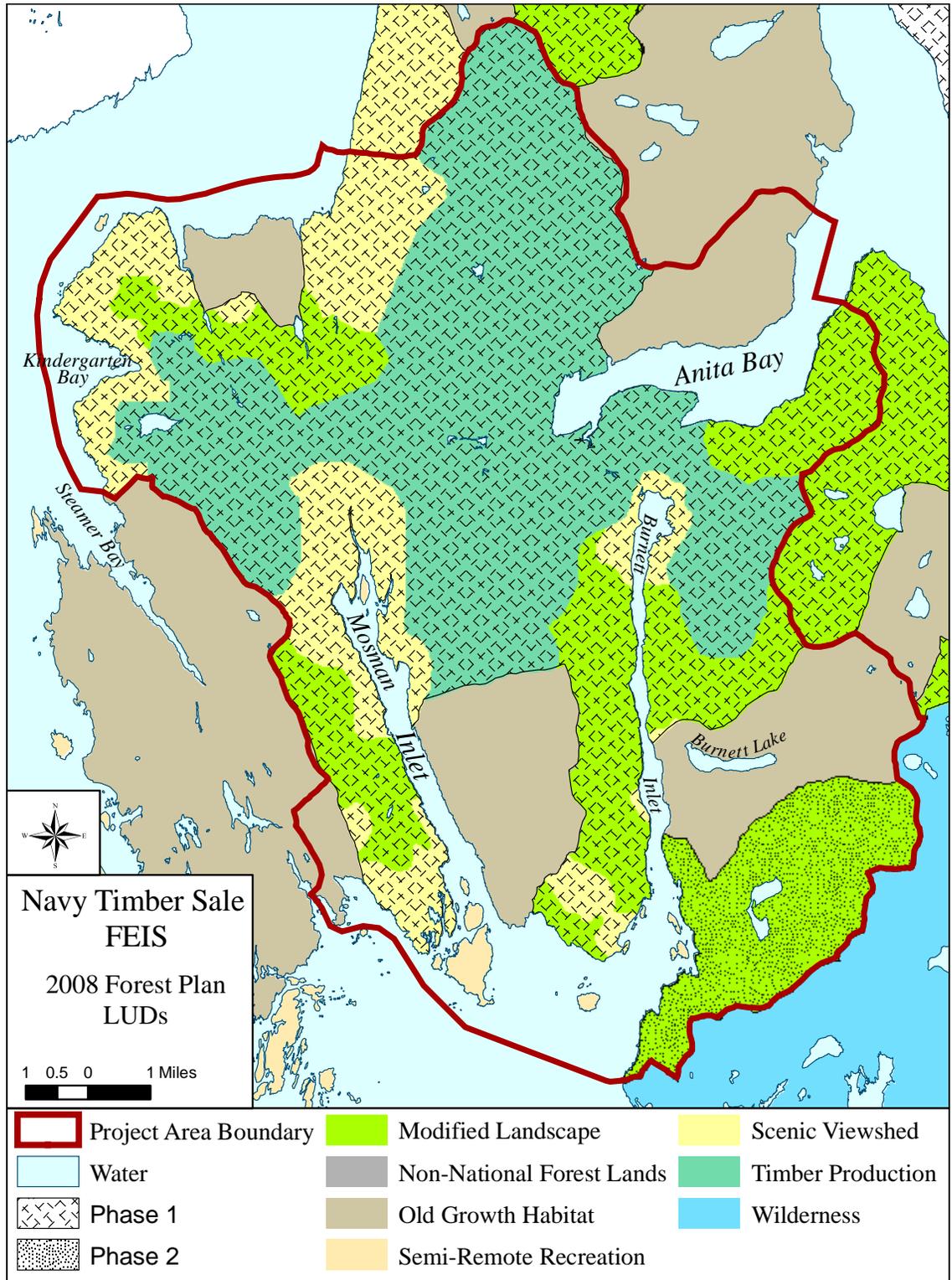
- Access management measures on proposed roads and LTFs,
- Mitigation measures and monitoring requirements, and
- Whether there may be a significant possibility of a significant restriction on subsistence uses.

## **Relationship to the Wrangell Ranger District Access and Travel Management Plan Environmental Assessment**

During the Navy Timber Sale planning process, another planning effort, the Wrangell Ranger District Access and Travel Management Plan Environmental Assessment (ATM EA), was conducted. The ATM EA decision (2007) affected existing roads within the Navy project area. The Navy Timber Sale Final EIS incorporates the decisions made by the ATM EA for the Road Management Objectives of existing roads (not proposed roads).

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Figure 1-2 Land Use Designations



Source: GIS

## Relationship to the Forest Plan

The Navy Timber Sale EIS tiers to the Tongass Land and Resource Management Plan, (Forest Plan) Final Environmental Impact Statement, Plan Amendment (January 2008). The Forest Plan Amendment Record of Decision (ROD) was signed on January 23, 2008 and was effective on March 17, 2008. This Amendment updated the Tongass Land and Resource Management Plan approved in 1997, and incorporated the 2003 Supplemental Environmental Impact Statement for roadless area evaluation for wilderness recommendations and 26 non-significant amendments.

The Navy Timber Sale project was identified as a Category 2 project in the Forest Plan Amendment ROD. Category 2 timber sale projects include projects for which a Draft EIS has been released for public comment before the effective date of the 2008 Forest Plan. Category 2 timber sale projects require the Forest Supervisor to review the project and incorporate new direction in the 2008 Forest Plan to the extent this can be done without causing major disruptions in the implementation of the project. The Navy project is consistent with all of the changes for land allocations in the 2008 Forest Plan and with the transition language in the 2008 ROD.

Changes to the project resulting from the 2008 Forest Plan (and additional reasons) are described in Chapter 2, “Changes Between Draft and Final”, and are reflected in the resource discussions in Chapter 3.

### **Timber Sale Program Adaptive Management Strategy**

The ROD for the Forest Plan Amendment adopts the Timber Sale Program Adaptive Management Strategy, which restricts timber sales and road construction to a specified portion or “Phase” of the ASQ suitable land base until actual timber harvest indicates a need for a larger land base. This Strategy includes three phases. Most of the Navy project area is within the Phase 1 portion of the suitable land base, which allows planning and implementation to continue for this project (Figure 1-2).

However, the Navy watershed (south of the Burnett small OGR in VCU 4680) is a Phase 2 area, so proposed harvest and road construction in this area are no longer proposed in the Navy EIS. Phase 2 will not be planned for harvest until the actual level of timber harvest on the Tongass reaches 100 MMBF for 2 consecutive fiscal years (Forest Plan ROD, pg. 9). The new LTF and proposed units and roads in the Navy watershed are deferred at this time. By not proposing harvest, roadbuilding, or LTF construction in the Navy watershed at this time, “Issue 5: Road Construction in the Navy Watershed” in the Draft EIS is no longer a significant issue in the Final EIS.

Throughout this Final EIS, the term “Forest Plan” refers to the 2008 Forest Plan amendment unless it is specifically referenced as the 1997 Forest Plan.

## Forest Plan Land Use Designations (LUDs)

The Forest Plan uses LUDs to guide the management of NFS lands within the Tongass. Each designation provides for a unique combination of activities, practices, and uses. The Navy project area includes six LUDs, shown in Figure 1-2. Goals, objectives, and desired conditions of each are included or summarized below. Chapter 3 of the Forest Plan contains a detailed description of each LUD.

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Table 1-1 gives the acreages within the project area of each LUD. There is no private or State land within the project area. Figure 1-2 displays the location of the land allocations within the project area.

Table 1-1  
Acres within the Project Area by Land Use Designation

<b>Timber Production</b>	<b>Modified Landscape</b>	<b>Scenic Viewshed</b>	<b>Semi-Remote Recreation</b>	<b>Old-growth Habitat</b>	<b>Wilderness<sup>1</sup></b>	<b>Total Acres</b>
29,617	20,181	11,702	656	15,340	9	<b>77,505</b>

<sup>1</sup> Wilderness is a GIS sliver within the project area.

Source: GIS: j:fsfiles/office/gis/navy/covers/Navy83.mdb/luds08

## **Timber Production (TM)**

The goals of this designation are to:

- Maintain and promote wood production from suitable forest lands, providing a continuous supply of wood to meet society's needs.
- Manage these lands for sustained long-term timber yields.
- 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.

Timber Management objectives of this LUD include:

- Seek to reduce clearcutting when other methods will meet land management objectives.
- 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.

The desired condition includes a sustained yield of timber; healthy tree stands in a balanced mix of age classes from young stands to trees of harvestable age; and a road system providing access for timber management to include recreation opportunities, hunting, fishing, and other public uses. Wildlife habitats are predominantly in the early and middle successional stages.

## **Modified Landscape (ML)**

The goals of this designation are to:

- Maintain and promote industrial wood production from suitable forest lands, providing a continuous supply of wood products to meet society's needs.
- Seek to provide a supply of timber from the Tongass National Forest which meets the annual and planning-cycle market demand, consistent with the standards and guidelines for this LUD.
- Provide a sustained yield of timber and a mix of resource activities, while minimizing the visibility of developments in the foreground distance zone.

- Recognize the scenic values of suitable forest lands viewed from identified popular roads, trails, marine travel routes, recreation sites, bays, and anchorages (visual priority travel routes and use areas), and modify timber harvest practices accordingly.

Objectives of this LUD are similar to Timber Production. However, when seen from visual priority travel routes and use areas, the desired condition accepts a modified landscape but emphasizes scenic quality in foreground distance zones. Recreation opportunities associated with natural-appearing to modified settings are available. A variety of successional stages provides a range of wildlife habitat conditions.

### **Scenic Viewshed (SV)**

The goals of this designation are 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.
- 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.
- Recognize the scenic values of suitable forest lands viewed from selected popular roads, trails, water travel routes, recreation sites, bays, and anchorages, and modify timber harvest practices accordingly.

Objectives of this LUD are similar to Timber Production and Modified Landscape, however, when seen from visual priority travel routes and use areas, the desired condition emphasizes a natural-appearing landscape. Recreation and tourism opportunities in a range of settings are available. A variety of successional stages providing wildlife habitat occur, although late successional stages predominate.

### **Semi-Remote Recreation (SM)**

The goals of this designation are 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.
- 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 of this LUD focus on recreation and tourism management, according to the Semi-Primitive Recreation Opportunity Spectrum (ROS) classes.

The desired condition emphasizes a generally unmodified natural environment. Some areas offer motorized opportunities and others non-motorized opportunities. Facilities and structures will be in harmony with the natural setting.

### **Old-growth Habitat (OG)**

The goals of this designation are to:

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

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- Manage early seral conifer stands to achieve old-growth forest characteristic structure and composition based upon site capability.

Applicable objectives of Old-growth Habitat include:

- Provide old-growth forest habitats, in combination with other LUDs, to maintain viable populations of fish and wildlife species 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.

The desired condition is that all forested areas attain old-growth forest characteristics and provide a diversity of old-growth habitat types, associated species, and ecological processes.

## Public Involvement

### Scoping

The Council on Environmental Quality (CEQ) defines scoping as “...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action” (40 CFR 1501.7). Most of the scoping process is used to invite public participation, to help identify public issues, and to obtain public comment at various stages of the EIS process. Scoping begins early in the EIS process, and is a continuing process until the final decision is made. In addition to the following specific activities, the Navy project has been listed on the Tongass Schedule of Proposed Actions since January 2006. This Schedule is available on the Internet at <http://www.fs.fed.us/r10/tongass/>. Scoping notices about the Navy Timber Sale project were published in the Wrangell Sentinel, Ketchikan Daily News, and Juneau Empire. In January 2006, KSTK aired an interview with Wrangell District Ranger, Mark Hummel, regarding the Navy project.

### Notice of Intent

A Notice of Intent (NOI) was published in the Federal Register on January 23, 2006, when it was decided that an EIS would be prepared for the Navy project. Due to a change in the original proposed action, a revised NOI was published in the Federal Register on May 21, 2007.

### Public Mailings

In November 2005, approximately 250 letters were mailed to individuals and groups, which had previously shown interest in Forest Service projects in Southeast Alaska, including Federal and State agencies, Alaska Native groups, municipal offices, businesses, interest groups, and individuals. The mailing provided general information and requested public comment. Twenty-two responses to this initial mailing were received.

On January 12, 2006, a letter describing in detail the proposed action, preliminary concerns, and preliminary alternatives was mailed to 110 individuals and groups. The eight responses to this mailing commented on concerns of old-growth habitat reserves

(OGRs), roadless areas, subsistence, karst, caves, economics, roads and access, timber supply and economics, and water quality.

A Navy Timber Sale project update letter was mailed to 107 individuals and groups on February 15, 2007. The letter informed the public that due to additional field review the proposed action added 19.1 MMBF of helicopter logging, dropped a proposal for relocating the Mosman small Old-growth Reserve, and included a non-significant amendment to the Forest Plan to modify the boundaries of Quiet, Anita Bay, Mosman and Burnett small Old-growth Reserves. Comments were received about subsistence, roads and access, wildlife species and habitat, fish, cumulative impacts, roadless areas, wilderness, timber supply and economics, karst and caves, soil stability, water quality, wetlands, old-growth habitat and reserves, recreation, harvest methods and prescriptions, and windthrow.

### **Public Open House**

A public open house for the Navy project area was held in Wrangell on January 26, 2006, in conjunction with a public open house for the Wrangell Ranger District Roads Analysis (RA) and Access Travel Management (ATM) Plan. The intent of the Navy Open House was to provide project area information, maps, and discuss local concerns and interests to be addressed in the project analysis. No one attended the meeting.

## **Draft EIS**

### **Availability of Draft EIS for Comment**

On November 30, 2007, the Notice of Availability for the Navy Timber Sale Draft EIS was published in the Federal Register. The Notice of Availability in the Federal Register initiated a 45-day public comment period.

On December 5, 2007, the Notice of Availability was published as a legal notice in the Juneau Empire (the newspaper of record for this project, through 2007) and December 6, 2007 in the Wrangell Sentinel.

The Draft EIS was also mailed to Federal and State agencies, Native and municipal offices, and others who requested it.

### **Analysis and Incorporation of Public Comments on the Draft EIS**

Twelve agencies, organizations, and individuals submitted written or email comments on the Navy Timber Sale Draft EIS. These comments helped the IDT further define the existing issues, identify any new issues, and consider any additional mitigations or options. Public comment and Forest Service response to the comments is included in Appendix B of this Final EIS.

### **Subsistence Hearing**

Following publication of the Draft EIS, a subsistence hearing was held on June 26, 2008, in Wrangell. No one attended that hearing and no written comments were received.

## **Final EIS**

### **Publication of the Final EIS**

The Notice of Availability of this Final EIS has been published in the Federal Register and through legal notices in the Ketchikan Daily News (the newspaper of record, beginning in 2008) and in the Wrangell Sentinel. The legal notice in the newspaper of record initiates a 45-day appeal period (36 CFR 215), during which the project cannot be implemented. Copies of the Final EIS have been mailed to Federal and State agencies, federally recognized tribal governments, municipal offices, and to those who

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requested them or responded to the Draft EIS. The Final EIS is also available for review at the Wrangell Ranger District Office.

## Tribal Consultation

Consultation with federally recognized tribal governments included government-to-government and staff level communications. Following is a list of consultation activities.

April 26, 2004 – Wrangell District Ranger sent Wrangell Cooperative Association (WCA) a letter to initiate consultation regarding the 2004 Heritage Resource Program, which included work in the Navy project area.

July 08, 2004 – Forest Service archeologists met with WCA to discuss their responsibilities and program of work, including the Navy Timber Sale.

November 12, 2004 – Forest Service representatives met with WCA to discuss multiple timber sale projects, including the Navy Timber Sale.

May 06, 2005 – Wrangell District Ranger sent a letter to WCA to initiate consultation regarding activities on the Wrangell Ranger District, including the Navy Timber Sale.

November 21, 2005 – Forest Service representatives met with WCA to discuss the Navy Timber Sale.

July 14, 2006 – The Wrangell District Ranger and Forest Service representatives met with WCA to discuss projects, including the range of alternatives that was included in the Navy Timber Sale Draft EIS.

July 19, 2006 – The Forest Supervisor sent letters to Tlingit and Haida Central Council (CC), and Sealaska updating them on projects around the Tongass, including Navy, inviting consultation on any projects that might affect heritage resources.

Oct. 18, 2006 – Update letter on Forest Service activities and Heritage Resource program, including Navy fieldwork results, was sent to Kake Tribal Corporation, Organized Village of Kake, and Petersburg Indian Association.

April 30, 2007 – Letter with archaeological survey results for Navy Timber Sale area, inviting review and comment from tribal contacts, was sent to Tlingit and Haida CC, Kake Tribal Corporation, Petersburg Indian Association, Organized Village of Kake, and Sealaska Corporation.

June 7, 2007 – Letter ,with archaeological survey results for Navy Timber Sale area inviting further input or discussion from tribal contacts, was sent to Wrangell Cooperative Association.

Sept. 17, 2007 – Wrangell Ranger District consultation record/project list was sent to Wrangell Cooperative Association.

April 28, 2008 – Meeting between Wrangell District Ranger/Forest Service personnel and Wrangell Cooperative Association quorum; FS provided requested additional information.

May 1, 2008 – Follow-up meeting between Wrangell District Ranger/Forest Service personnel and Wrangell Cooperative Association personnel discussing concerns with the Navy Timber Sale implications for the landless bill that was introduced to Congress.

August 21, 2008 – Wrangell District Ranger sent a letter to WCA in response to their inquiry regarding concerns with the Navy Timber Sale and offering further discussion.

January 14, 2009 – Wrangell District Ranger met with WCA representatives on several projects including Navy. WCA disagrees with harvest on potential land selection, but agrees that consultation is satisfactory.

## Issues

Issues for the Navy project area were identified through public and internal scoping. Issues generally suggest a concern with the proposed action, such that alternative actions need to be developed to address that concern. These issues are also used to develop mitigation and track environmental effects. Therefore, each issue includes measurements that are used to determine the effects of the different alternatives. Similar issues were combined into one statement, where appropriate.

The Draft EIS identified five issues determined to be significant and within the scope of the project decision. Since then, two of the issues in the Draft EIS, “Issue 2: Old-growth Reserves” and “Issue 5: Road Construction in the Navy Watershed” are no longer significant issues. The 2008 Forest Plan decision reconfigured the small Old-growth Reserves and designated the Navy watershed as a Phase II area, so harvest and road construction are no longer proposed in the Navy watershed, at this time.

The following three issues are carried forward and renumbered in the Final EIS. The IDT developed alternatives to the Proposed Action to address these issues; Chapter 2 of this Final EIS discusses and compares the alternatives. Effects to other resources were considered and addressed in Chapter 3.

### **Issue 1: Timber Supply and Economics**

Timber harvest in the project area may affect local and regional economies.

Concerns were expressed regarding the validity of this sale since some previous sales lacked purchasers; the lack of economical timber; the amount of timber offered by the Forest Service; the economic burden placed on taxpayers to fund timber sales; and the need to provide jobs and supporting the local economy.

Measurements:

- Economic timber volume offered for sale (MMBF and indicated bid value)
- Employment opportunities supported (number of annualized jobs)
- Logging and road costs per thousand board feet (MBF)

### **Issue 2: Wildlife Habitat Fragmentation**

Concerns were expressed about the effects of fragmentation on wildlife habitat by removing habitat and/or connectivity.

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Measurements:

- Acres of productive old-growth (POG) habitat maintained in wildlife analysis area (WAA) 1901 after harvest by alternative
- Acres of interior POG maintained in WAA 1901 after harvest by alternative
- Acres of coarse canopy (SD67) old growth maintained in WAA 1901 after harvest by alternative

### **Issue 3: Inventoried Roadless Areas**

Concerns were expressed that timber harvest and road construction in inventoried roadless areas could affect the characteristics of the area.

Measurements:

- Acres of inventoried roadless areas affected by timber harvest and road construction
- Miles of road proposed in inventoried roadless areas

## **Issues Outside the Scope of the Project**

Several comments were made that included issues that were outside of the scope of the project. These included issues that were decided at the Forest Plan level or through other legislation or direction, were outside the project area or were addressed through implementation of the Forest Plan Standards and Guidelines.

- Some of the comments were about management of wilderness areas. Wilderness area management was decided in the Wilderness Act and will not be changed though any actions of this project.
- Other comments concerned LUD locations. The LUD areas are decided in the Forest Plan. In the Draft EIS, some of the project alternatives considered a Forest Plan amendment to adjust boundaries for OGRs. This type of change was accomplished in the 2008 Forest Plan Amendment.
- Some comments stated that no timber harvest or road building should occur on the Tongass National Forest. Timber was one of the resources that the creation of national forests historically provided. The decision to harvest timber on the Tongass was made through national forest planning, including public involvement. Only some lands were allocated to development LUDs, where timber harvest and road building may occur. The Navy project area includes some of these lands.

## **Other Environmental Effects**

A detailed discussion of the following resources is found in the resource reports and is summarized in Chapter 3: Botany, Invasive Plants, Environmental Justice, Geology, Heritage, Recreation, Scenery, Silviculture, Soils, Subsistence, Transportation, Watershed and Fisheries, Wetlands, and Wildlife.

## Federal and State Permits, Licenses, and Certifications

Various permits from Federal and State agencies are required before implementing the project. The agencies and their responsibilities are listed below:

### U. S. Army Corps of Engineers

- Approval of discharge of dredged or fill material into waters of the United States (Section 404 of the Clean Water Act of 1977, as amended)
- Approval of construction of structures or work in navigable waters of the United States (Section 10 of the Rivers and Harbors Act of 1899)

### U. S. Environmental Protection Agency

- Storm water discharge permit

### State of Alaska, Department of Environmental Conservation

- Certification of compliance with Alaska Water Quality Standards (Section 401 Certification)
- Solid Waste Disposal Permit (Section 402 of the Clean Water Act)
- Alaska Pollutant Discharge Elimination System review (APDES) (Section 402 of the Clean Water Act)

### State of Alaska, Department of Natural Resources

- Authorization for occupancy and use of tidelands and submerged lands

Under the **Coastal Zone Management Act**, Federal activities that affect any land or water use or any natural resource of the coastal zone must be conducted in a manner that is consistent, to the maximum extent practicable, with the enforceable policies of the applicable state coastal management program. On December 4, 2006, the State of Alaska issued a final consistency response concurring with the Forest Service's General Consistency Determination (GCD) for Tongass National Forest Timber Sales (State I.D. No. AK 0608-10J). Under this GCD, all timber harvest and associated activities conducted on the Tongass National Forest--except for those that require State or Federal permits--have been determined to be consistent with the enforceable policies of the Alaska Coastal Management Program (ACMP).

The construction of the Mosman log transfer facility (LTF) is the only Navy Timber sale activity outside the GCD. When the Forest Service applies for the required permits, this activity will be evaluated for consistency with the statewide ACMP standards (11 AAC 112) and a consistency determination covering only this activity will be provided to the State for review. The rest of the Navy Timber Sale project is within the scope of the GCD. Therefore, except for the proposed Mosman LTF, no individual consistency determination is required for the Navy Timber Sale.

## Applicable Laws and Executive Orders

Shown below is a partial list of Federal laws and executive orders pertaining to project-specific planning and environmental analysis on Federal lands. While most

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pertain to all Federal lands, some of the laws are specific to Alaska. Disclosures and findings required by these laws and orders are contained in Chapter 3 of this Final EIS.

Alaska Native Claims Settlement Act (ANCSA) of 1971

Alaska National Interest Lands Conservation Act (ANILCA) of 1980

American Indian Religious Freedom Act of 1978

Archeological Resource Protection Act of 1980

Bald and Golden Eagle Protection Act of 1940 (as amended)

Cave Resource Protection Act of 1988

Clean Air Act of 1970 (as amended)

Clean Water Act of 1977 (as amended)

Coastal Zone Management Act of 1972 (as amended)

Endangered Species Act (ESA) of 1973 (as amended)

Executive Order 11593 (cultural resources)

Executive Order 11988 (floodplains)

Executive Order 11990 (wetlands)

Executive Order 12898 (environmental justice)

Executive Order 12962 (aquatic systems and recreational fisheries)

Executive Order 13007 (Indian sacred sites)

Executive Order 13175 (government-to-government consultation)

Executive Order 13443 (facilitation of hunting heritage and wildlife conservation)

Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (as amended)

Magnuson-Stevens Fishery Conservation and Management Act of 1996

Marine Mammal Protection Act of 1972

Migratory Bird Treaty Act of 1918 (amended 1936 and 1972)

Multiple-Use Sustained-Yield Act of 1960

Native American Graves Protection and Repatriation Act (NAGPRA) of 1990

National Environmental Policy Act (NEPA) of 1969 (as amended)

National Forest Management Act (NFMA) of 1976 (as amended)

National Historic Preservation Act of 1966 (as amended)

National Transportation Policy (2001)

Organic Act of 1897

Rivers and Harbors Act of 1899

Tongass Timber Reform Act (TTRA) of 1990

Wild and Scenic Rivers Act of 1968, amended 1986

## Availability of the Project Record

An important consideration in preparing this Final EIS is reduction of paperwork specified in 40 CFR 1500.4. This Final EIS provides sufficient site-specific information to demonstrate a reasoned consideration of the environmental impacts of the alternatives and ways to mitigate the impacts. The project record contains documentation of the NEPA process and analysis.

The project record is located at the Wrangell Ranger District office in Wrangell, Alaska. Reference documents, such as the Forest Plan and the Tongass Timber Reform Act are available for review at public libraries and Forest Service offices throughout Southeast Alaska, including the Forest Supervisor's office in Ketchikan. The Forest Plan is available on the Internet (<http://www.fs.fed.us/r10/tongass/>).

## Map Disclaimer

All map products in this document are reproduced from geospatial information prepared by the USDA Forest Service. GIS data and product accuracy may vary. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify or replace GIS products without notification. For more information, contact the Wrangell Ranger District.

Viewpoint 15 – Kindergarten Bay



# **Chapter 2**

## **Alternatives**

# Chapter 2

## Alternatives

### Introduction

This chapter describes and compares the alternatives considered by the Forest Service for the Navy Timber Sale. It includes a discussion of how alternatives were developed, a description and map of each alternative considered in detail, an overview of mitigation measures, monitoring, and other items common to all alternatives, alternatives considered but eliminated from detailed study, and summary tables comparing the alternatives.

**Preferred Alternative** **Alternative D was the preferred alternative in the Draft EIS.** Chapter 2 presents the alternatives in comparative form, sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14).

Some of the information used to compare alternatives at the end of Chapter 2 is summarized from Chapter 3, "Affected Environment and Environmental Effects". Chapter 3 contains the detailed scientific basis for establishing baselines and measuring the potential environmental consequences of each of the alternatives. For a full understanding of the effects of the alternatives, readers will need to consult Chapter 3.

### Changes Between Draft and Final

Since the printing of the Draft EIS in November of 2007, clarifications, updates, and corrections have been made in the Final EIS. Many of these changes resulted from new direction in the 2008 Forest Plan. Other changes were in response to the Draft EIS comments or as a result of additional analysis by project specialists. These changes are described below.

#### **Changes Resulting from the 2008 Forest Plan**

The analysis for the 2008 Forest Plan EIS was ongoing while the Navy project was being planned. The Record of Decision for the 2008 Tongass Land and Resource Management Plan Amendment (Forest Plan) became effective on March 17, 2008. The Navy Final EIS adopts any amended or new standards and guidelines from the Forest Plan; however, most of the standards and guidelines remain the same as the 1997 Forest Plan. The Navy project is consistent with the transition language in the 2008 Forest Plan ROD. The Navy project is also consistent with all of the land allocations of the 2008 Forest Plan.

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## Changes Resulting from New Information, Additional Analysis or Public Comment on the Draft EIS

### Land Use Designations

While there are no new land use designations in the project area, the number of acres and spatial arrangement of the LUDs have changed between the Draft EIS and Final EIS because of the 2008 Forest Plan Record of Decision. Data tables and maps throughout the Final EIS and resource reports have therefore changed reflecting this Forest Plan direction. The greatest change is the arrangement of the Small Old-growth Reserves (Figure 1-2).

The Navy Draft EIS had differing configurations of small Old-growth Reserves by alternative. The Forest Plan established small Old-growth Reserves in the project area, which do not differ among the alternatives in the Navy Final EIS. Harvest units and roads in the Draft EIS that are within the Forest Plan small Old-growth Reserves are no longer being proposed in the Final EIS. As a result, “Issue 2: Old-growth Reserves” in the Draft EIS is no longer a significant issue in the Final EIS.

### Scenery

For the Navy Final EIS, the Scenery Management System (i.e., Scenic Integrity Objectives) was implemented, replacing the Visual Management System (i.e., Visual Quality Objectives) in the Draft EIS.

### Marten Standards and Guidelines

Marten Standards and Guidelines have been replaced by the Forest Legacy Structure. None of the project area VCUs is identified in the Forest Plan as VCUs requiring additional forest structure (Forest Plan, pp. 4-90 and 91).

Changes between Draft EIS and Final EIS for specific resources are summarized below. Analysis areas for all resources were reevaluated between draft and final. These analysis areas are more clearly defined in the resource sections of Chapter 3. More details are also contained in the individual resource reports in the project record. The Navy Final EIS reflects all changes.

### Botany

The biological evaluation (BE) for plants has been updated because the cumulative effects analysis boundary now includes all of Etolin Island. Some unit boundaries were modified to mitigate direct and indirect effects on rare plant populations.

### Invasive Plants

A risk assessment for invasive plants was completed between the Draft EIS and Final EIS, as directed in Forest Service Manual Chapter 2080 Noxious Weed Management Supplement R10 TNF – 2000-2007-1 and Executive Order 13112 (1999), Invasive Species.

### Sensitive Species

The Alaska Region Sensitive Species list was revised in February 2009. The Navy Final EIS contains information and analysis to reflect these changes.

### Timber Supply and Economics

The NEAT\_R financial analysis has been updated. New information and updates have been received between the Draft EIS and Final EIS. The NEAT\_R program received a program update to the third quarter of 2007, which was released in June 2008, and there has been a new appraisal bulletin issued. The updated analysis has been incorporated into the Final EIS and Timber Resource Report.

Appendix A has been updated relating to the use of projected market demand for timber to reflect the 2008 Forest Plan EIS.

## **Wildlife**

A GIS coding error was discovered in the non-productive forest and non-forest habitats. When corrected, this resulted in a higher predicted carrying capacity. There was no change in the coding of productive forest, so the relative comparison of alternative impacts in the Draft EIS were valid, but overall population estimates were incorrect. In addition, the deer model was rerun using the parameters from the 2008 Forest Plan. These included standardizing the coefficients (0 to 1.0), estimating 100 deer per square mile on the highest value deer winter range and the using the size-density model for the vegetation layer, using a crosswalk to convert size-density model (SDM) codes into volume strata. This resulted in a lower estimated carrying capacity, very close to that estimated by the 2008 Forest Plan FEIS.

Many of the roads that were in the beach buffer have been dropped due to changes in harvest systems. Some units have changed from cable harvest or helicopter-to-a-road to helicopter-to-saltwater. These changes resulted in different potential disturbance impacts to known eagle nests due to additional barge locations and flight paths to and from the units.

A discussion regarding the modifications for the Steamer Medium OGR, which was brought up in comments to the Draft EIS, was added.

We modified the “coarse canopy” discussion to incorporate changes in the 2008 Forest Plan Final EIS, which uses a SDM that uses both tree sizes and tree densities. Coarse-canopy productive old-growth (POG) is the same as the SDM class SD67 and is referred to as large-tree high-volume POG. Both of these classifications are defined as volume classes 6 and 7.

The POG corridor analysis was changed to include a mapping of the corridors on the whole island and a more indepth discussion of the implications of management activities, especially in the Anita Pinchpoint, on these corridors.

A patch analysis was added to Issue 2.

## **Climate Change**

The 2008 Forest Plan discusses the risk of possible effects and the considerable uncertainty concerning specific climate change predictions and even more uncertainty regarding the effects of climate change on the resources of the Tongass. The Chapter 3 Introduction includes a short discussion of how the Forest Plan addresses climate change.

## **Environmental Justice**

An environment justice analysis was completed between the Draft EIS and Final EIS.

## **Geology/Karst**

Additional field verification and refinement of karst vulnerability mapping was completed. Harvest units and road locations were adjusted to meet standards and guidelines.

## **Recreation**

Additional analysis has been conducted concerning the Recreational Opportunity Spectrum (ROS) between the Draft EIS and Final EIS. This was largely due to the Forest Plan changes that resulted in the deferral or deletion of many proposed harvest units and roads in the project area.

Probably the most notable change for the recreation resource was the lack of any

# 2 Alternatives

alternative entering the Navy watershed, reducing potential impacts to recreation users of this area. Many of the direct, indirect and cumulative effects to inventoried recreation places were edited to reflect the new alternative designs. Additionally, the Final EIS now includes a discussion on the potential for direct, but temporary, effects from helicopter-to-barge operations, which were not discussed in the Draft EIS version of this report.

## **Silviculture**

The 2008 Forest Plan replaced the 1997 Forest Plan Marten Standards and Guidelines with Legacy Forest Structure. Previous prescriptions requiring 10-20 percent retention for marten were changed to clearcut unless there was another resource concern that required retention.

## **Soils**

Additional field information was collected in units with steep slopes to complete slope stability assessments. Unit boundaries were adjusted and in some cases prescriptions were changed.

## **Transportation**

Changes due to the 2008 Forest Plan and additional road review resulted in adjustments to the proposed roads. Several proposed roads - 51461, 51462, 51561, 6558, 6556 and 6546 - were located in areas dropped from analysis in the Final EIS. The first segment of the temporary road accessing Units 103 and 104 was changed to a NFS road, number 51451, with a temporary road accessing Unit 106. In addition, the proposed location of several NFS and temporary roads was slightly rerouted as needed. All of these changes resulted in road mileage changes in tables and analysis by other resources.

## **Watersheds and Fisheries**

A number of harvest units and roads have been dropped or modified due to changes in Forest Plan direction and public comment. Stream mapping was updated, resulting in minor changes to attributes and miles of streams. This resulted in changes to the maps and tables displaying watershed data and the watershed effects analysis. The watershed risk assessment was updated as well.

## **Wetlands**

Minor changes have occurred between the Draft EIS and Final EIS because of road and unit changes.

## **Changes Between Draft and Final Unit Cards**

Minor changes were made to the Draft EIS unit cards. Since these changes did not involve additional impacts or impacts to new areas, the unit cards have not been republished in the Final EIS but are available for review in the project record. If an actional alternative is selected for implementation, those unit cards will be in the Record of Decision. A number of unit boundaries were adjusted and refined for the Final EIS. Many of the minor adjustments were mapping corrections, often involving moving a unit boundary up to a stream buffer or a road, resulting in plus or minus a few acres. Other units had a larger reduction in acres, most often caused by excluding areas of steep slopes from within the unit boundary, or from dropping settings. The location of some rare plants was refined and unit boundaries or road location adjusted. Several units were dropped from consideration in this analysis due to changes from the 2008 Forest Plan. These changes are identified in Table 2-1.

A road card for Road 51451 was added. See Appendix D.

Table 2-1  
Changes Between Draft and Final Unit Cards

Reason for Change	Units Affected <sup>1</sup>
Boundary adjusted to Riparian Management Areas (RMAs)	1, 2, 4, 7, 8, 37, 39, 40, 41, 44, 46, 48, 49, 52, 53, 66, 67, 68, 72, 77, 78, 83, 84, 94, 102, 106, 109, 110, 112, 113, 114, 123, 124, 127, 130, 131, 138, 140
Navy watershed deferred for Phase 2	9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Dropped or reduced for Mosman OGR	23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
Dropped for Quiet OGR	85, 86, 87
Dropped some unstable slopes	36, 40, 41, 42, 52, 53, 54, 55, 56, 58, 64, 65, 78, 79, 88, 92, 94, 97, 115, 116, 118, 120, 123, 125, 126, 128, 129, 132, 133, 134, 135, 136, 137, 139
Road location adjustments or unit boundary adjustment to road	3, 5, 46, 70, 75, 89, 91, 92, 100, 107, 108, 109, 114, 131, 141
Parts of units reconfigured to an adjacent unit	42, 115, 118, 120, 122
Dropped some settings	47, 49, 50, 70, 96, 135
Other minor boundary adjustments (< 3 acres)	43, 54, 63, 96, 101, 116, 119, 121

<sup>1</sup> Some units may be listed more than once if they had more than one type of change

## Alternative Development Process

During the early stages of planning, a logging system and transportation analysis was completed for the project area. This analysis divides the project area into potential harvest areas.

The potential harvest areas and the roads necessary to access them were then evaluated in the field. Potential harvest areas were validated, modified, or dropped from proposal based on field review. The units in the Draft EIS were designed to meet the 1997 Tongass Land and Resource Management Plan (Forest Plan) Standards and Guidelines. The result was a pool of units that could be included in an alternative. The responsible official identified the Proposed Action as described in Chapter 1 and considered in detail as Alternative B.

The Interdisciplinary Team (IDT) used information from internal and public scoping, including the significant issues identified for the project (Chapter 1), in conjunction with the field-verified unit pool, to develop alternatives to the Proposed Action.

Between the Draft and Final EIS, further modifications were made to the alternatives in order to meet the 2008 Forest Plan direction and Standards and Guidelines. The alternatives in this Final EIS, including the No-action Alternative, provide a range of responses to the significant issues. The action alternatives are designed to meet the Purpose and Need for the project and address significant issues.

# 2 Alternatives

Each action alternative represents a site-specific proposal developed through intensive interdisciplinary evaluation and field verification. Within the range of options they provide, the decision maker can consider various combinations of the alternatives in determining the Selected Alternative.

## Items Common to Action Alternatives

All the action alternatives are consistent with the Forest Plan. All applicable Forest Plan Standards and Guidelines, best management practices (BMPs), laws and Forest Service manual and handbook direction were incorporated into the design of the proposed units and alternatives.

The Forest Service uses mitigation and protection measures in the planning and implementation of land management activities. The application of these measures begins during the planning and design phases of a project. Additional direction comes from applicable Forest Service manuals and handbooks.

The following items are listed to highlight some of the key direction from the Forest Plan (primarily from Chapter 4, "Forest-wide Standards and Guidelines"). See also the Mitigation discussion in this chapter and the unit cards and road cards in Appendices B and C of the Draft EIS.

### Streams and Riparian Areas

Forest Plan Standards and Guidelines for riparian areas are applied to all Class I and II streams (fish streams) within the project area and to Class III streams (which are non-fish-bearing). Unit cards and road cards in Appendices B and C of the Draft EIS describe stream protection measures and show which streams are likely to need special attention, such as additional windfirm buffers, timing restrictions, and culvert or bridge recommendations, during implementation.

### Guylines and Tailholds

Adequate guyline anchors and tailholds are necessary for safe cable-harvesting operations. Guyline anchors for yarding towers are typically located within a 100-foot radius guyline circle. Guyline circles for landings located on existing roads may extend outside of the unit boundary and require 1/3 to 1/2 acre of trees to be removed for safety. Tailholds, generally notched large trees, are usually located beyond the unit boundary to provide sufficient deflection. A 10-foot wide safety corridor to reach a tail-hold may be cleared of branches and smaller, utility-grade trees.

### Heritage Resources

No heritage-resource-sites have been identified in the proposed units or roads. Heritage resource specialists searched past archaeological surveys as well as conducted pedestrian surveys for undiscovered sites and other heritage resources. All identified heritage resource sites have been avoided. Consultation with the Alaska State Historic Preservation Officer and other interested parties, per the Section 106 process, has been completed. The Alaska State Historic Preservation Officer has concurred with the Forest Service that a finding of No Historic Properties Affected is appropriate for this project for all proposed activities. If a heritage resource site is discovered during project implementation, all project activities in the immediate vicinity would immediately stop until a professional archeologist can evaluate the site. Mitigation measures would be agreed upon and implemented before project activities could proceed, in accordance with 36 CFR 800.13.

## **Invasive Species**

Prior to off-loading on Etolin Island, equipment used for contracts for Navy project activities will be cleaned to remove contaminating weed parts, seeds, and soil. This is particularly important in the case of equipment that is used in soil-disturbing activities such as roadbuilding and shovel yarding.

Forest Service vehicles used in the project area as well as other equipment used on the island, such as the brush cutter, will be cleaned prior to transporting to the island.

Materials that comply with TNF standard seed mixture (FSM 2080 TNF supplement R10 2000-2007-1) will be used for erosion control where necessary.

Revegetation seed mixtures will be compliant with Tongass National Forest guidelines for revegetation (TNF 2006).

Control any new infestation of high-priority invasive plants according to FSM 2080 – R10 TNF – 2000-2007-1, Noxious Weed Management.

## **Karst Resources**

Karst areas have been evaluated and the project area contains low-, moderate-, and high-vulnerability karst. There will be no timber harvest or road construction on high-vulnerability karst. The following mitigation measures are required on moderate-vulnerability karst:

- Existing rockpits and roads will be utilized in preference to the construction of new ones.
- Roads shall avoid sinkholes and other collapse features and loosing streams to the maximum extent possible.
- Roads should not divert water to or from karst features.
- Measures shall be taken to reduce erosion and sediment transport from the road surface and cutslopes (BMPs 14.9, 14.18, 14.20).
- No rockpits shall be developed atop karst without consulting with the Forest geologist or their representative, adequate site survey and design, and obtaining their approval for the rock pit. A karst vulnerability assessment for the proposed rock pit site is required (BMP 14.18).
- Rockpits shall be properly closed after use is completed (BMP 14.18).

Given the nature of the karst landscape and vegetation, even with intense field survey and karst resource inventories, individual karst features may be missed. At any time during project development or implementation that an un-inventoried karst feature or features are discovered, all activity in the vicinity of the feature or features shall cease until a karst vulnerability assessment can be conducted by the Forest geologist or their representative.

## **Scenery**

The Forest Plan (Appendix F) identifies places from which scenery is to be emphasized on the Forest for each Ranger District. These can be routes, which cruise ships, ferry boats, and personal watercraft frequently travel or destinations used for anchorage. They can also be drivable roads, cabins, recreation areas, and/or hiking trails.

For the Navy project, 19 viewpoints were evaluated in areas from which the project area is most likely viewed by casual observers.

# 2 Alternatives

## **Silviculture**

The National Forest Management Act requires that timber harvest only occur where there is an assurance that all harvests can be restocked within 5 years after harvest. All of the treatments proposed in the Navy Timber Sale project are considered regeneration harvest. Tree seedlings will be re-established through natural regeneration, although some planting of western redcedar and Alaska yellow-cedar is planned in four units (37, 58, 60, and 61). This is to aid establishment of a tree species that is less desirable to porcupines and therefore may minimize future porcupine damage in these young-growth stands. All timber harvest units would be monitored following harvest to certify the units as fully stocked. Naturally regenerated units are surveyed 3 years following harvest. Planted areas are surveyed in the first and third year following planting.

For all units harvested with a single-tree selection (STS) prescription, there will be no unstocked openings created that are greater than 2 acres.

## **Soils**

Potential harvest units with slopes greater than 72 percent either have or will have an on-site analysis completed prior to project implementation. Potential downstream effects are considered.

Road locations avoid slopes greater than 67 percent, unstable areas, and slide-prone areas where it is feasible to do so.

## **Plants**

No threatened or endangered plant species are known or suspected to occur in the Tongass National Forest. A biological evaluation was completed for sensitive plant species. Forest Plan Standards and Guidelines for rare and sensitive species were incorporated into the project as applicable.

## **Wildlife**

Biological assessments have been completed, and concurrences were received from the responsible Federal agency, for any threatened or endangered species potentially inhabiting the project location. Standards and guidelines have been applied as needed to ensure that any listed species or its habitat will not be adversely affected.

Biological evaluations for all sensitive wildlife species potentially inhabiting the project area have been completed. The Forest Plan contains standards and guidelines for each designated sensitive species and these are incorporated into the project, as applicable. Timing restrictions will apply to protect nesting goshawks and nesting bald eagles.

## **Transportation**

Linear grading road construction is planned for all new NFS road building. The construction method meets all BMPs. To learn more about the linear grading road construction method, please review the Chapter 3 Transportation summary.

The temporary roads built would be decommissioned after the timber sale activities are complete, as part of the timber sale contract. All new NFS roads, including the reconstructed NFS roads, would be closed at the end of the timber sale.

## **Logging Camps**

Camp facilities could be located either on land or on a barge near an LTF. Existing sites will be used, where possible. All camps must obtain the appropriate State permits.

Land and float camps typically include a water supply, garbage disposal, and sewage disposal. Water would be sourced from streams. Garbage would be disposed of by incineration or transported to a municipal disposal site. Land camps' sewage would require an approved drain field or septic tank; a float camp's sewage would be treated prior to discharge into the ocean.

## **Wetlands**

All roads have been located to avoid wetlands to the extent practicable. Where wetlands cannot be avoided, roads will be designed to minimize effects on wetlands.

## **Alternatives Considered in Detail**

In this section, the Proposed Action (Alternative B) and five alternatives are considered in detail and compared by the three issues. The action alternatives represent different means of satisfying the Purpose and Need by responding with different emphases to the significant issues discussed in Chapter 1. Alternative A is the No-action Alternative under which the project location would have no timber harvest or road construction at this time, and would remain subject to natural disturbances.

Table 2-2 provides a comparison of the alternatives, relevant to the issues. Table 2-3 provides a comparison of design characteristics by alternative. Chapter 3 contains a more in-depth discussion of these and other environmental effects.

Maps of all alternatives considered in detail are provided at the end of this chapter. The map for Alternative A, the No-action Alternative, represents the current condition of the project location.

# 2 Alternatives

Table 2-2  
Comparison of Alternatives by Issue

	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F
<b>Issue 1: Timber supply and economics</b>						
Total net volume ((sawlog and utility), MMBF) <sup>1</sup>	0	45.5	87.5	37.2	38.4	18.3
Indicated bid value (\$/MBF) <sup>2</sup>	0	(142.00)	(163.65)	(143.06)	(160.31)	(88.47)
Direct employment (job equivalent) <sup>3</sup>	0	158-224	303-429	127-180	131-187	63-89
Road costs (const/reconst)/MBF <sup>4</sup> and LTF costs	0	\$72	\$90	\$85	\$56	\$33
Logging costs (stump to mill costs) (\$/MBF)	0	\$459	\$483	\$451	\$479	\$400
<b>Issue 2: Wildlife habitat fragmentation</b>						
Acres of POG habitat in WAA 1901 post harvest	60,750	59,169	57,689	59,263	59,889	59,906
Acres of interior POG habitat in WAA 1901 post harvest	24,642	23,051	22,013	23,280	23,702	24,044
Acres of coarse canopy (SD67) old growth in WAA 1901 post harvest	3,654	3,286	3,255	3,341	3,421	3,583
<b>Issue 3: Inventoried roadless areas (IRA)</b>						
Acres of IRA affected by timber harvest and road construction <sup>5</sup>	0	2,416	5,383	2,181	953	273
Miles of road proposed in IRAs <sup>6</sup>	0	7.0	17.0	5.0	1.9	0

<sup>1</sup> MMBF = million board feet, this volume includes sawlog and utility.

<sup>2</sup> ( ) indicate a negative value. Thousand board feet (MBF).

<sup>3</sup> Job equivalents are based on a range from 50 percent of net volume shipped to markets outside Alaska, to all sawlogs processed locally.

<sup>4</sup> Based on sawlog volume

<sup>5</sup> Includes 600-foot unit buffer and 1,200-foot road buffer for cable/shovel units only.

<sup>6</sup> Includes NFS and temporary road.

Source: GIS; NEAT\_R v. 2.15, 3rd Qtr. 2007

Table 2-3  
Alternative Design Characteristics

	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F
<b>Harvest acreage and volume<sup>1</sup>:</b>						
<b>Total acres proposed for harvest</b>	<b>0</b>	<b>3,212</b>	<b>6,107</b>	<b>2,369</b>	<b>3,326</b>	<b>1,251</b>
Acres of cable/shovel yarding	0	1,273	2,505	1,247	554	626
Acres of helicopter yarding	0	1,939	3,602	1,122	2,772	625
<b>Total net volume (sawlog and utility, MMBF)</b>	<b>0</b>	<b>45.5</b>	<b>87.5</b>	<b>37.2</b>	<b>38.4</b>	<b>18.3</b>
Cable/shovel yarding (sawlog only, MMBF) <sup>2</sup>		24.4	47	23.7	10.3	10.9
Helicopter yarding (sawlog only, MMBF)		14.9	28.8	8.3	22.8	4.9
<b>Acres harvested by silvicultural system:</b>						
Even-aged management	0	1,207	2,185	1,180	487	559
Two-aged management	0	0	268	0	0	0
Uneven-aged management	0	2,005	3,654	1,189	2,839	692
<b>Roads and log transfer facilities (LTFs):</b>						
Miles of proposed NFS road	0	6.6	12.0	4.8	2.2	0.5
Miles of proposed temporary road	0	6.3	15.7	5.4	2.3	4.0
Miles of proposed road reconstruction	0	0.9	3.2	0.4	2.2	2.2
Proposes construction of Mosman Inlet LTF?	No	No	Yes	No	No	No

<sup>1</sup> Some totals may not match due to rounding.

<sup>2</sup> Note: this volume only includes sawlog and not utility log; so, the columns do not add to the Total Net Volume.

Source: GIS; NEAT\_R v. 2.15, 3rd Qtr. 2007

## Alternative A No Action

In the Draft EIS, the small Old-growth Reserves were under the 1997 Forest Plan. The Final EIS incorporates the small Old-growth Reserve locations established by the 2008 Forest Plan decision.

### Objective

The Council on Environmental Quality (CEQ) regulations (40 CFR 1502.14d) require that a "No Action" alternative be analyzed in every environmental impact statement (EIS). This alternative represents the existing condition against which the other alternatives are compared. The map for Alternative A (Figure 2-1) shows the distribution of vegetation associated with no new timber harvest.

Alternative A would not move the project area further toward the desired condition described in the Forest Plan, at this time. The existing condition would continue to be influenced by natural disturbance processes and past management activities.

Alternative A addresses Issues 2 and 3 by not proposing any timber harvest or road building, thus maintaining landscape-level POG corridors and inventoried roadless areas in their current condition.

### Timber Harvest

The project area contains approximately 4,000 acres of previous timber harvest. Alternative A proposes no new timber harvest or road construction in the Navy project area, at this time. It does not preclude timber harvest from other existing or planned projects or from the project area at some time in the future.

### Transportation System

This alternative includes no proposed road construction or LTF construction. The project area contains approximately 50 miles of existing National Forest System (NFS)

# 2 Alternatives

roads and an existing LTF and equipment off-loading ramp at Anita Bay. Under Alternative A, there would be no change in road management. Maintenance and repair activities would continue as previously planned. Road management on Etolin Island would be performed as stated in the Access Travel Management Plan Environmental Assessment (ATM EA) Decision Notice.

## Alternative B (Proposed Action)

In the Draft EIS, Alternative B proposed timber harvest, roads, and construction of an LTF in the Navy watershed. These activities are no longer proposed in this area in the Final EIS, since this is a Phase 2 area. These modifications to the proposed actions reduced harvest acres and road construction. Also in the Draft EIS, changes were proposed to the small OGRs by the IDT and/or interagency wildlife biologists. In the Final EIS, small OGRs are allocated by the 2008 Forest Plan decision.

### Objective

Alternative B responds to the "Timber Supply and Economics" issue (Issue 1) by providing logical extensions of the existing Anita Bay road system. It uses uneven-aged management in helicopter units, which is more economical than even-aged management, since higher operating expenses can be offset by harvesting the more-valuable trees.

### Timber Harvest

The timber volume proposed for sale in Alternative B (Figure 2-2), 45.5 MMBF, would provide opportunities for timber harvesting by local operators. It would also help move the project area towards the desired condition of the Forest Plan by converting 1,207 acres of old-growth stands to an even-aged condition and 2,005 acres to an uneven-aged condition. The timber would be removed by cable, shovel, and helicopter yarding systems.

### Transportation System

Alternative B includes 6.6 miles of new NFS road construction, 0.9 mile of reconstruction, and 6.3 miles of temporary road construction. The proposed 1.7 mile extension of the 6547 road enters the Detailer Creek basin, crosses the creek and ends at the junction of two proposed temporary roads. Future harvest along this road is a possibility but future extensions of the road may be impractical due to terrain that forces the road into the beach buffer. A portion of the proposed 2.5 mile 51009 road segment extends into the Scenic Viewshed LUD and provides opportunity for current and future harvest along the proposed segment, extensions of this road may be practical. The 6540, 51403, and 51421 road segments proposed under this alternative are less than 1 mile in length; and are either short extensions of existing roads, or new roads starting from the existing road system.

Timber harvest associated with the road system would go through the existing LTF and equipment off-loading ramp at Anita Bay. The helicopter logging along Burnett Inlet would fly the logs to offshore log-landing barges.

## Alternative C

In the Draft EIS, Alternative C proposed timber harvest using helicopter yarding in the Navy watershed. These activities are no longer proposed in this area in the Final EIS. Also in the Draft EIS, changes were proposed to the small OGRs by the IDT and/or interagency wildlife biologists. In the Final EIS, small OGRs are allocated by the 2008 Forest Plan decision. A proposed NFS road in the beach buffer along the eastern side of Burnett Inlet was dropped in the Final EIS.

### Objective

Alternative C responds to the "Timber Supply and Economics" issue (Issue 1),

focusing more on the supply component. It responds to the issue by providing the greatest amount of timber from the project while meeting Forest Plan Standards and Guidelines. Like Alternatives B and D, it uses uneven-aged management in helicopter units, which can be more economical than even-aged management. It contributes to the local and regional economies by providing the maximum volume and supporting the most annualized jobs.

### **Timber Harvest**

The timber volume proposed for sale in Alternative C (Figure 2-3), 87.5 MMBF, would provide opportunities for timber harvesting by local operators. It would also help move the project area towards the desired condition of the Forest Plan by converting 2,185 acres of old-growth stands to an even-aged condition, 268 acres to a two-aged condition, and 3,654 acres to an uneven-aged condition. Timber would be removed by cable, shovel, and helicopter yarding systems.

### **Transportation System**

Alternative C includes 12.0 miles of new NFS road construction, 3.2 miles reconstruction, and 15.7 miles of temporary road construction. The proposed 1.3 mile extension of the 6540 road would provide opportunities for timber management along the road. With short temporary roads, additional harvest could be considered. Future use will consist of additional timber management. A future extension of the 6540 road is unlikely due to a beach buffer to the West and an OGR to the south. The proposed 1.7 mile extension of the 6547 road enters the Detailer Creek basin, crosses the creek and ends at the junction of two proposed temporary roads. Future harvest along this road is a possibility but future extensions of the road may be impractical due to terrain that forces the road into the beach buffer. A portion of the proposed 3.0 mile 51009 road segment extends into the Scenic Viewshed LUD and provides opportunity for current and future harvest along the proposed segment. Opportunity for future 51009 road extensions is unlikely due to beach buffer and the proximity of an OGR. The proposed 1.3 mile segment of the 51442 road climbs up onto the side of a ridge to access timber. Future extensions of this road are possible although construction may be difficult due to some steep slopes in the area.

The selected site for the 6555 road and associated LTF dictates the construction of 0.4 miles of road in the Steamer OGR. The road provides access to land that would otherwise be inaccessible to conventional logging systems. The total road length extends 2.8 miles and although future extensions of the road are possible, they seem unlikely due to broken ground and relatively low timber volumes. However, there would be opportunities for future harvest along the road.

The 51403, 51421 and 51551 road segments proposed under this alternative are less than 1 mile in length and are either short extensions of existing roads or new roads starting from the existing road system.

Timber harvested would go through the existing LTF and equipment off-loading ramp at Anita Bay, and the proposed Mosman Inlet LTF, to be constructed in Cooney Cove. Helicopter logging along Burnett Inlet, Kindergarten Bay, Quiet Harbor and Big Bend would fly logs to offshore log landing barges.

In the Draft EIS, changes were proposed to the small OGRs by the IDT and/or interagency wildlife biologists. In the Final EIS, small OGRs are allocated by the 2008 Forest Plan decision.

## **Alternative D (Preferred Alternative)**

# 2 Alternatives

## **Objective**

Alternative D, similar to Alternative B, responds to the "Timber Supply and Economics" issue (Issue 1) by providing logical extensions of the existing Anita Bay road system. However, it attempts to improve the economical return by not proposing harvest in the units with the lowest economic return. Like Alternatives B and C, it uses uneven-aged management in helicopter units, which is more economical than even-aged management, since higher operating expenses can be offset by harvesting the more-valuable trees. It also attempts to harvest the most volume per mile of road.

## **Timber Harvest**

The timber volume proposed for sale in Alternative D (Figure 2-4), 37.2 MMBF, would provide opportunities for timber harvesting by local operators. It would also help move the project area towards the desired condition of the Forest Plan by converting 1,180 acres of old-growth stands to an even-aged condition and 1,189 acres to an uneven-aged condition. Timber would be removed by cable, shovel, and helicopter yarding systems.

## **Transportation System**

Alternative D includes 4.8 miles of new NFS road construction, 0.4 mile of reconstruction, and 5.4 miles of temporary road construction. The proposed 1.7 mile extension of the 6547 road enters the Detailer Creek basin, crosses the creek and ends at the junction of two proposed temporary roads. Future harvest along this road is a possibility but future extensions of the road may be impractical due to terrain that forces the road into the beach buffer.

The 6540, 51009, 51403, and 51421 road segments proposed under this alternative are less than 1 mile in length, are either short extensions of existing roads, or new roads starting from the existing road system.

Timber harvested would go through the existing LTF and equipment off-loading ramp at Anita Bay.

## **Alternative E**

In the Draft EIS, changes were proposed to the small OGRs by the interagency wildlife biologists, including an OGR at the Anita Bay pinch point. In the Final EIS, small OGRs are allocated by the 2008 Forest Plan decision.

## **Objective**

Alternative E responds to "Wildlife Habitat Fragmentation" issue (Issue 2) by reducing the amount of interior and coarse canopy forests proposed for harvest. This is the only action alternative that does not include harvest at the Anita Bay pinch point. Partial-harvest prescriptions are also expected to reduce impacts to wildlife in the project area.

## **Timber Harvest**

The timber volume proposed for sale in Alternative E (Figure 2-5), 38.4 MMBF, would provide opportunities for timber harvesting by local operators. It would also help move the project area towards the desired condition of the Forest Plan by converting 487 acres of old-growth stands to an even-aged condition, and 2,839 acres to an uneven-aged condition. The timber would be removed by cable, shovel, and helicopter yarding systems.

## **Transportation System**

Alternative E includes 2.2 miles of new NFS road construction, 2.2 miles reconstruction, and 2.3 miles of temporary road construction. The proposed 1.7 mile

extension of the 6547 road enters the Detailer Creek basin, crosses the creek and ends at the junction of two proposed temporary roads. Future harvest along this road is a possibility but future extensions of the road may be impractical due to terrain that forces the road into the beach buffer. The 51009, 51403, and 51421 road segments proposed under this alternative are less than 1 mile in length, are either short extensions of existing roads, or new roads starting from the existing road system.

Timber harvested would go through an existing LTF and equipment off-loading ramp at Anita Bay. The helicopter logging along Burnett Inlet, Kindergarten Bay, Quiet Harbor and Big Bend would fly the logs to offshore log landing barges.

## **Alternative F**

In the Draft EIS, changes were proposed to the small OGRs by the IDT, Forest Supervisor, and interagency wildlife biologists. Included in the proposal was a small OGR that encompassed the southern part of the peninsula between Mosman and Burnett Inlets. In the Final EIS, small OGRs are allocated by the 2008 Forest Plan decision.

### **Objective**

Alternative F was developed to respond to the “Inventoried Roadless Area” issue (Issue 3) by not harvesting timber or constructing roads in inventoried roadless areas.

### **Timber Harvest**

The timber volume proposed for sale in Alternative F (Figure 2-6), 18.3 MMBF, would provide opportunities for timber harvesting by local operators. It would also help move the project area towards the desired condition of the Forest Plan by converting 559 acres of old-growth stands to an even-aged condition and 692 acres to an uneven-aged condition. The timber would be removed by cable, shovel, and helicopter yarding systems.

### **Transportation System**

Alternative F includes 0.5 mile of new NFS road construction, 2.2 miles reconstruction, and 4.0 miles of temporary road construction. The proposed 51451 road segment is a short extension starting near the end of the 6545 road, less than one mile in length.

Timber harvested would go through an existing LTF and equipment off-loading ramp at Anita Bay.

## **Mitigation**

The analysis documented in this Final EIS discloses the possible adverse effects that may occur from implementing each alternative. Applicable Forest Plan Standards and Guidelines and best management practices (BMPs) have been included in alternative design to reduce effects. These measures are guided by direction from the Forest Plan previously described in this chapter and Chapter 1.

Additional project-specific mitigation measures were developed to prevent adverse impacts that might occur from implementation of the alternatives. Project-specific mitigation measures are applicable to all alternatives in which the unit or road occurs.

## 2 Alternatives

- The Mosman Inlet LTF in Cooney Cove (Alternative C) will retain shoreline trees when possible. This helps increase scenic integrity for boaters looking at this landscape.
- Forest Service personnel, contractors, and logging operators using the area will be made aware of the need to clean contaminating weed parts, seeds, and soil from clothing, vehicles, and equipment before moving to the project area.
- Use of hay or straw bales for erosion control will not be allowed. Materials that comply with TNF standard seed mixture (FSM 2080 TNF supplement R10 2000-2007-1) will be used for erosion control where necessary.

All Forest Plan protection measures, BMPs, and site-specific mitigation measures will be included on the unit and road cards for the Selected Alternative in the Record of Decision. Resource concerns and mitigation measures may be refined further during final layout, when specialists have another opportunity to refine their unit and road card recommendations.

### Monitoring

Monitoring activities can be divided into Forest Plan monitoring and project-specific monitoring. The National Forest Management Act requires that national forests monitor and evaluate their forest plans (36 CFR 219.11). Chapter 6 of the Forest Plan includes the monitoring and evaluation activities to be conducted as part of Forest Plan implementation.

#### Implementation Monitoring

Implementation monitoring assesses whether the project was implemented as designed. The information on the unit and road cards for the project decision is used to prepare the timber sale on the ground. Any adjustments are documented in a Change Analysis document and reviewed to see if further NEPA analysis is needed.

The unit and road cards, as modified by the change analysis are incorporated into the timber sale contract. The sale administrators and road inspectors then enforce the contract requirements with the operators. Input by resource specialists, such as fisheries biologists, soil scientists, hydrologists and engineers, may be requested to provide technical advice when questions arise during project implementation.

Tongass National Forest staff annually conducts a field review of BMP implementation. Projects are sampled randomly for monitoring. Monitoring results are summarized in a *Tongass Annual Monitoring and Evaluation Report*. This report provides information about how well the management direction of the Forest is being carried out and measures the accomplishment of anticipated outputs, activities, and effects.

Possible effects to heritage resources are monitored as specified in the Programmatic Agreement (2002) with the State Historic Preservation Officer (SHPO), by selecting areas of direct impact during and/or after actual ground disturbance.

#### Project-specific Monitoring

Project-specific implementation monitoring is designed to determine how well project-specific design features or mitigation measures work in protecting natural resources and their beneficial uses.

- Tree seedlings would be re-established through natural regeneration. Regeneration (stocking) surveys will be conducted on all units after the third full growing season following completion of logging to certify regeneration.
- Four units (37, 58, 60, and 61) will be planted with western red and Alaskan yellow-cedar to minimize the effects of porcupine damage. Survival surveys will be conducted on these units after the first and third full growing season following completion of planting.
- Prior to closing or storing NFS roads that were constructed for this project, the roads will be surveyed for high-priority invasive plants. If any new infestations are detected, a treatment strategy will be developed and implemented.

## Alternatives Considered but Eliminated from Detailed Study

Fourteen action alternatives were considered during the planning process. Five of those were analyzed in detail. The following alternatives were considered but not included in the Final EIS for detailed study. These are described briefly below, along with the reasons for not considering them further.

Under NEPA, an agency's consideration of alternatives is sufficient if it considers an appropriate range of alternatives, even if it does not consider every available alternative. An agency need not, therefore, discuss alternatives similar to alternatives already considered, or alternatives which are infeasible, ineffective, or inconsistent with the basic policy objectives for the management of the area. By providing a range of alternatives even if some are not studied in detail, we provide the decision maker with enough information to make an informed decision. The decision maker can consider modifications to alternatives in the Record of Decision (ROD).

### Alternatives Proposed and Eliminated Prior to the Draft EIS

#### Original Proposed Action

The original Proposed Action was developed to provide a mix of cable and helicopter harvest areas while developing the infrastructure necessary to support future entries. It proposed harvesting 70 – 80 MMBF of timber and building 33 miles of new roads. It included a proposal to relocate the boundary of the south Mosman (VCU 4670) small OGR to the west side of Mosman Inlet. The interagency wildlife biologists did not support the relocation of the south Mosman small OGR, and a revised Proposed Action was developed.

#### No New System or Temporary Roads

An alternative was developed that included no new NFS or temporary road construction. It proposed harvesting 38 MMBF using cable and helicopter yarding systems. The helicopter units would have a prescription of 75 percent retention. This alternative was eliminated from further consideration because it would require helicopter-yarding units that could be cable yarded with temporary roads. Helicopter yarding where cable yarding is feasible could affect present and future timber-harvest-economics. Elements of this alternative were incorporated into Alternative F, which is being analyzed in detail.

#### Helicopter Yarding Only

This alternative proposed helicopter yarding 36 MMBF to 72 MMBF using uneven-aged management. It included no new road construction. This alternative was

## 2 Alternatives

eliminated from further consideration because it included helicopter-yarding units that could be cable yarded. This is not consistent with Forest Service direction to use the most-economic yarding system possible when other resource concerns are not present or consistent with what the Southeast Alaska timber operators prefer. Helicopter yarding where cable yarding is feasible could affect present and future timber-harvest-economics.

### **Windthrow Risk Reduction**

This alternative was developed to reduce the likelihood of blowdown by not harvesting in high windthrow risk areas, specifically the Mosman Inlet area. It proposed harvesting 51 MMBF using cable and helicopter yarding. This alternative was eliminated from further consideration because windthrow risk was reduced by unit design and silvicultural prescriptions.

### **No Harvest or Road Building in Inventoried Roadless Areas**

This alternative proposed harvesting 31 MMBF of timber using cable and helicopter harvesting systems. This alternative was eliminated from further consideration after preliminary analysis because of concerns over potentially high cumulative watershed effects in the Duckbill and Kindergarten Lake Creek watersheds. Parts of this alternative were incorporated into Alternative F, which is being analyzed in detail.

### **The Wilderness Society (TWS)**

TWS requested an alternative that included no further planning within inventoried roadless areas (IRAs), Burnett Bay VCU 4680, and units that were located in the Nature Conservancy and Audubon Conservation Assessment priority 1 and 2 areas (see Appendix B, TWS-6).

Their proposal was examined using Alternative F served as the foundation for this alternative because it did not harvest in the IRA. The only units TWS listed that were still included in Alternative F were Units 37, 38, parts of 41, 48, 78, and 120, 121, and 115 which are not in the IRA as TWS stated.

The TWS alternative was eliminated from detailed study because the overall effects would be very similar to Alternative F.

### **SE Alaska Conservation Council**

SEACC requested an alternative that combines some of the attributes from Alternatives D, E, and F (see Appendix B, SEACC-5). The changes avoid excessive loss of valuable deer winter habitat and rely heavily on the core ecological values identified in Schoen and Dovichin 2007. An alternative was designed around SEACC's recommendation following the TNC-Audubon conservation assessment that blended parts of Alternatives D, E, and F. This alternative proposed no harvest in the Navy watershed and the interagency wildlife biologists' recommendations for the small OGRs. The decision for the 2008 Forest Plan, which occurred after the public review of the Navy Draft EIS, finalized the locations of the OGRs in the Navy project area, which did not include the Anita Bay OGR. This decision also placed the Navy watershed into Phase 2 lands; in order to comply with this direction, timber harvest is no longer proposed there, at this time.

The alternative included Units 40, 43, 44, 45, 46, 76, 77, 78, 79, 80, 83, 84, 88, 90, 91, 102, 103, 104, 112, 113, 114, 115, 117, 120, 121, 124, 125, 126, 128, 129, 131, 132, 133, 135, 136, 137, 138, 140 and 141. The total acres equaled 2,956 and the volume would be approximately 30.8 MMBF sawlog. The alternative would helicopter yard 2,603 acres, harvesting 24.7 MMBF with a single-tree selection silvicultural

## **Alternatives Proposed in Draft EIS Comments**

prescription. The alternative would cable yard 280 acres, harvesting 5.7 MMBF with an even-aged (clearcut) silvicultural prescription. The alternative would also shovel yard 73 acres, harvesting 411 MBF with 68 acres of single-tree selection and 5 acres of clearcuts.

This alternative was designed and reviewed, but was eliminated from detailed study because the effects were predicted to be similar to Alternative E.

### **Sitka Conservation Society**

SCS requested the addition of several alternatives (see Appendix B, SCS -4). First, they requested multiple alternatives that did not enter the roadless areas, and avoided new road construction. These alternatives would be various configurations of Alternative F with less volume and no roads. However, the basis behind this request was due to their differences with the level of market demand, which is a Tongass-wide forest planning issue. In order to meet the Tongass timber demand, based on the 2008 Forest Plan as calculated annually, lower-volume alternatives would not contribute sufficiently to meet the demand, which is part of the Purpose and Need of this project.

To respond to the concerns of effects to roadless areas and no new roads, Alternative F was analyzed in detail. Alternative F does not harvest within the roadless areas and is at the low-volume end of the action alternative range. Alternative F would construct 0.5 mile of NFS system roads, reconstruct 2.2 miles, and construct a total of 4.0 miles of temporary roads.

SCS also requested an inclusion of a micro-sales alternative. For the microsale program, units are not designated by the Forest Service, but are requested by potential purchasers. Microsales or smaller sales could be offered from the decision on the Navy EIS. All alternatives include small harvest units along the existing road system. In order to respond more fully to the requests for microsales and small sales on the Wrangell Ranger District, the WRD Roadside EA process began in January 2009.

### **Woodbury**

George Woodbury (see Appendix B, GW-2 through GW-4) requested an alternative that was economical. His proposed alternative would be centered on the Anita Bay log transfer facility, with the units concentrated on the road system. No partial harvest is included, and helicopter logging would be used only when all other options were exhausted. All new roads are built to temporary standards and the Forest Plan Standards and Guidelines were applied with flexibility to achieve a viable alternative. It results in an alternative with nine units, with a volume of 24 MMBF, accessed by 5.4 miles of temporary roads. (Woodbury's previous submission during scoping was an alternative with a volume of 50 MMBF. The previous alternative included units west of Mosman Inlet, which is now part of the South Mosman OGR).

The nine units in this alternative generally correspond to Units 53, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 70 and 72 in Alternative C. During DEIS and FEIS, the access road for Units 53, 55, and 56 that was primarily in the beach fringe was deleted. Access to all these units was not feasible by this road, and helicopter logging was needed. Since helicopter logging was proposed, the prescription focused on partial harvest to leave the smaller diameter and large, highly defective timber. None of the units proposed by the Forest Service entered the beach fringe in accordance to Forest Plan direction. Unit designs also differ slightly due to field reconnaissance.

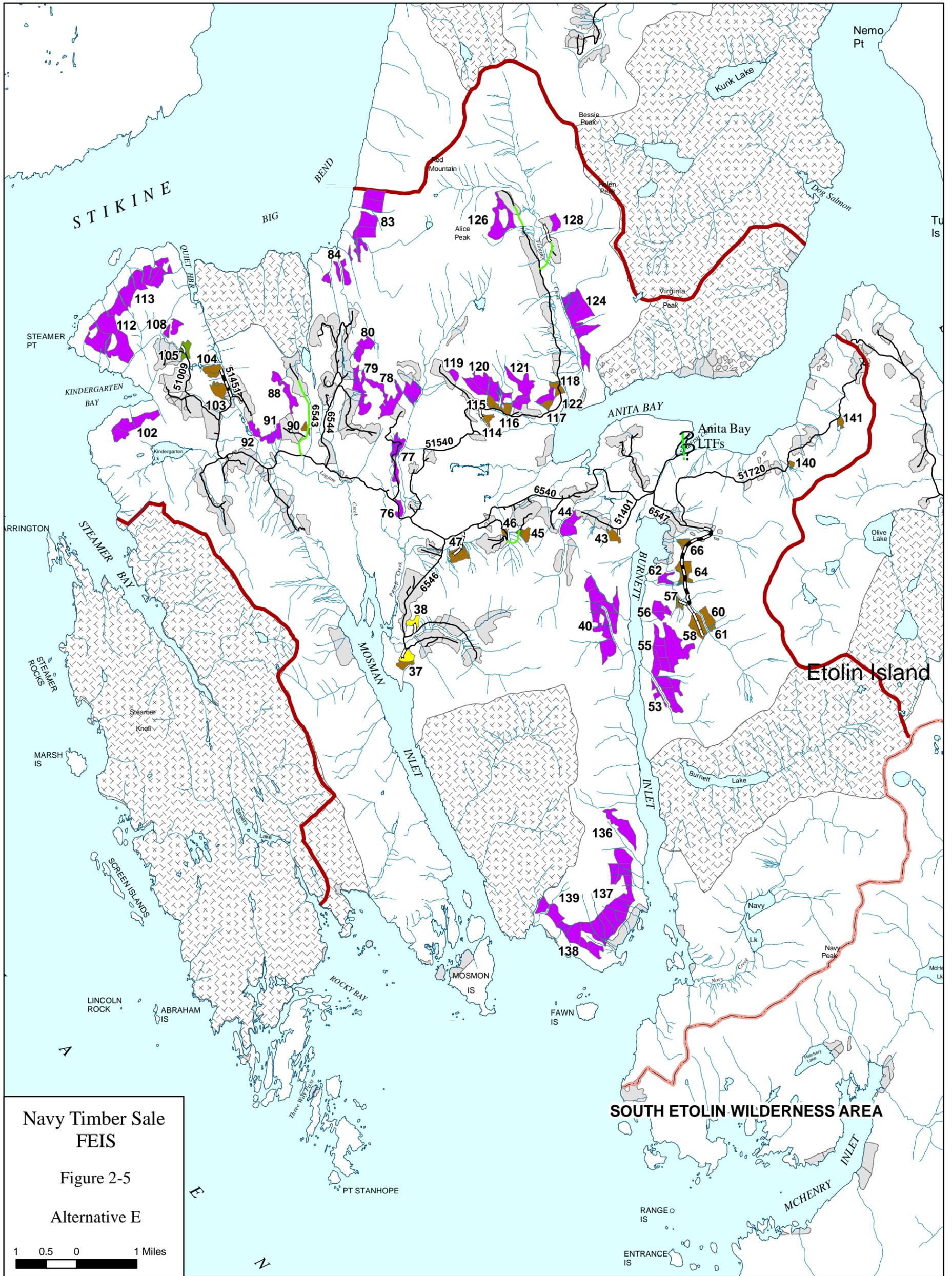
The Forest Service goal is to develop economic alternatives, but current market conditions and timber sale specifics (costs) are dictating the viability of this project.

## 2 Alternatives

Changing economic factors and rapid market fluctuations make it difficult to predict absolute economic values over the next 5 to 10 years. Since the NEPA process takes years to complete, more flexibility in the selection of harvest units is part of this goal. While this alternative was eliminated from detail study, these recommendations will be considered as a possible sale configuration if these units are selected in the decision.

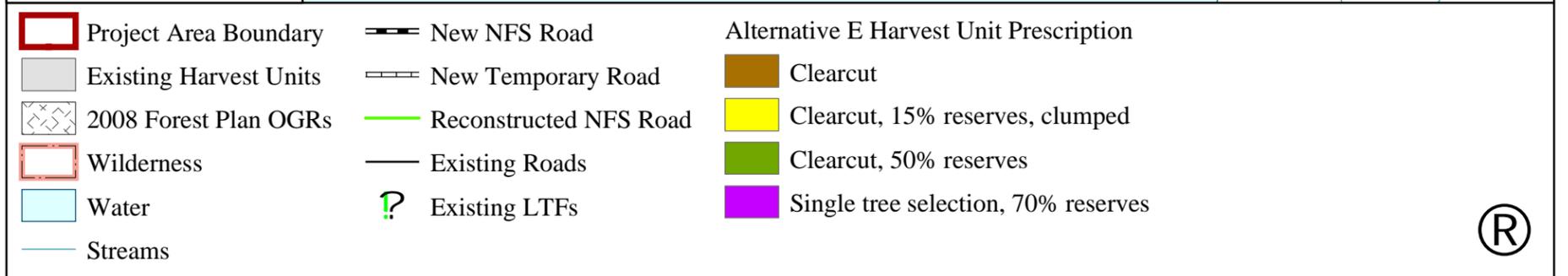
### Viewpoint 17 – Anita Bay

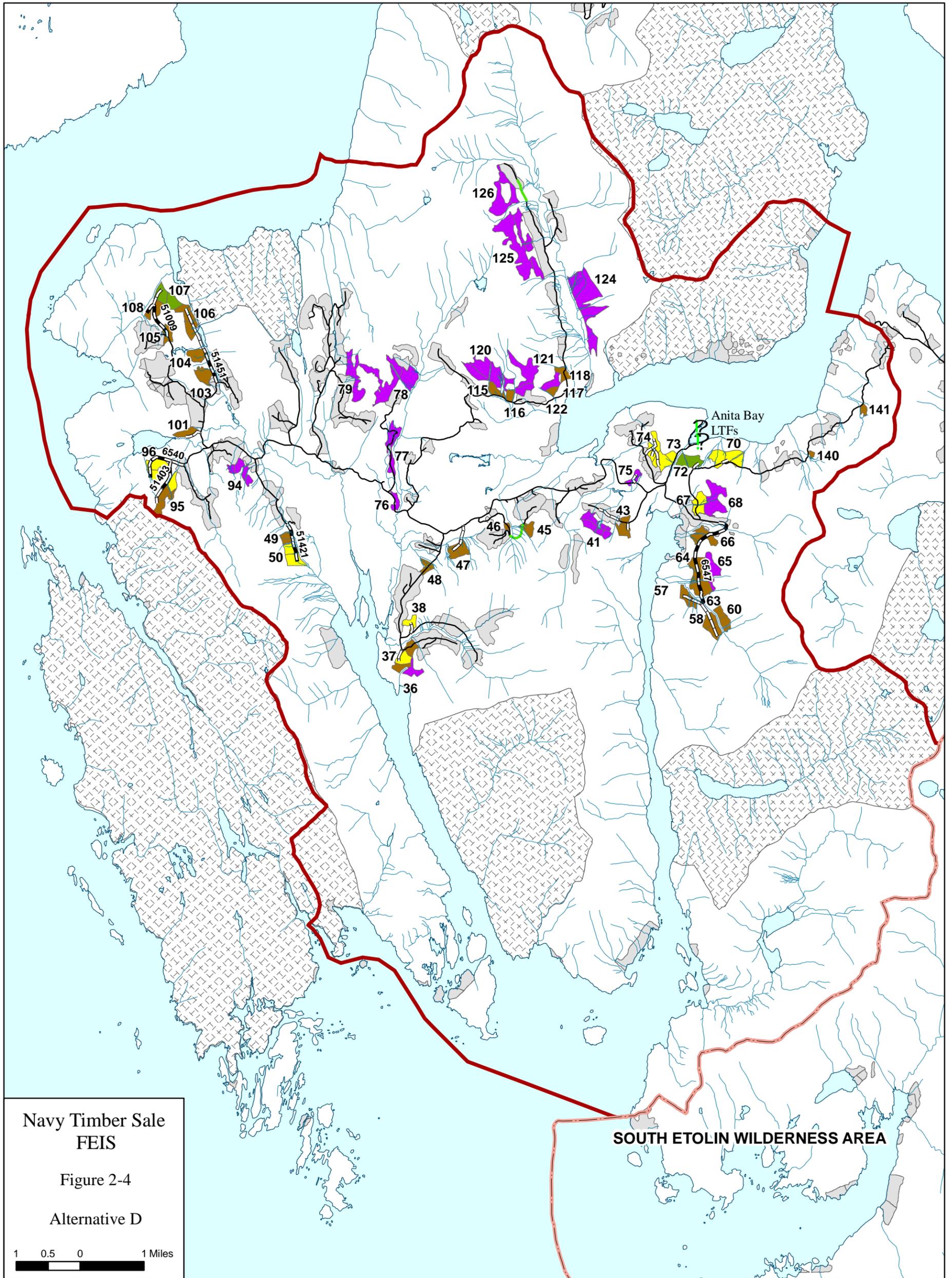




Navy Timber Sale  
FEIS  
Figure 2-5  
Alternative E

1 0.5 0 1 Miles





Navy Timber Sale  
FEIS

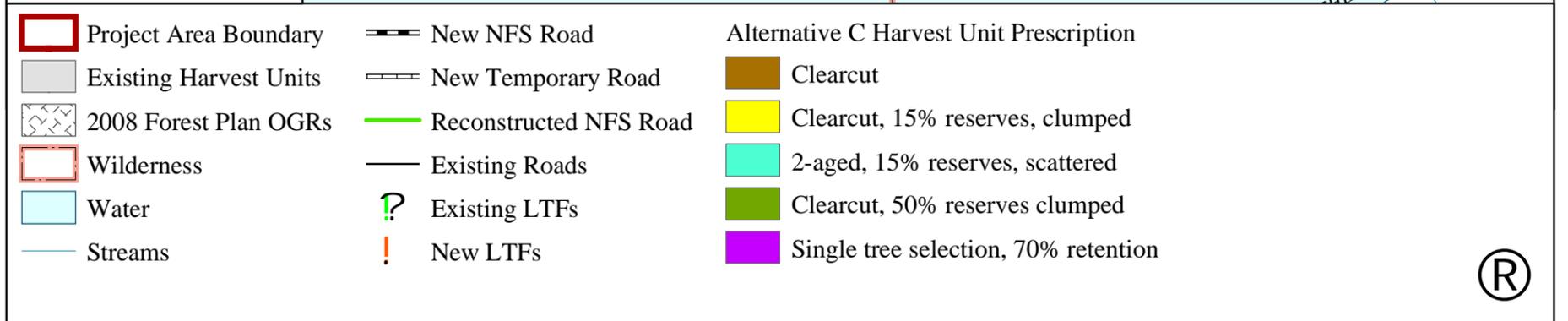
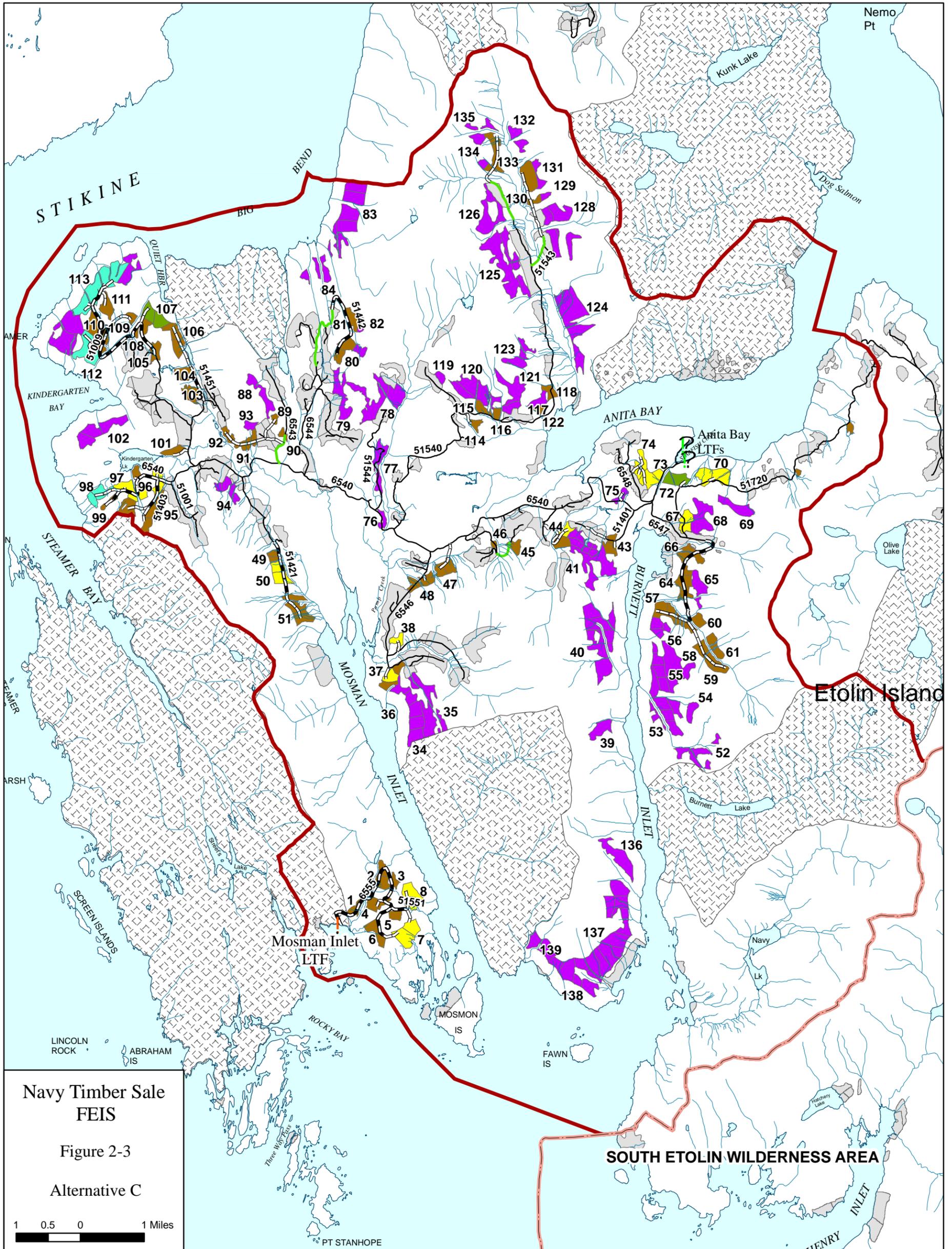
Figure 2-4

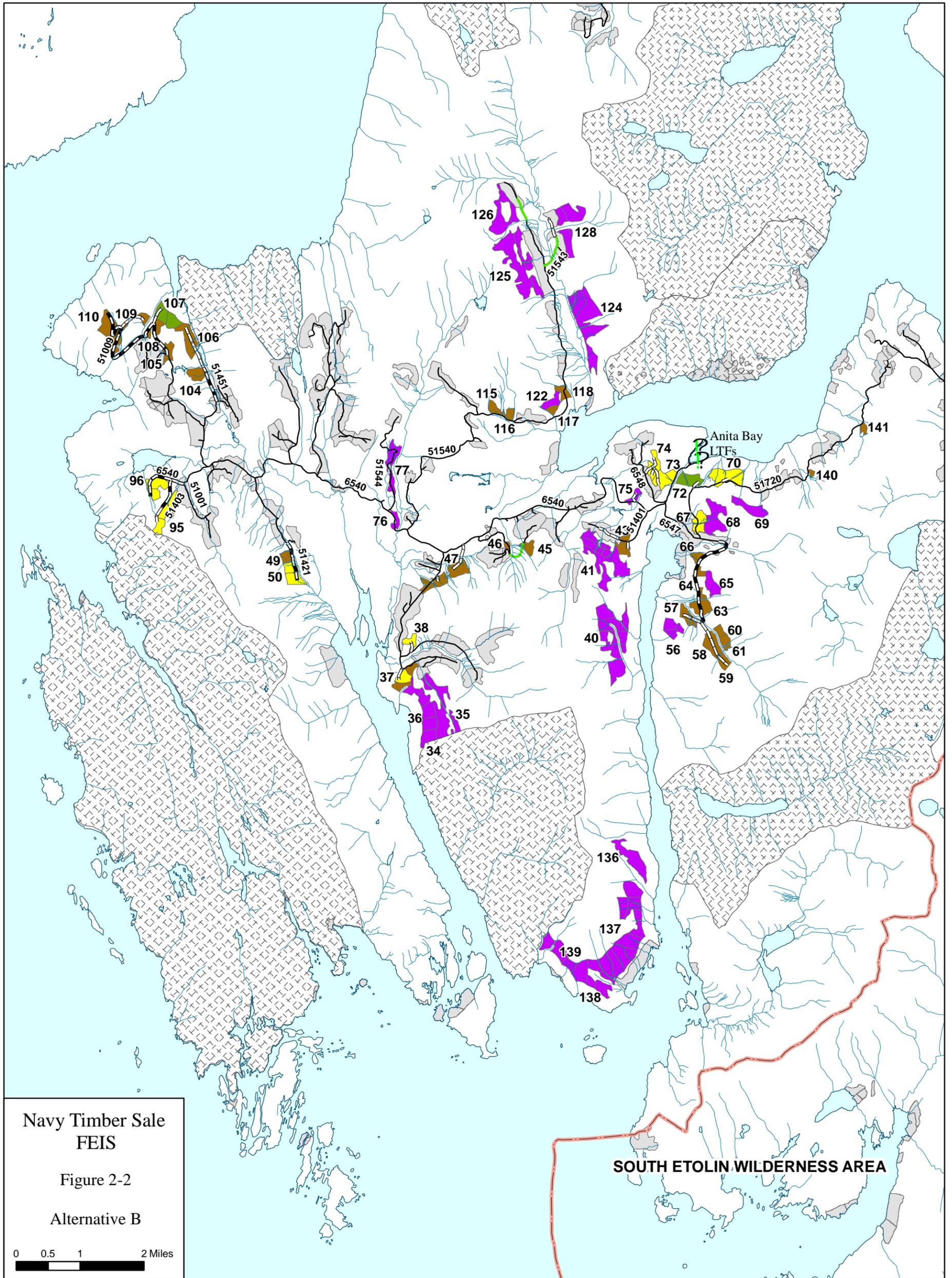
Alternative D



- |                        |                        |                                                |
|------------------------|------------------------|------------------------------------------------|
| Project Area Boundary  | New NFS Road           | <b>Alternative D Harvest Unit Prescription</b> |
| Existing Harvest Units | New Temporary Road     | Clearcut                                       |
| 2008 Forest Plan OGRs  | Reconstructed NFS Road | Clearcut, 15% reserves, clumped                |
| Wilderness             | Existing Roads         | Clearcut, 50% reserves                         |
| Water                  | Existing LTFs          | Single tree selection, 70% reserves            |
| Streams                |                        |                                                |







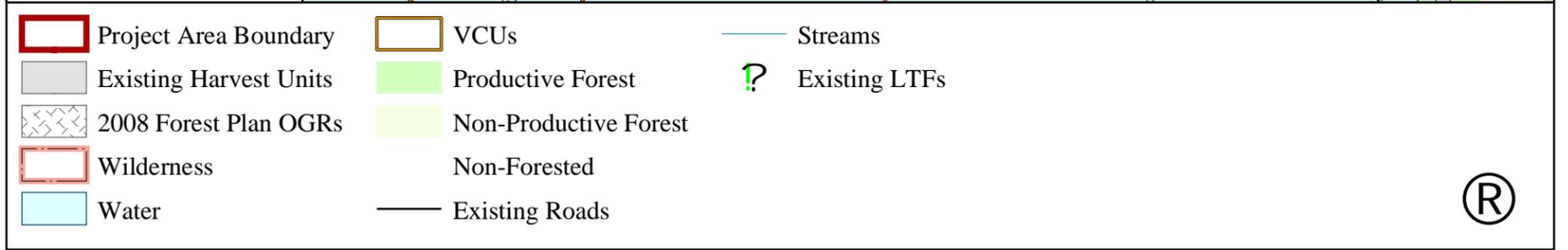
Navy Timber Sale  
FEIS  
Figure 2-2  
Alternative B

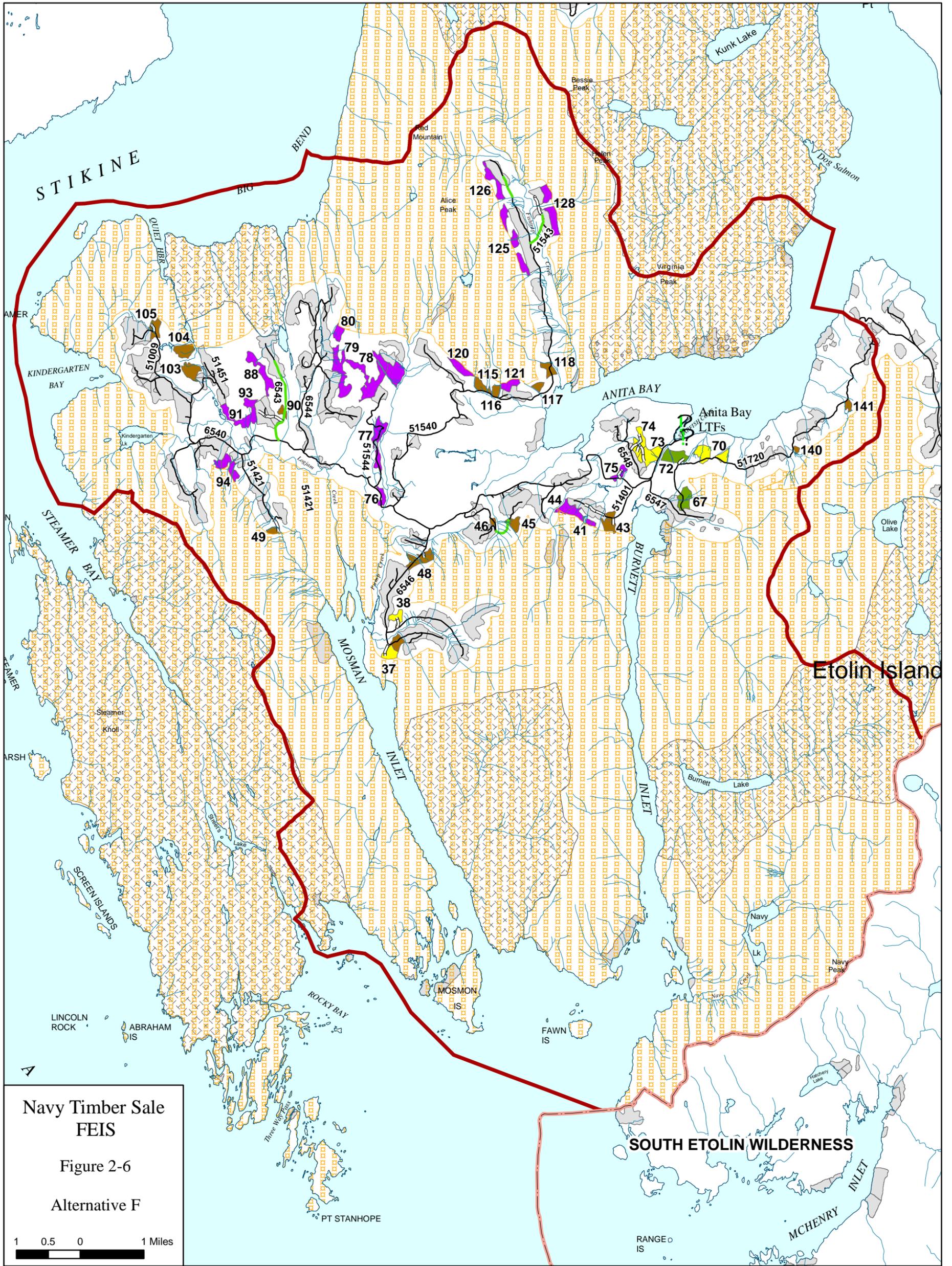
0 0.5 1 2 Miles





Navy Timber Sale  
 FEIS  
 Figure 2-1  
 Alternative A  
 (No Action)





- Project Area Boundary
- Wilderness
- 2008 Forest Plan OGRs
- Existing Harvest Units
- Water
- Streams

- New Temporary Road
- Reconstructed NFS Road
- Existing Roads
- ? Existing LTFs
- Inventoried Roadless Areas

- Alternative F Harvest Unit Prescription**
- Clearcut
  - Clearcut, 15% reserves clumped
  - Clearcut, 50% reserves
  - Single tree selection, 70% retention

