

Record of Decision

Iyouktug Timber Sales

Forest Service, U.S. Department of Agriculture
Hoonah Ranger District
Tongass National Forest
Alaska Region

Summary

The Iyouktug Timber Sales Record of Decision (ROD) describes the selection of Alternative 3 with modifications related to the 2008 Tongass Land and Resource Management Plan (referred to as the 2008 Forest Plan) for implementation in the Iyouktug project area.

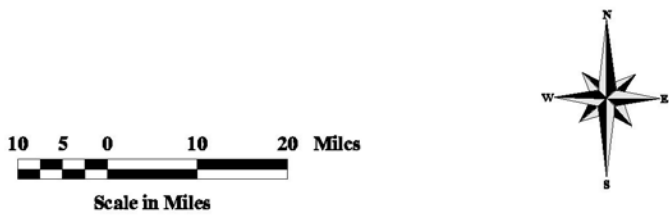
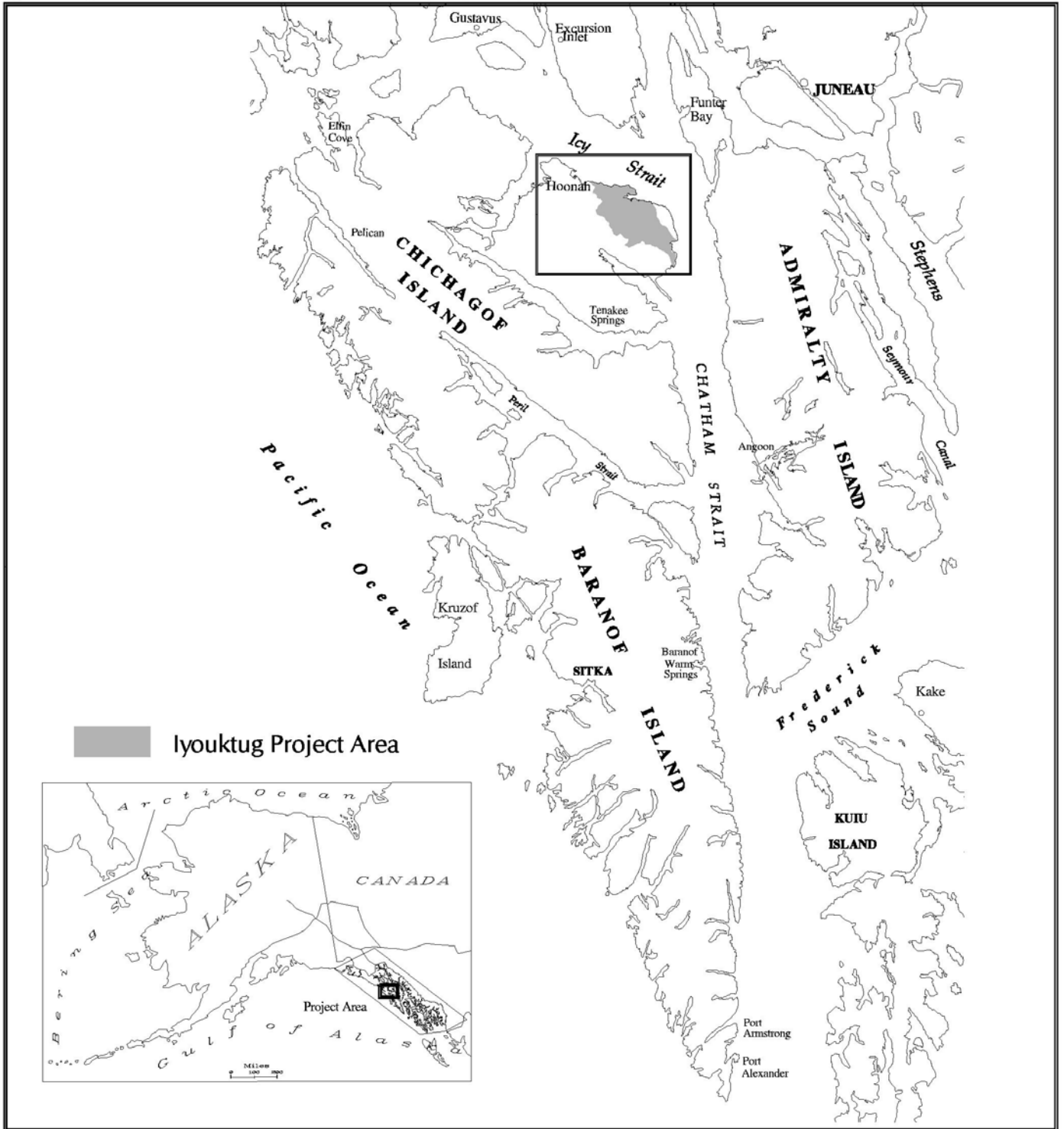
Several components of the 2008 Forest Plan were incorporated into the Iyouktug Timber Sales project early in the analysis. The proposed changes to the Old Growth Habitat Reserves in the Iyouktug analysis are very similar to the 2008 Forest Plan Old Growth Habitat Land Use Designations (LUDs) within the Iyouktug project area. In addition, the karst areas as proposed for Special Interest Area LUDs during the amendment process for the 2008 Forest Plan were avoided by harvest or ground-disturbing activities during alternative development for the Iyouktug analysis. Therefore, the Iyouktug project is consistent with all of the land allocations of the 2008 Forest Plan.

Project Location

The Iyouktug project is located on the northeastern part of Chichagof Island in the Iyouktug valley, northwest of the Iyoukeen Peninsula. The project area is located north of Freshwater Bay, west of False Bay and Chatham Strait, and south of Icy Strait, approximately 12 miles east-southeast of Hoonah, Alaska (see Figure R-1). The project area lies within the Iyouktug and Suntaheen Creek valleys, along National

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Figure R - 1
Iyouktug Timber Sales Project Area - Vicinity Map.



Forest System (NFS) Road 8530, and includes Whitestone Harbor. The project area is bordered on the northwest by private land, much of which has been previously harvested. The Iyouktug project area includes approximately 265 acres of non-National Forest System land, all of which is owned by Huna Totem Corporation.

The project area lies within Value Comparison Units (VCUs) 2080, 2090, and 2100. The Forest Service has a cooperative agreement to use the existing, permitted Long Island marine access facility (MAF) on private land near Hoonah.

Decision

It is my decision to choose Alternative 3 of the Iyouktug Timber Sales Final Environmental Impact Statement (FEIS) with modifications related to the 2008 Forest Plan as the Selected Alternative and I authorize the actions necessary to implement my decision.

My decision incorporates the new direction in the 2008 Forest Plan for the legacy standard and guideline in lieu of the 1997 Tongass Land and Resource Management Plan's (referred to as the 1997 Forest Plan) standards and guidelines for marten habitat. The legacy standard and guideline does not require structure to be retained within harvest units for the VCUs in the project area because these VCUs contain enough old growth forest to provide habitat for old growth associated species (including marten). Dropping marten tree retention in areas of high volume strata will not change the acres harvested, since acres shown in the FEIS included all unit acres (unit acres did not exclude acres for marten habitat retention). This change will allow more trees to be cut from those acres because there will be no trees retained for marten habitat in high volume strata. I am also modifying the Selected Alternative by dropping Unit 1053, and portions of Units 105 and 1051, to provide for goshawk nesting habitat. The Iyouktug goshawk nest buffer was modified to include more area around three confirmed (known and documented) nests to better meet the goshawk standards and guidelines; compared to Alternative 3, the Selected Alternative reduces the acres harvested by 34 acres and the temporary road construction by 0.1 mile. With these modifications, the potential volume of harvest increases by 0.1 million board feet (MMBF).

Additionally, the Iyouktug Draft Environmental Impact Statement (DEIS) and FEIS proposed the Old Growth Habitat Land Use Designations (LUDs) in very similar locations as those established in the 2008 Forest Plan decision, and the Iyouktug project does not affect the Special Interest Areas LUD as designated in the 2008 Forest Plan decision (see Figure R-2 at the end of this ROD). Therefore, no decision (or Forest Plan Amendment) is necessary in this Record of Decision related to changes in LUDs.

My decision encompasses the following:

- The location, amount, design, and method of timber harvest, road construction and reconstruction, log transfer facilities, and silvicultural practices;
- The timeframe harvest may occur in;
- Road management objectives for constructed roads, reconstructed roads, or roads with bridge replacements;

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- Any necessary project-specific design criteria, mitigation measures, and monitoring requirements; and
- A finding on subsistence uses.

This decision is based on the environmental analysis in the FEIS for the Iyouktug Timber Sales project and includes agency, tribal, and public comments received during the comment period on the DEIS. This decision meets the Purpose and Need for the project; is consistent with the 1997 Forest Plan and the ROD for the 2008 Forest Plan; and is responsive to issues raised during scoping, information gathered during the environmental analysis, and public and agency comments on the DEIS.

Description of the Selected Alternative

- The Selected Alternative will harvest approximately 3,298 acres of commercial forest land using shovel yarding, cable yarding, and helicopter yarding systems to contribute to the Tongass National Forest timber sale program (see Table R-1 and the Selected Alternative maps, Figures R-3, R-4A and R-4B, at the end of this ROD). This harvest provides an estimated 41.8 MMBF of sawlog and utility volume. The current indicated bid value is negative \$151.17/MBF. Advertised sales will be designed to include units and roads with the objective of achieving a positive indicated bid. Under current Congressional direction (Public Law 110-161, House Report 110-497) no timber sale in the Alaska Region shall be advertised if the indicated rate is deficit. Design features of approved harvest units are described in detail on the unit cards in Appendix 1.
- The decision includes both clearcut (554 acres) and partial harvest of up to 50 percent of the basal area (2,744 acres). This meets the standards and guidelines for Timber Production LUD, and meets the project's Purpose and Need by providing timber for local timber supply and market demand.
- In partial harvest areas, trees will be designated for harvest either singly or, preferably, in small clumps to facilitate helicopter yarding and singly and/or in small clumps or corridors to facilitate shovel yarding. Clumps will favor spruce and yellow-cedar regeneration and will range from several trees up to approximately an acre in size with some clumps as large as two acres.
- The Selected Alternative will harvest 188 acres using shovel, 554 acres using cable, and 2,556 acres using helicopter.
- The decision includes construction of 2.8 miles of National Forest System (NFS) road, construction of 3.8 miles of temporary road, and reconstruction of 6.3 miles of existing NFS road (see Figure R-5 in Appendix 2 of this ROD). The NFS road construction mileage includes reclassifying approximately 0.4 mile of existing, open, unauthorized roads (that access rock pits) to NFS roads; these roads to rock pits will remain open. All other constructed and reconstructed NFS roads will be maintained by the contractor during the timber sale and will be closed to motorized vehicles after timber sale harvest and placed in storage. All new temporary roads will be decommissioned after timber harvest. Roads are described in detail in road cards in Appendix 2 and unit cards (Appendix 1) for temporary roads. Road construction and reconstruction costs are approximately \$2,066,000.

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- Approximately 4.2 miles of currently open road (NFS Roads 85307, 85309, and the furthest portion of 8534) will be used in this alternative, but will be closed and placed into storage after timber harvest as part of the Access Travel Management decision (USDA Forest Service 2002b). Bridge replacement (and removal upon timber sale completion) will occur at three locations on Roads 85307, 85309, and 8534. Road maintenance of existing open roads will be part of ongoing activities.
- The decision includes the potential use of an existing marine access facility (MAF) designed for barge or raft log transfer. The Long Island MAF (referred to by the State as the “East Port Frederick LTF”), is approximately 1 mile southwest of Hoonah on non-National Forest land and is located outside of the Iyouktug project area (see Figure R-5 in Appendix 2 of this ROD). This MAF may be used to support these timber sales. If the MAF is used, logs may be barged or rafted.
- The Selected Alternative provides an estimated 41.8 MMBF toward meeting annual market demand over an extended period of time. The expectation is that timber sales will be harvested from the Iyouktug project area over the next 8 to 10 years or longer.
- This decision includes all project-specific design criteria, mitigation measures, and monitoring requirements described in the FEIS and included in this ROD under Design Elements and Mitigation, and Monitoring. Included in the design elements are stream buffers that meet standards and guidelines specified by the Forest Plan and Tongass Timber Reform Act (TTRA). Additional windfirm buffers are included where appropriate.
- Harvest and road construction will occur in the Point Augusta and Freshwater Bay Inventoried Roadless Areas (IRAs, #317 and 325); however, most harvest in the roadless areas will be partial harvest using helicopter yarding. About 0.5 mile of temporary road and 1.6 miles of NFS road will be constructed in inventoried roadless areas; all miles of temporary road will be decommissioned and all miles of NFS road in inventoried roadless areas will be closed and placed into storage after harvest.

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Table R-1: Comparison of Proposed Timber Harvest Objectives and Practices by Alternative, Including the Selected Alternative

Category	Unit of Measure	Alt. 1	Alt. 2	Alt. 3	Selected Alternative (modified Alt. 3)	Alt. 4	Alt. 5
Harvest Volume ¹	MMBF	0	58.1	41.7	41.8	33.8	16.5
Direct Employment ²	# of total job years	0	199-282	144-204	144-205	117-165	55-79
Timber Harvest by Yarding System (Harvest Treatment³)							
Shovel (ST50)	Acres	0	247	169	155	194	169
Shovel (ST25)	Acres	0	68	33	33	68	68
Cable (Clearcut)	Acres	0	1,253	574	554	636	646
Helicopter (ST40)	Acres	0	1,392	1,331	1,331	627	0
Helicopter (ST25)	Acres	0	1,225	1,225	1,225	1,059	0
Total Unit Acres	Acres	0	4,185	3,332	3,298	2,584	883
Road Activities							
National Forest System (NFS) Road Construction	Miles	0	4.2	2.8	2.8	1.4	2.8
Temporary Road Construction ⁴	Miles	0	13.4	3.9	3.8	7.8	4.4
Existing NFS Road Reconstruction	Miles	0	6.9	6.3	6.3	7.0	1.4
Miles of open NFS road after timber sale completion ⁵	Miles	36.2	40.4	36.6	36.6	37.7	39.0

¹Volume includes utility and sawlog volume.

²NEAT_R Version 2.13 using Alternative Volume and Southeast Alaska Multipliers for period 2000-2005. Sawmill jobs range based on 50 percent of net volume shipped to markets outside Alaska to all sawlogs processed in Alaska.

³ST25, ST40, or ST50 = partial cut through single tree selection harvesting up to 25, 40, or 50 percent of the basal area in the stand, respectively. For further discussion of single tree selection harvesting prescriptions see Appendix 1, Silvicultural Prescription-Guidelines for All Single Tree Selection Units.

⁴All temporary roads will be decommissioned; NFS roads may be left open or may be closed and put into storage.

⁵Ongoing road closure/storage activities will cumulatively reduce these open road miles to 34.9, 36.2, 32.4, 33.5, 34.8 for Alternatives 1 through 5, respectively in the project area after implementation of the 2002 Access Travel Management (USDA Forest Service 2002b) decision. The Selected Alternative will have a cumulative open road mileage of 32.4 miles. Source: SRD GIS 2007 and Iyouktug FEIS; Numbers in this table may not sum to totals shown in the EIS due to rounding.

Reasons for the Decision

In making my decision, I carefully considered the issues and concerns raised during scoping, the subsistence hearings, and comments on the DEIS. I considered 1997 Forest Plan direction relevant to this project, the ROD for the 2008 Forest Plan, and the competing interests and values of the public. I considered all viewpoints and

incorporated them where feasible and consistent with the Purpose and Need of the project.

I evaluated the trade-off between resource protection, social values, and timber sale economics. The Selected Alternative provides a beneficial mix of resources for the public, within a framework of existing laws, regulations, policies, public needs and desires, and the capabilities of the land, while meeting the stated Purpose and Need for this project.

My decision to implement the Selected Alternative conforms to the 1997 Forest Plan, the ROD for the 2008 Forest Plan, and National Forest management. I considered the project's Purpose and Need and the issues when reaching my decision, as well as other resource impacts and concerns:

- I considered the need to maintain and promote wood production from the project area, providing a supply of wood to meet society's needs. The IDT considered a unit pool of suitable and available forest using stand exam data, on the ground reviews by resource specialists, information on past harvest and existing and potential roads in the Iyouktug project area. The IDT used information from public scoping, in conjunction with field data and related resource information, to formulate the Proposed Action, significant issues, the Selected Alternative, and the other alternatives to the Proposed Action.
- I considered the need to seek to provide a stable supply of timber from the Tongass National Forest, which meets the annual planning-cycle market demand, while managing these lands for sustained long-term yields, consistent with sound multiple-use and sustained-yield objectives. The Selected Alternative provides an estimated 41.8 MMBF of timber toward meeting annual market demand over an extended period of time. At the same time, the Selected Alternative implements 1997 Forest Plan direction on all 2008 Forest Plan LUDs.
- I considered the need to seek to provide a long-term, stable supply of timber for local sawmills and timber operators. Timber in the Selected Alternative will be offered through various small sales (less than 3 MMBF/yr) and one or more large sales over an extended period of time following the ROD. My decision does not preclude the timber currently anticipated for offer in large sales from being split into small sales for purchase by local operators nor that units from this project are combined with units from other projects to create timber sales.
- I considered the need to provide diverse opportunities for natural resource employment and to contribute to local and regional economies. The Selected Alternative estimates 144 to 205 annualized jobs will be supported for timber industry employment opportunities. This range of jobs accounts for the variety of options the timber purchasers have under the limited interstate shipping policy. The purchasers may elect to process all the sawlogs locally or to ship up to 50 percent of the total sawlog volume and up to 100 percent of the total utility volume to markets outside Alaska, which may reduce support for sawmilling jobs. An estimated 41.8 MMBF of timber will be harvested that could support local and regional economies. Because the impacts to other resources such as recreation, scenery, and watershed meet 1997 Forest Plan standards and guidelines, and effects are expected to be moderate or less, I do not expect changes to other natural resource related employment.

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- I considered the effects that the proposed harvest and associated road construction will have on habitat connectivity for Sitka black-tailed deer through removing additional low elevation forest and travel corridors connecting low and high elevation habitat. While there are impacts to deer habitat connectivity, the Selected Alternative meets 1997 and 2008 Forest Plan direction for Timber Production land use designations. Avoiding harvest in Units 104, 189 and 819 and portions of Units 108 and 1171 and road closures after project completion will aid in maintaining low elevation habitat for deer. Table R-2 compares the Selected Alternative with the other alternatives considered in detail.
- I considered the effects that the proposed harvest and associated road construction will have on the roadless character of Iyouktug's three inventoried roadless (IRA) areas. I believe that the impacts of the Selected Alternative on inventoried roadless areas have been minimized because of the road closures after harvest and because harvest in roadless areas will occur mainly through partial harvest helicopter yarding. In the Selected Alternative, 88 percent of the Point Augusta IRA, 72 percent of the Freshwater Bay IRA, and 99 percent of the Whitestone IRA will remain in a roadless state. Seventy-eight to 95 percent of all harvest, within IRAs, will be by helicopter and will remove 25 to 40 percent of the basal area. Helicopter removal requires no road construction in IRAs, and remaining stands will meet the adopted Visual Quality Objectives due to the low intensity of harvest. I recognize that harvest in roadless areas will have some impacts on resources, but impacts remain negligible to moderate (complete definitions of the level of effects are located in Chapter 3 of the FEIS in the Roadless Resources sections; generally, effects increase from negligible, which includes no effect, to minor, to moderate, to major). There will be a minor degree of influence on fish habitat in all three IRAs. The degree of influence on wildlife habitat will be moderate in Point Augusta IRA, negligible in Whitestone IRA, and minor in Freshwater Bay IRA. The degree of influence on the special roadless values will be moderate in Point Augusta IRA, minor in Whitestone IRA, and moderate to the entire Freshwater Bay IRA. All three IRAs in the Iyouktug area are lower value roadless areas according to the 2003 Roadless SEIS and are included in Phase 1 of the Timber Sale Program Adaptive Management Strategy in the 2008 Forest Plan Amendment ROD.
- I considered the economic effects of helicopter logging and road construction on the viability of the timber sales. According to the NEAT_R model, the Selected Alternative is the most economic alternative of the four action alternatives considered in the FEIS. At this time timber sales cannot be offered if they are deficit. Less-economical units may be deferred from harvest or included as timber subject to agreement at the time of sale. The NEAT_R model is a financial efficiency and economic analysis program for use in timber sale planning; economic results by unit from NEAT_R are available in the Iyouktug project record.

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Table R-2: Comparison of Alternatives, including the Selected Alternative, by Significant Issue

	Alt. 1	Alt. 2	Alt. 3	Selected Alternative (Modified Alt. 3)	Alt. 4	Alt. 5
Issue 1: Deer Habitat Connectivity						
Percent reduction in productive old growth below 800 feet elevation in the Wildlife Analysis Area (WAA)	0	6.1	3.8	3.8	4.2	2.7
Acres of productive old growth (POG) remaining in the WAA ¹	31,768	28,657	29,467	29,487	30,144	30,928
Degree of influence on deer habitat connectivity ²	Negligible	Moderate	Moderate	Moderate	Moderate	Moderate
Acres of Small Old Growth Reserve (OGR)/Acres of POG in OGR	2,691/ 1,740	3,436/ 2,232	3,436/ 2,232	3,436/ 2,232	3,436/ 2,232	3,436/ 2,232
Issue 2: Inventoried Roadless Areas						
Acres of timber harvest proposed in inventoried roadless areas	0	1,871	1,416	1,416	0	229
Miles of new road construction proposed in inventoried roadless areas (includes temporary and NFS road)	0	8.1	2.2	2.2	0	2.1
Acres of inventoried roadless area retaining roadless characteristics in the project area ³	25,591	20,378	21,592	21,592	24,211	24,688
Whitestone Inventoried Roadless Area						
Degree of influence on high value fish and wildlife habitat ¹	Negligible	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor
Degree of influence on ecological, cultural, and geological special values ¹	Negligible	Minor	Minor	Minor	Minor	Minor
Point Augusta Inventoried Roadless Area						
Degree of influence on high value fish and wildlife habitat ¹	Negligible	Moderate	Minor to Moderate	Minor to Moderate	Negligible to Minor	Minor to Moderate
Degree of influence on ecological, cultural, and geological special values ¹	Negligible	Moderate	Moderate	Moderate	Minor	Moderate
Freshwater Bay Inventoried Roadless Area						
Degree of influence on high value fish and wildlife habitat ¹	Negligible	Minor	Minor	Minor	Negligible	Negligible
Degree of influence on ecological, cultural, and geological special values ¹	Negligible	Minor	Moderate	Moderate	Negligible	Minor
Issue 3: Timber Sale Economics						
Total volume in million board feet (MMBF)	0	58.1	41.7	41.8	33.8	16.5
Logging costs per thousand board feet (MBF)	0	\$377	\$385	\$384	\$380	\$333
Indicated bid - dollars per MBF; () indicates negative value	0	\$(177.75)	\$(151.28)	\$(151.17)	\$(175.07)	\$(176.79)
Employment in number of total job years	0	199-282	144-204	144-205	116-165	56-79
Direct income based on projected employment (in millions)	0	\$7.7 - 10.6	\$5.6 - 7.7	\$5.6 - 7.7	\$4.5 - 6.2	\$2.2 - 3.0

¹ Acres of Helicopter ST25 were not included because it was assumed that this harvest method will not result in a change to the classification of productive old growth forest.

² Impacts increase from negligible (which includes no effect), to minor, to moderate, to major; definitions of effects are located in Chapter 3 of the FEIS in the Habitat Connectivity and Old Growth and Roadless Resources sections

³ Includes direct and indirect effects

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My decision to implement the Selected Alternative considered the other concerns that arose in the EIS.

- I considered the presence of rare plants. Suitable habitat for two species of rare plant (*Galium kamtschaticum* and *Listera convallarioides*) is abundant and populations are widespread in the Iyouktug project area and on other parts of Chichagof Island. The Selected Alternative will not have a significant impact on the viability of these species.
- I considered the public's concerns related to windthrow and yellow-cedar decline. These concerns were important factors in the design and analysis of the Iyouktug project. These concerns are addressed through unit design and design elements, and harvest prescriptions in the Selected Alternative.
- I considered the public's concerns related to subsistence uses, especially of deer. Testimony from subsistence hearings held in Hoonah and Angoon were addressed in the Subsistence Issue and were considered in this decision. Through the analysis process, it was determined that habitat connectivity directly affects deer habitat which in turn affects subsistence harvest. The significant issue (Issue 1) addressed the impact on deer habitat connectivity and Alternative 3 (the Selected Alternative) was designed to reduce impacts to habitat connectivity.
- I considered the public's concerns related to cumulative effects of past harvest and harvest outside the project area. The IDT analyzed cumulative effects at a scale appropriate to each resource. The analysis determined that application of 1997 and/or 2008 Forest Plan standards and guidelines maintain fish and wildlife and their habitat, as well as other resources and uses.
- I considered the cumulative effects of this proposal on the condition of the watersheds. Current science suggests that water yield and peak flows in stream channels may increase measurably when 20 percent or more of the forest canopy is less than 30 years old (Bosch and Hewlett 1982). Increased water yield and peak flows may influence sediment transport and change channel form. In the Selected Alternative, none of the watersheds reach 20 percent decrease in forest canopy, thus the effects of increased water yield to sediment transport and channel form will likely be minor.
- I considered the effects to scenery. Effects to viewsheds and scenery have been mitigated by unit selection, harvest prescriptions, and unit design.
- I considered the potential use of the existing Long Island MAF and its effect on essential fish habitat (EFH). The Long Island MAF is Section 303(d) listed by the State of Alaska for non-attainment of the residues standard for bark and woody debris. The operator of the MAF submitted a remediation plan, which the Department of Environmental Conservation approved on March 14, 2005. If the MAF is used, logs may be barged or rafted. The Forest Service and all operators or contractors using this facility as part of these timber sales will follow the approved remediation plan.
- My decision to implement this Selected Alternative responds to road maintenance cost concerns by putting in storage 2.4 miles of new NFS and all

reconstructed roads, and by decommissioning all temporary roads following harvest activities (see Figure R-5 in Appendix 2 of this ROD).

- I considered the concern that partial harvest may reduce timber sale economics. I recognize that there are trade-offs associated with partial harvest prescriptions. The single tree selection prescription is used to limit harvest to certain diameters and species in order to improve harvest economics and address resource concerns related to Forest Plan standards and guidelines. Single tree selection can improve sale economics for the timber purchaser by concentrating harvest on the highest value trees. The inclusion of primarily higher value trees can offset higher logging costs. Additionally areas in Iyouktug that were inaccessible by roads or uneconomical for roaded access were prescribed for helicopter yarding. Since clearcutting by helicopter is generally uneconomical, single tree selection was prescribed in helicopter units.
- In making my Iyouktug project decision, I considered and responded to concerns about climate change (Iyouktug Timber Sale FEIS, Appendix B) and reviewed the analysis in the 2008 Forest Plan Amendment EIS. That forest-wide analysis discusses the risk of possible effects and the considerable uncertainty concerning specific predictions of how the climate may change, and even more uncertainty regarding the effects of climate change on the resources of the Tongass National Forest. In this context, climate change is not essential to a reasoned choice among the alternatives considered in the Iyouktug Timber Sales project analysis. The Tongass National Forest will continue to monitor potential effects of climate change through the existing Forest Plan monitoring programs and other studies that are happening regionally and nationally. Any needs for a different course of action that might affect what I am deciding now will be addressed through existing planning procedures to determine whether changes in the Iyouktug project management are warranted.

2008 Forest Plan Amendment

The 2008 Forest Plan Amendment (using the 1982 planning regulations) was completed while the Iyouktug project was being planned. The Forest Plan Amendment DEIS was released in January 2007 and the extended public comment period ended on April 30, 2007. The 2008 Forest Plan Amendment was completed with the signing of the Record of Decision (ROD) on January 23, 2008, and is effective on March 17, 2008. The ROD for the 2008 Forest Plan Amendment adopts the Timber Sale Program Adaptive Management Strategy, under which portions of the suitable land base become available for project-level planning in three phases. The Iyouktug project area is within the Phase 1 portion of the suitable land base, which allows planning to continue for this project and to implement it once the planning process is completed.

As stated in the 2008 Forest Plan Amendment ROD (USDA Forest Service 2008b, p. 68), “Because this was an amendment of the 1997 Plan, much of the management direction of the 1997 Plan is carried forward relatively unchanged into the amended Forest Plan. Therefore, many existing projects and ongoing actions that were consistent with the 1997 Plan will continue to be so with the amended Forest Plan.” Many of the components of the 2008 amended Forest Plan were incorporated into the

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planning and analyses processes of the Iyouktug Timber Sales project. Although there are some minor differences between the Old Growth Habitat LUDs proposed in the Iyouktug project and the 2008 Forest Plan, the changes made in the LUDs relevant to environmental concerns are not substantial when compared to the analysis in the Iyouktug FEIS. Therefore, the Iyouktug project is consistent with all Land Use Designations of the 2008 Forest Plan, including the Old-Growth Habitat and Special Interest Area LUDs.

The 2008 Forest Plan Amendment ROD also contains transition language for timber sale projects, like Iyouktug, that were already being planned. This language identifies three different categories of projects, depending on how far along the projects are in the planning process. The Iyouktug project is in Category 2, which requires me to review the project and incorporate the new direction in the 2008 Forest Plan to the extent this can be done without causing major disruptions in the implementation of the project.

Iyouktug is one of the 36 projects in Category 2 that the Responsible Official reviewed and determined “are consistent with the goals and objectives of the amended Plan” (p. 69). The environmental effects of the Iyouktug project have been disclosed to the public through site-specific project-level environmental documents. Iyouktug and the other projects in Category 2 were also assumed to be implemented in the environmental analysis of Alternatives 5 and 6 in the 2008 Forest Plan Amendment Final EIS. “Because the Final EIS considered these projects in its effects analysis, their implementation is not in conflict with the amended Plan.” (p.70)

The ROD for the 2008 Forest Plan directs me “to review these projects, and incorporate the new direction in the amended Forest Plan to the extent this can be done without causing major disruptions in the implementation of these projects.” The ROD for the 2008 Forest Plan highlights the legacy standard and guideline for goshawk foraging and marten habitat, and the new direction regarding probable goshawk nests as changes to be considered. I directed the Iyouktug IDT to incorporate the legacy standard and guideline changes for the Iyouktug ROD. The legacy standard and guideline only applies in VCUs where more than 33 percent of the productive old growth forest in the VCU has been harvested from 1954 to 2005, or VCUs where less than 33 percent has been harvested but more than 67 percent of the productive old growth is projected to be harvested by the end of the Forest Plan planning horizon (these VCUs are identified in the 2008 Forest Plan). The legacy standard and guideline does not apply to VCUs in the project area because they contain enough old growth forest to provide habitat for old growth associated species (including marten). Therefore, trees will not be retained for marten habitat in high volume strata. As for the new direction regarding probable goshawk nests, standards and guidelines were applied to confirmed (known and documented) goshawk nests. There are no “probable nests” (stands where goshawks have been observed but a confirmed nest has not been documented) in the project area; thus, this new direction did not apply.

I have determined that the changes made in the Selected Alternative relevant to environmental concerns are not substantial when compared to the analysis in the Iyouktug FEIS. Compared to the Iyouktug FEIS Alternative 3, the Selected Alternative for this ROD has slightly less acres affected, but slightly more volume harvested. There is a reduction in harvest acres and volume related to goshawk nest habitat. But there is also an addition in available volume from the change to the legacy standard and guideline. These changes equate to an addition of less than 0.1

MMBF of timber. The modifications to the Selected Alternative do not change the level of impact on any resource as analyzed in the Iyouktug FEIS (see Tables R-1 and R-2, and additional information in the Iyouktug project record). Impacts to marten would remain moderate, although no marten reserve trees will be provided in units with high volume strata. Impacts to goshawk would remain moderate, but more habitat will be maintained around the Iyouktug nest site.

The ROD for the 2008 Forest Plan Amendment also states that Category 2 timber sale projects do not require changes to the scenery management program. The 2008 Forest Plan and 1997 Forest Plan programs are essentially the same in their environmental effects. Therefore, the scenery analysis was not changed for the Iyouktug project.

Public Involvement

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 key issues related to a Proposed Action" (in 40 Code of Federal Regulations [CFR] 1501.7). The scoping process invited public participation and collected initial comments.

Public Scoping

On August 22, 2006, a scoping letter providing information and seeking public comment was mailed to 84 individuals and groups that had previously shown interest in Forest Service projects in Southeast Alaska. This included Federal and State agencies, Alaska Native groups, municipal offices, businesses, interest groups, and individuals. Scoping letters were mailed to several additional individuals and groups after August 22. Sixteen responses to this initial mailing were received; the comments are filed in the Iyouktug project record.

Comments were used to determine issues, design alternatives, and to determine what information to discuss in the EIS or specialist reports and when to further explain policies or procedures.

Local News Media

An announcement about the project was printed in the *Juneau Empire* on August 25, 2006. Public service announcements about the September 6, 2006 public meeting in Hoonah were provided to KINY and KJNO radio stations that broadcast in Hoonah and Juneau.

Public Meetings

An open house meeting was held in Hoonah on November 8, 2005 to provide information to the public about the project area and potential proposals and to discuss local concerns and interests prior to scoping for the Iyouktug project. Twenty people attended; many attendees provided input. Another open house meeting, announced via the newspaper, radio, and posters, was held in Hoonah on September 6, 2006 to present the Proposed Action, provide further information, and discuss local concerns. No one attended this meeting.

Consistent with current Forest policy, subsistence hearings were held in Hoonah and Angoon after publication and dissemination of the DEIS.

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Meetings and Consultation with Agencies, Communities, and Others

An interagency review of the small OGRs in the Iyouktug project area was conducted between August and December of 2005 by biologists from the Forest Service, Alaska Department of Fish and Game (ADFG), Department of Natural Resources and the United States Fish and Wildlife Service (USFWS). An interagency forest-wide review of the OGRs was completed as part of the Forest Plan Amendment process in 2007. This review concurred with the biologically preferred location for the OGRs in the project area. This recommendation is part of the Selected Alternative.

Consultation with USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) occurred related to threatened and endangered species. ADFG was consulted in relation to other wildlife species.

A meeting was held with representatives of the Sitka Conservation Society (SCS) on January 22, 2007 and with representatives of Southeast Alaska Conservation Council (SEACC) on November 19, 2007. SCS presented information about the project area and concerns to the IDT about the proposed action. SEACC presented concerns to the IDT about the alternatives. Members of the SCS, Juneau Group of the Sierra Club, Greenpeace, The Wilderness Society, and the Tongass Conservation Society also met with and went to the field with IDT member Chris Budke in July 2006.

A meeting was held with Gary Fallin, a representative of Erickson Skycranes, in June 2007 in which information about economics related to helicopter yarding was discussed.

Draft EIS

Availability of Draft EIS for Public Comment

Availability of the DEIS was announced through a Notice of Availability on October 5, 2007 in the *Federal Register* and through a legal notice published October 12, 2007 in the *Juneau Empire*, the newspaper of record for this project. The Notice of Availability started a 45-day comment period that began October 5, 2007. One hundred and one EIS documents or letters providing an internet location for the DEIS were mailed to Federal and State agencies, Alaska Native and municipal offices, libraries, and anyone else who had requested them.

Subsistence Hearings

The date, time, and location of subsistence hearings was publicized with a legal notice on October 26, 2007 in the *Juneau Empire* and publicly placed posters in Hoonah and Angoon. Following publication of the DEIS, the Forest Service held a formal subsistence hearing in Hoonah on November 1, 2007. Two people attended the meeting, but no one provided testimony at the Hoonah hearing. A formal hearing was also scheduled in Angoon, Alaska on October 31, 2007, but weather precluded the hearing officer from attending. A Forest Service representative, however, was present at the hearing location for the entire time that the hearing was planned, and one individual did show up for the hearing. The hearing officer later called this individual and his testimony was taken and recorded by phone on November 13, 2007. A complete transcript of the testimony from the hearing is included in the Iyouktug project record.

Analysis and Incorporation of Public Comment on the Draft EIS

Eighteen agencies, organizations, and individuals submitted written comments on the Iyouktug Timber Sales DEIS. Sixteen comment letters about the DEIS were received during the comment period, and two comment letters were received after the comment

period. The IDT used these comments to further refine and develop the FEIS. The comments and the Forest Service responses to these comments are displayed in Appendix B of the FEIS.

Final EIS

Publication of the Final EIS

The Notice of Availability of the FEIS will be published in the *Federal Register*. A legal notice will be published in the *Ketchikan Daily News*, the newspaper of record, which initiates a 45-day appeal period (36 CFR 215), during which the project cannot be implemented. A legal notice will also be published in the *Juneau Empire*. Copies of the FEIS and ROD have been mailed to Federal and State agencies, federally recognized tribal governments, municipal offices, and to those who requested them or responded to the DEIS. The FEIS and ROD are also available at the Hoonah and Sitka Ranger District Offices.

Consultation with Tribal Governments

The National Historic Preservation Act (1966 as amended) strengthens the relationship between the Forest Service and Indian Tribes (defined as federally recognized tribes, Alaska Native Corporations and Native Hawaiian Organizations) in consultation regarding site significance and the potential affects on historic and archaeological sites. Executive Orders 13084 and 13175 require that federal agencies consult with tribes during planning activities.

Letters providing information and inviting government-to-government consultation were sent to the following federally recognized tribes and Alaska Native corporations in May 2005 prior to public scoping for the Iyouktug Timber Sales DEIS: Hoonah Indian Association; Angoon Community Association; Huna Totem Corp., Inc.; and Kootznoowoo Inc. Comments were received from the Hoonah Indian Association. The Hoonah Indian Association was generally supportive, with some questions and concerns about roads, economics, and subsistence.

The Hoonah District Ranger on November 8, 2005 and the Acting District Ranger on January 25, 2007, attended tribal council meetings in Hoonah to highlight high interest projects on the Hoonah District and to review the 2006 and 2007 program of work. The Iyouktug Timber Sale project was highlighted and concerns were solicited.

In January 2007, voice mails were left for Huna Totem Corp., Inc. and Kootznoowoo Inc. (associated with Angoon) asking to provide additional opportunities for consultation, asking for further comments, concerns and input, and providing additional information about the Iyouktug Timber Sales. No phone calls or letters were received from these contacts.

In February 2007, certified letters were sent to the Hoonah Indian Association, Angoon Community Association, Huna Totem Corp., Inc., Kootznoowoo Inc., and Sealaska Corporation asking to provide additional opportunities for consultation, asking for further comments, concerns and input, and providing additional information about the Iyouktug Timber Sales. No phone calls or letters were received from this mailing.

The Hoonah Indian Association, Angoon Community Association, Huna Totem Corp., Inc., Kootznoowoo Inc., and Sealaska Corporation were sent a copy of the DEIS prior to the mailing to the general public.

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A consultation meeting was held with the Hoonah Indian Association on October 11, 2007, which included discussion about the Iyouktug Timber Sales. A question was asked about the road maintenance responsibilities on the Iyouktug and recent small timber sales. A Hoonah Ranger District employee explained that there are two options for road maintenance: the purchaser may provide maintenance on the roads utilized under the authority of the contract or the purchaser may pay a road use fee (in which case the Forest Service maintains the road). On January 23, 2008, the Hoonah District Ranger spoke to Raynelle Jack, Administrator for Angoon Community Association (representative). She informed the Ranger that a new tribal President, Matthew Fred, Jr., was recently elected, replacing Ed Gamble, Sr. The summary, including an area map, from the Iyouktug DEIS was provided to the new President for his review.

The tribes and corporations will receive a copy of this FEIS and the ROD.

Alternatives Considered

Five alternatives were considered in detail. Each action alternative is consistent with the 1997 Forest Plan. For a complete description of these alternatives, refer to Chapter 2 of the FEIS.

Alternative 1 (No Action)

Alternative 1 proposed no new timber harvest or road construction in the project area. It did not preclude timber harvest from other areas or from the Iyouktug area in the future.

Alternative 1 addressed concerns about effects to deer habitat and roadless character (Issues 1 and 2), by having no effects on inventoried roadless areas. Alternative 1 would not have provided for an economic timber supply (Issue 3) and would not have changed OGRs.

Alternative 2 (Proposed Action)

The emphasis of Alternative 2 was to maximize the timber harvest in the Iyouktug project area while meeting 1997 Forest Plan direction. Alternative 2 provided up to 58.1 million board feet (MMBF) of timber from approximately 4,185 acres using shovel yarding, cable yarding, and helicopter yarding systems. Approximately 1,253 acres would have been clearcut, and 2,932 acres would have been partial harvest of up to 50 percent of the basal area (see Figures 2-3A and 2-3B in the FEIS). Timber in Alternative 2 would have been offered through various small sales and one or more large sales over an extended period of time. It was anticipated that part of the timber would have been offered annually in small sales and part of the timber would have been offered in large sales. Larger timber sales could have been offered concurrently with small sales.

This alternative would have constructed a total of about 13.4 miles of temporary roads and 4.2 miles of NFS road. All new temporary roads would have been decommissioned after timber harvest; all newly constructed NFS roads would have remained open for future timber harvest and silvicultural needs. Alternative 2 would have included the reconstruction of about 6.9 miles of existing NFS roads that are currently closed; these roads would have been closed and placed into storage after timber harvest.

Alternative 2 would have modified the project area OGRs to meet 1997 Forest Plan standards and guidelines. This alternative would have implemented the interagency

biologists' recommendations to increase acres, improve connectivity, and adjust boundaries to follow recognizable features.

Alternative 3

Alternative 3 was developed to minimize impacts to deer habitat and connectivity while providing for an economic timber supply. This alternative includes ground-based units found in Alternative 5 and proposes most of the helicopter-yarded timber volume in Alternative 2. Some units proposed in Alternatives 2 and 5 were modified in Alternative 3 to maintain deer winter habitat and habitat connectivity. All new roads will be closed in Alternative 3 to help minimize the effects of this alternative on deer habitat capability. Alternative 3 was developed in response to public concerns about the effects of harvest on deer habitat (Issue 1) as well as some concerns about economics (Issue 3). By closing all roads in inventoried roadless areas, Alternative 3 also minimizes effects to roadless characteristics (Issue 2).

Alternative 3 is the Selected Alternative with the modifications shown above.

Alternative 4

Alternative 4 was developed to minimize impacts to the roadless character of Iyoutug's three inventoried roadless areas (IRAs) by avoiding timber harvest and road construction in Whitestone, Point Augusta, and Freshwater Bay Inventoried Roadless Areas. This alternative was based primarily on Alternative 2 with all units in inventoried roadless area removed. Alternative 4 was developed in response to public concerns about the impacts of harvest and road building on roadless area characteristics (Issue 2), but it also partially responds to concerns about economic viability (Issue 3).

Alternative 4 would have provided up to 33.8 MMBF of timber from approximately 2,584 acres using shovel yarding, cable yarding, and helicopter yarding systems. Approximately 636 acres would have been clearcut, and 1,948 acres would have been partial harvest of up to 50 percent of the basal area (see Figures 2-5A and 2-5B in the FEIS). Alternative 4 would not have harvested or built roads in inventoried roadless areas. The timber in Alternative 4 would have been offered through various small sales and one or more large sales over an extended period of time following the ROD, similar to Alternative 3.

This alternative would have constructed about 7.8 miles of temporary roads and 1.4 miles of NFS road. All new temporary roads would have been decommissioned after timber harvest. All newly constructed NFS roads would have remained open for future timber harvest and silvicultural needs. Alternative 4 would have included reconstruction of about 7 miles of existing NFS roads that are currently closed; these roads would have been closed and placed into storage after timber harvest.

Alternative 4 would have modified the project area OGRs to implement the interagency biologists' recommendations as described in Alternative 2.

Alternative 5

Alternative 5 was developed to maximize the economic return of timber harvest in the Iyoutug project area. Alternative 5 proposed to harvest the most productive sites with a short length of road construction and proposes only ground-based yarding systems. This alternative was based primarily on Alternative 2 with modification for economics; it concentrates on areas with few resource concerns. Alternative 5 was developed in response to public concerns about the economic viability of timber sales (Issue 3), but also partially addresses concerns about effects on roadless area characteristics (Issue 2).

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Alternative 5 would have provided up to 16.5 MMBF of timber from approximately 883 acres using shovel yarding and cable yarding systems. Approximately 646 acres would have been clearcut, and 237 acres would have been partial harvest of up to 50 percent of the basal area (see Figures 2-6A and 2-6B in the FEIS). The timber in Alternative 5 would have been offered through various small sales over an extended period of time following the ROD, similar to Alternative 3.

This alternative would have constructed a total of about 4.4 miles of temporary roads and 2.8 miles of NFS road. All new temporary roads would have been decommissioned after timber harvest. All newly constructed NFS roads would have remained open for future timber harvest and silvicultural needs. Alternative 5 would have included reconstruction of about 1.4 miles of existing NFS roads that are currently closed; these roads would have been closed and placed into storage after timber harvest.

Alternative 5 would have modified the project area OGRs to implement the interagency biologists' recommendations as described in Alternative 2.

Environmentally Preferred Alternative

Implementing Alternative 1, the No-action Alternative, would have resulted in no environmental disturbance and is therefore the environmentally preferred alternative.

Reasons for Not Selecting Other Alternatives

I did not select Alternative 1 because environmental analysis showed that the desirable outputs of the Purpose and Need could be achieved without unreasonable effects to the ecological and human environments. These effects are described under the reasons for this decision and in Chapter 3 of the FEIS.

I did not select Alternative 2 primarily because comments on the DEIS expressed concern over the size and amount of proposed harvest and road building in the Iyouktug project area and the negative effect these activities would have on deer in the area. In making my decision, I also considered the economics of this alternative (it is the least economic of the action alternatives) and the relatively high impacts on all resources, since Alternative 2 proposed the greatest acreage of timber harvest and miles of road construction of any action alternative.

Alternative 3 was selected with modifications.

Although Alternative 4 addressed public concern over road building and harvesting in inventoried roadless areas, I did not select Alternative 4 because additional timber could be supplied and additional jobs supported in the local economy through the Selected Alternative, without substantial additional environmental impact. In making this decision, I considered impacts to deer; Alternative 4 included units that contained important habitat for deer. I also felt that the impacts of the Selected Alternative on inventoried roadless areas have been minimized through limited road building, road closures, and helicopter yarding of most timber in the inventoried roadless areas.

Alternative 5 somewhat addressed public concern over the size and amount of proposed harvest and road activities, and its impacts on deer. However, I did not select Alternative 5, because the economics of this alternative proved to be less beneficial

than expected. Also, additional timber could be supplied through the Selected Alternative thereby providing additional jobs and supporting the local economy, without substantial additional environmental impact.

Alternatives Not Considered in Detail

In addition to the alternatives described above, several additional alternatives were considered during the analysis but eliminated from detailed study (Iyouktug DEIS and FEIS, Chapter 2). These alternatives were discussed during the development of the alternatives and after comments on the DEIS were received. Many of them were suggested by comments received through public scoping. Some portions of the recommendations were included as design elements for all action alternatives. Other alternatives did not meet 1997 Forest Plan direction for this project or were very similar to alternatives considered in detail. A summary of these alternatives and the reasons why they were not analyzed in detail is in Chapter 2 of the FEIS and further information is available in the project record.

Design Elements and Mitigation

The analysis documented in the FEIS discloses the possible adverse effects of implementing the actions proposed under each alternative. The Forest Service uses many mitigation and preventive 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. Design elements and mitigation measures were formulated to mitigate or reduce these effects. Project-specific design elements and mitigation measures are listed below and on the unit and road cards (Appendices 1 and 2), and will be applied to the Selected Alternative.

Biodiversity and Old Growth

The Selected Alternative complies with the 1997 and 2008 Forest Plan conservation strategy designed to ensure well-distributed viable populations of wildlife.

Cedar Component

Where possible given safety requirements, logging feasibility, and potential for windthrow, larger older trees with high amounts of defect will be left standing. Some mid-sized (16 to 20-inch DBH) and larger (greater than 30-inch DBH) yellow-cedar with high vigor and good seed producing potential will also be left standing individually and/or in clumps to assure regeneration and maintain stand structure, species diversity, and future stand productivity. Specific details are in the unit cards and prescriptions in Appendix 1.

Natural regeneration is expected to be similar to the current species mix in all stands. If necessary, inter-planting of yellow-cedar or spruce will be scheduled to maintain pre-harvest composition.

However, to supplement yellow-cedar regeneration and provide for post-harvest yellow-cedar composition that is greater than what currently exists, inter-planting of yellow-cedar will be scheduled in specific partial harvest shovel units (Units 105, 108, 111).

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Based on scientific recommendations (Hennon 2007 and 2006) and in response to the public's concern about cedar decline, yellow-cedar will be planted in Units 114 and 121 in an effort to increase yellow-cedar composition and establish yellow-cedar in areas judged to be suitable for long-term yellow-cedar survival (i.e. not prone to future yellow-cedar decline). Currently yellow-cedar is not present or is a minor component in these units, but these units are considered to have favorable site characteristics for promoting yellow-cedar establishment and long-term growth.

Fish and Marine Habitats

1997 Forest Plan standards and guidelines for riparian areas are applied to all fish streams (Class I and II) within the project area and to non-fish-bearing Class III streams.

Unit cards and road cards indicate which streams are likely to need special attention during implementation, such as applying timing restrictions for in-stream activities, or using larger-than-normal culverts or bridges. All applicable Best Management Practices (BMPs) will be incorporated during sale design and harvest administration.

Heritage Resources

If heritage resources or items protected by the Native American Graves Protection and Repatriation Act are discovered during implementation, work will cease in the immediate vicinity. The sale administrator will be contacted, who will contact the appropriate archaeologist. The Hoonah Ranger District in consultation with the appropriate Native organization and the State Historic Preservation Office will determine a course of action.

Invasive Species

On October 19, 2007, the Tongass National Forest implemented a supplement to the Forest Service Manual 2080 concerning invasive plant species (Supplement No.: R10 TNF – 2000-2007-1). The following design elements would be used to address invasive species in the Iyouktug project area.

- For oxeye daisy, creeping buttercup, and anise, which have very limited distribution, instigate manual control measures (as described in the Sitka and Hoonah Ranger Districts Weed Eradication Decision Memo) in rock quarries prior to new road construction.
- Inspect rock quarries for reed canary grass infestation prior to use and designate preferred clean areas for rock extraction. Paint or otherwise designate portions of quarries that are heavily infested with reed canary grass. Stockpile or use rock infested with reed canary grass close to the rock source, preferably on existing roads, for reconstruction, or at the intersection of new roads. Use uninfested rock on new roads wherever possible.
- Where feasible and where safety will not be compromised, for new road construction, limit the clearing of road-side trees to maintain a 100-yard long forested buffer at or near the starting junction. This will maintain forest canopy cover over the road and road cutbanks to create a shaded corridor that will suppress weed species. Sufficient shade over a road effectively serves as a barrier to the spread of some weed species. Limited clearing would not apply to harvest units.
- Road brushing and other road maintenance associated with the project should be designed to reduce the risk of spreading weed species (see FSM 2080 Supplement No.: R10 TNF – 2000-2007-1).

Karst Resources

All activities were designed to avoid high-vulnerability karst and to meet 1997 and 2008 Forest Plan Standards and Guidelines for low and moderate vulnerability karst areas.

Marine Access Facility (MAF, formerly called log transfer facility or LTF)

The existing permitted Long Island MAF near Hoonah may be used to transport logs by saltwater to a processing facility. The Forest Service has a cooperative agreement with Huna Totem Corporation to use this MAF. The Forest Service and all operators or contractors using this facility as part of these timber sales will follow the approved remediation plan.

Roads

Some shovel units, or shovel ground in other units will be accessed by shovel-yarding corridors instead of by roads. These corridors do not require gravel to be placed in the bed, but must use a mat of vegetation or puncheon to allow shovel yarders to make several passes over the area to minimize damage to the soil (Forest Service Handbook [FSH] 2509.22).

Temporary road locations may change based on agreements between the Forest Service and the purchaser. Temporary road decommissioning will be part of the timber sale contract.

There are sixteen existing rock pits in the Iyouktug project area, as identified on the GIS layer, that would supply rock for road construction or reconstruction needs. All roads, landings and rock pits will be designed and constructed in accordance with FSH 2509.22 and 33 CFR 323.4(a).

Soils, Water Quality and Wetlands

Potential harvest units with slopes greater than 72 percent have received an on-site analysis of slope and Class IV channel stability and an assessment of potential down stream effects. At the project planning level, the Forest Supervisor may approve timber harvest on slopes of 72 percent or more on a case-by-case basis. This is based on the results of an on-site analysis of slope and Class IV channel stability and on an assessment of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water, and other resources.

All roads were located to avoid wetlands to the extent practicable. Where wetlands could not be avoided, 33CFR 323.4 baseline provisions and State approved BMPs are followed to minimize impacts to wetlands (see road cards and unit cards, Appendices 1 and 2)

Timber Harvesting/Helicopter Logging

Service/staging areas for helicopter logging operations will be needed in the Selected Alternative. These service areas will be located in pre-existing developed sites such as rock pits, older landings, less traveled roads, or open areas in old harvest units or areas proposed for development such as temporary roads.

Wildlife Habitat

Additional protections to maintain brown bear denning habitat are prescribed in the Selected Alternative. Known bear dens and newly found bear dens will be buffered with a 200-foot no harvest buffer, where feasible, as discussed with ADFG.

The 1997 Forest Plan standards and guidelines were applied around the two goshawk nest sites. We will maintain a minimum of 100 acres of productive old growth in a no

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harvest nest buffer around confirmed nest sites whether or not they are occupied as required in the 1997 Forest Plan. There will be no continuous disturbance likely to result in nest abandonment within 600 feet of the active nest from March 15-August 15.

Windthrow

Risks of windthrow have been evaluated for the project area and for each unit and addressed through unit design and in the silvicultural prescriptions. Stand edges created by past timber harvest have been evaluated for windthrow and protection measures have been incorporated into the silvicultural prescriptions and included on unit cards (Appendix 1). Units with edges at risk of windthrow will receive further evaluation during layout.

Monitoring

Implementation monitoring is designed to determine if the goals, objectives, standards and guidelines, and practices of the Forest Plan are implemented in accordance with the 1997 Forest Plan. Routine implementation monitoring is part of the administration of a timber sale contract. The sale administrators and road inspectors ensure that the prescriptions contained on the unit and road cards, and the unit silvicultural prescriptions, are incorporated into contract documents; they then monitor performance relative to contract requirements. These monitoring items are part of this decision.

Project-specific Monitoring

Normal silviculture monitoring includes natural regeneration surveys and seedling survival surveys following planting. Regeneration surveys will be conducted the third year following harvest. Seedling survival surveys will be conducted by a silviculturist or their representative the first and third full growing season following planting. Extended monitoring of growth and survival of planted yellow-cedar every 5 years for a 20-year period is recommended to evaluate long-term success of planting.

Goshawk nest sites will be monitored to assess status of occupancy and activity and to locate active nest sites. Monitoring will occur no later than the year before harvest activities begin and during project activities that occur adjacent to nest sites.

The invasive species coordinator, or their representative, will monitor roads that are to be closed/stored 2 to 3 years after closure and manually treat weeds as described in the Sitka and Hoonah Ranger Districts Weed Eradication Decision Memo (USDA Forest Service 2007). The invasive species coordinator or their representative will monitor other constructed roads, active quarries, and other parts of the project area 2 to 3 years after project completion for new weed introductions and manually treat weeds. Because this project may last for an extended period, monitoring should occur at least every other year in areas of ground disturbance during the project.

Findings Required By Law

Several of the laws and executive orders listed in Chapters 1 and 3 of the FEIS require project-specific findings or other disclosures.

Alaska National Interest Lands Conservation Act (ANILCA) of 1980; Section 810

Subsistence Evaluation and Findings: A subsistence evaluation was conducted for the five alternatives, in accordance with Alaska National Interest Lands Conservation Act (ANILCA) Section 810. ANILCA 810 subsistence hearings were conducted during the comment period for the DEIS, as required. Oral testimony was received from one of these hearings (see the Iyouktug project record); the individual was concerned about impacts on subsistence.

This evaluation indicates that the potential foreseeable effects from the Selected Alternative do not indicate a significant possibility of a significant restriction of subsistence uses for bear, furbearers, marine mammals, waterfowl, salmon, other finfish, shellfish, and other foods such as berries and roots. See Chapter 3, Subsistence section, in the FEIS for more detail.

As a result of cumulative activities, including the impacts of a recent severe winter, there may be a significant restriction on the abundance and distribution of, access to, or competition for subsistence resources for deer in the project area (see the Subsistence Report in the project record).

The 2008 Forest Plan Amendment Final EIS concluded that Forest-wide, under full implementation of the Forest Plan, the subsistence use of deer may result in a significant restriction as a result of Federal forest management activities.

Bald Eagle Protection Act

This project complies with the Bald Eagle Protection Act. Bald eagle habitat will be managed in accordance with the Interagency Agreement established with the USFWS. The Selected Alternative is not anticipated to have a significant direct, indirect, or cumulative affect on any bald eagle habitat. If nests are identified in or around project activities, protective measures will be applied and are documented in Appendices 1 and 2.

Cave Resource Protection Act of 1988

No known significant caves in the project area will be directly or indirectly affected by project activities. The 1997 Forest Plan Karst and Caves standards and guidelines are applied to areas known or suspected to contain high vulnerability karst resources. High vulnerability karstlands were dropped from the unit pool. No known karst features or high vulnerability karstlands are present in or near any of the harvest units or roads. The Selected Alternative will not have an effect on the karst features found within the project area.

Clean Air Act of 1970 (as amended)

Emissions from the implementation of the Selected Alternative will be of short duration and are not expected to exceed State of Alaska ambient air quality standards (18 AAC 50).

Clean Water Act (1977, as amended)

Project activities meet all applicable State of Alaska Water Quality Standards. Congress intended the Clean Water Act of 1972 (Public Law 92-500) as amended in 1977 (Public Law 95-217) and 1987 (Public Law 100-4) to protect and improve the quality of water resources and maintain their beneficial uses. Section 313 of the Clean Water Act and Executive Order 12088 of January 23, 1987 addresses Federal agency compliance and consistency with water pollution control mandates. Agencies must be consistent with requirements that apply to "any governmental entity" or private person.

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Compliance is to be in line with "all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution."

The Clean Water Act (Sections 208 and 319) recognized the need for control strategies for nonpoint source pollution. The National Nonpoint Source Policy (December 12, 1984), the Forest Service Nonpoint Strategy (January 29, 1985), and the USDA Nonpoint Source Water Quality Policy (December 5, 1986) provide a protection and improvement emphasis for soil and water resources and water-related beneficial uses. Soil and water conservation practices (BMPs) were recognized as the primary control mechanisms for nonpoint source pollution on NFS lands. The EPA supports this perspective in their guidance, "Nonpoint Source Controls and Water Quality Standards" (August 19, 1987).

The Forest Service must apply BMPs that are consistent with the Alaska Forest Resources and Practices Act (AFRPA) to achieve Alaska Water Quality Standards. The site-specific application of BMPs, with a monitoring and feedback mechanism, is the approved strategy for controlling nonpoint source pollution as defined by Alaska's Nonpoint Source Pollution Control Strategy (2007). In 1997, the State approved the BMPs in the Forest Service Soil and Water Conservation Handbook (FSH 2509.22, October 1996) as consistent with AFRPA. This handbook is incorporated into the 1997 Forest Plan.

A discharge of dredge or fill material from normal silvicultural activities such as harvesting for the production of forest products is exempt from Section 404 permitting requirements in waters of the United States, including wetlands (404(f)(1)(A)). Forest roads qualify for this exemption only if they are constructed and maintained in accordance with BMPs to assure that flow and circulation patterns and chemical and biological characteristics of the waters are not impaired (404)(f)(1)(E)). The BMPs that must be followed are specified in 33 CFR 323.4(a). These specific BMPs are incorporated into the Soil and Water Conservation Handbook under BMP 12.5.

The design of harvest units for the Selected Alternative were guided by standards, guidelines and direction in the 1997 Forest Plan, and applicable Forest Service manuals and handbooks. The unit cards and road cards (Appendices 1 and 2 of the ROD) contain specific details on practices prescribed to prevent or reduce nonpoint sediment sources.

Clearcutting as the Optimum Method of Harvesting

The 2008 Forest Plan provides guidance on when to use even-aged management. Even-aged clearcutting was prescribed in the Iyouktug project area to preclude or minimize the occurrence of potentially adverse impacts from hemlock dwarf mistletoe or other insect or disease infestations, logging damage and windthrow. This project will implement even-aged management in order to minimize the potential for windthrow in the residual stand while maximizing the use of cable yarding systems needed for maintaining the potential for an economic timber sale offering. Specific information and rationale for use of this prescription is shown in the silvicultural prescriptions (which are a part of the project record) and in Chapter 3 of the Iyouktug FEIS.

Coastal Zone Management Act (CZMA) of 1972 (as amended)

The Iyouktug Timber Sales project will not include any activities outside the scope of the General Consistency Determination (GCD) for timber harvest activities conducted on the Tongass National Forest. Consequently, no individual Alaska Coastal Management Program (ACMP) consistency determination or review is required. The Forest Service received a letter from the State of Alaska, Office of Project Management and Permitting (now the Division of Coastal and Ocean Management) agreeing that the GCD applies to the Iyouktug project, as described, and that no additional ACMP review is required (see Appendix B of the FEIS).

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

A Biological Evaluation/Assessment was prepared for the Iyouktug project, as required by Section 7 of the Endangered Species Act (ESA), as amended (available in the Iyouktug Project Record). The Selected Alternative is not anticipated to have a direct, indirect or cumulative effect on threatened or endangered species in or outside the project area except for humpback whale, Steller sea lion, and salmonid species. The Selected Alternative is not likely to adversely affect these species. NMFS has concurred with the determinations on threatened or endangered species (February 7, 2008). Consultation was done with USFWS (September 20, 2007); no terrestrial threatened or endangered species are known to occur in the Iyouktug project area.

Harvest Openings Over 100 Acres in Size

The Iyouktug project complies with all resource integration and management requirements of 36 CFR 219 (219.14 through 219.27), through application of 1997 Forest Plan standards and guidelines at the project level. No openings in excess of 100 acres will be created.

Magnuson-Stevens Fishery Conservation and Management Act of 1996

Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act states that all Federal agencies must consult with the NMFS for actions or proposed actions that may adversely affect essential fish habitat (EFH). The Act promotes the protection of EFH through review, assessment, and mitigation of activities that may adversely affect these habitats.

The potential effects of the project on EFH have been evaluated (Watershed and Fish resources, Chapter 3, FEIS). The descriptions and the analysis lead me to a determination that the Iyouktug project may adversely affect EFH; however, this risk is minimized through the implementation of 1997 Forest Plan standards and guidelines and BMPs as well as implementation of the State approved remediation plan.

Several factors were considered in evaluating the potential effects on EFH:

- Stream buffers are prescribed along all Class I, II and III streams according to 1997 Forest Plan standards and guidelines. Class I and II streams will receive a minimum no-cut buffer of 100 feet and Class III streams will receive a slope break buffer.
- In areas where extensive windthrow has occurred or is expected, buffer widths will be increased to help insure resistance to windthrow.
- BMPs will be implemented to protect water quality and aquatic habitat for all freshwater streams. See the unit cards for specific applications of BMPs.

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- Bridges will be placed at all road crossings over fish streams to minimize risks of sediment production and blockage of fish passage. In the Selected Alternative, two of the red pipes and one gray pipe will be removed. One red pipe will be fixed by ongoing road maintenance. Two red and four gray pipes will remain in the project area.
- The temporary roads will be decommissioned following use for this timber sale; all culverts and bridges will be removed.
- In the Selected Alternative, all of the new National Forest System (NFS) roads will be closed to motorized use and put into storage after harvest. All stream-crossing structures will be removed. The NFS road construction mileage includes reclassifying approximately 0.4 mile of existing, unauthorized roads (that access rock pits) to NFS roads; these roads to rock pits will remain open.
- The Forest Service is aware of the listing of the East Port Frederick waterbody as impaired and of the LTF/MAF remediation plan, particularly as it relates to bark accumulation. The Forest Service will abide by all stipulations in Huna Totem's permit for operating the MAF, and will comply with Huna Totem's approved remediation plan. Barging logs is an option that may be considered to help prevent further bark accumulation on the subtidal substrate.

In accordance with the agreement of June 28, 2007 between the Forest Service and the NMFS for consultation on EFH, the Forest Service sent a copy of the Iyouktug DEIS to NMFS which formally started the consultation process. NMFS has reviewed the DEIS and provided comments on the findings of the assessment and made one conservation recommendation pertaining to the project in a letter dated August 25, 2006 (see Appendix B of the FEIS for letter). The Forest Service responded to the conservation recommendations made by the NMFS in a letter dated December 14, 2007. These responses can be found in the Response to Comments (Appendix B) section of the FEIS. The original EFH Assessment, with one minor addition requested by NMFS, is included in Chapter 3 of the FEIS.

Based on our coordination with NMFS I find that the Iyouktug Timber Sales may adversely affect EFH. However, by implementing the minimization measures summarized above, including the stipulations in the Long Island/East Port Frederick MAF remediation plan, implementing other 1997 Forest Plan standards and guidelines and the BMPs, negative effects of the proposed actions on EFH will be avoided and minimized. Additional impacts to EFH are likely to occur only from unforeseen events such as landslides, debris blockages of culverts, and road failures.

Migratory Bird Treaty Act of 1918, as amended

The Migratory Bird Treaty Act of 1918 (amended in 1936 and 1972) prohibits the taking of migratory birds, unless authorized by the Secretary of Interior. The law provides the primary mechanism to regulate waterfowl hunting seasons and bag limits, but its scope is not just limited to waterfowl. Over 100 species of birds migrate from other states and countries to Alaska to breed, nest, and fledge their young. Most of these birds fly to interior or northern Alaska and only pass through the project area on the way to their breeding grounds. The migratory species that may stay in the area utilize most, if not all, of the habitats described in the analysis for breeding, nesting, and raising their young. The effects on these habitats were analyzed for this project.

The decision will not have a significant direct, indirect, or cumulative effect on any migratory bird species in the project area. There may be direct moderate effects on individuals or small groups and their nests from the harvest of timber or the disturbance caused by harvest and related activities.

National Forest Management Act (NFMA)

The 1997 Forest Plan complies with all resource integration and management requirements of 36 CFR 219 (219.14 through 219.27). Application of 1997 Forest Plan direction for the Iyouktug project ensures compliance at the project level. All required interagency review and coordination has been accomplished.

The Selected Alternative fully complies with the 1997 Forest Plan and is consistent with the ROD for the 2008 Forest Plan and FSM 2410.3, R10 Supplement 2400-2002-1 (5/7/2002). The project incorporates all applicable standards, guidelines, and management area prescriptions, and complies with 1997 Forest Plan goals and objectives.

National Historic Preservation Act (NHPA) of 1966 (as amended)

Heritage resource surveys of various intensities have been conducted in the project area, following inventory protocols approved by the Alaska State Historic Preservation Officer. The State Historic Preservation Officer has been consulted, in accordance with Section 106 of the NHPA and 36 CFR Part 800. I have determined that there will be no effects on known heritage resources.

Native communities have been contacted and public comment encouraged. The Forest Service has satisfied the consultation process with the State Historic Preservation Officer. Forest Service timber sale contracts contain enforceable measures for protecting any undiscovered heritage resource that might be encountered during sale operations. See the discussion under Heritage resources in Chapter 3 of the FEIS.

Tongass Timber Reform Act (TTRA) of 1990

Harvest units were designed with no less than 100-foot buffer zones for all Class I streams and Class II streams which flow directly into Class I streams as required in Section 103 of the TTRA. This Selected Alternative will provide timber for the Tongass timber program to seek to meet market demand.

USDA Forest Service Transportation; Final Administrative Policy

The Iyouktug FEIS and this ROD have been prepared to be consistent with the Forest Service Transportation Final Administrative Policy, the Tongass National Forest Level Road Analysis (January 2003), and the current Hoonah Ranger District Access and Travel Management Plan (USDA Forest Service 2002b). I have determined that the Iyouktug road system is the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of NFS lands (36 CFR 212.5).

Executive Orders

Executive Order 11988 (Floodplains)

Executive Order 11988 directs Federal agencies to take action to avoid, to the extent possible, the long- and short-term adverse effects associated with the occupancy and modification of floodplains. The numerous streams in the Iyouktug project area make it essentially impossible to avoid all floodplains during timber harvest and road

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construction. The project design and the application of BMPs combine to minimize adverse effects on floodplains.

Executive Order 11990 (Wetlands)

Executive Order 11990 requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands. Because wetlands are so extensive in the Iyouktug project area, it is not feasible to avoid all wetlands. Wetland soils not meeting 1997 Forest Plan criteria for timber harvest suitability are excluded from the timber harvest base. Soil moisture regimes and vegetation on some wetlands may be altered in some harvest units; however, the affected wetlands will still meet wetland classification and will function as wetlands in the ecosystem.

Road construction requires the filling-in of wetlands and creates permanent loss of wetland habitat. Effects to wetlands are minimized through the application of BMPs. Road construction through wetlands is avoided where possible. Based on the analysis in FEIS, it is estimated that the alternatives will result in the loss of approximately 13 acres (which equates to 0.1 percent of wetland acreage in the project area) due to road fill. This project avoids impacting wetlands whenever practicable, but it is not feasible to avoid all wetland areas.

Executive Order 12898 (Environmental Justice)

Executive Order 12898 directs Federal agencies to state clearly in the EIS whether a disproportionately high and adverse human health or environmental impact on minority populations, low-income populations, or Indian tribes is likely to result from the proposed action and any alternatives. Executive Order 12898 also directs Federal agencies to conduct effective public participation with low-income and minority communities. The public participation process involved public scoping through notification in local newspapers, agency public websites, written letters to individuals, agencies, governments, and notices in the Federal Register. The impact of this project is expected to be similar among local populations; minority populations, or low-income populations should not be disproportionately impacted under any alternative. Nearby Alaska Native and American Indian populations have been considered within the analysis of the proposed alternatives. The Hoonah Indian Association and the Angoon Community Association were informed throughout project planning. Members were encouraged to comment at any point in the process to ensure their concerns would be addressed. Two public meetings were also held in Hoonah to assist people in understanding the proposal, alternatives, and how issues were addressed. These meetings also gave the public opportunities to highlight other issues or concerns they had. A Heritage Resource Report was prepared with input and review from the Native Community. With the avoidance of heritage resource sites and the consideration of traditional values and uses, Native populations should not be disproportionately impacted under the Selected Alternative.

Executive Order 12962 (Aquatic Systems and Recreational Fisheries)

Executive Order 12962 directs Federal agencies to evaluate effects on aquatic ecosystems and recreational fisheries; develop and encourage partnerships; promote restoration; provide access; and promote awareness of opportunities for recreational fishery resources. The Selected Alternative minimizes the effects on aquatic systems through project design, watershed assessment, application of standards and guidelines, BMPs, and site-specific mitigation measures. With the application of 1997 Forest Plan standards and guidelines, including those for riparian areas, no significant adverse

effects to freshwater or marine resources will occur. Recreational fishing opportunities will remain essentially the same because aquatic habitats are protected through implementation of BMPs and riparian buffers. Partnerships continue to be used to leverage Federal project funds to address water quality concerns in areas of the Tongass National Forest; however, none have been proposed for recreational fisheries in conjunction with this project.

Executive Order 13007 (Indian Sacred Sites)

Executive Order 13007 directs Federal agencies to accommodate access to and ceremonial use of American Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. In a government-to-government relationship, the tribal government is responsible for notifying the agency of the existence of a sacred site. A sacred site is defined as a site that has sacred significance due to established religious beliefs or ceremonial uses, and which has specific, discrete, and delineated location, which has been identified by the tribe. Tribal governments or their authorized representatives have not identified any specific sacred site locations in the project area.

Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments)

Executive Order 13175 directs Federal agencies to respect tribal self-government, sovereignty, and tribal rights, and to engage in regular and meaningful government-to-government consultation with tribes on proposed actions with tribal implications. The Forest Service met with or contacted local tribes during the planning stages of the project as previously noted in Meetings and Consultation with Tribal Governments.

Executive Order 13443 (Facilitation of Hunting Heritage and Wildlife Conservation)

Executive Order 13443 directs Federal agencies to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. The analysis considered and disclosed the effects hunting activities. The Selected Alternative will maintain hunting opportunities by adhering to the 1997 Forest Plan standards and guidelines that maintain habitat for hunted species in the Iyouktug area.

Federal and State Permits

Federal and State permits necessary to implement the authorized activities are listed near the end of Chapter 1 in the FEIS.

Project Record

The project record for this project includes the DEIS and FEIS, 1997 and 2008 Forest Plans, all material incorporated by reference, and other critical materials produced during the environmental analysis of this project. The project record is available for review at the Sitka Ranger District.

Implementation Process

Implementation of this decision may occur no sooner than 50 days following publication of the legal notice of the decision in the *Ketchikan Daily News*, published in Ketchikan, Alaska.

Timber harvest activities in the project area will take place on lands found suitable for timber production under provisions of the National Forest Management Act. The timber will be offered in multiple sales.

This project will be implemented in accordance with FSM and FSH direction for Timber Sale Project Implementation in FSM 2430 and FSH 2409.18. This direction provides a bridge between project planning and implementation and would ensure execution of the actions, environmental standards, and mitigations approved by this decision, and compliance with the TTRA and other laws. All applicable BMPs will be applied to the Selected Alternative.

Implementation of all activities authorized by this Record of Decision will be monitored to ensure that they are carried out as planned and described in the FEIS and this ROD.

Appendices 1 and 2 to this Record of Decision contain the Selected Alternative's unit and road cards. These cards are an integral part of this decision because they document the specific resource concerns, management objectives, design elements, and mitigation measures to govern the layout of the harvest units and construction of roads. These cards will be used during the implementation process to assure that all aspects of the project are implemented within applicable standards and guidelines and that resource effects will not be greater than those described in the FEIS. Similar cards will document any changes to the planned layout which may occur during implementation.

The implementation record for this project will display:

- Each harvest unit, transportation facility, and other project components as actually implemented,
- Any proposed changes to the design, location, standards and guidelines, or other mitigation measures for the project, and
- Authorization of the proposed changes.

Process for Change During Implementation

Proposed changes to the authorized project actions will be subject to the requirements of the National Environmental Policy Act (NEPA), the National Forest Management Act of 1976, Section 810 of the ANILCA, the TTRA, the CZMA, and other laws concerning such changes.

In determining whether and what kind of NEPA action is required for proposed changes during implementation, the Forest Supervisor will consider the criteria set forth in the CFRs (40 CFR 1502.9(c)), and FSH 1909.15, sec. 18 for determining whether to supplement an existing environmental impact statement. In particular, the

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Forest Supervisor will determine whether the proposed change is a substantial change to the Selected Alternative as planned and already approved, and whether the change is relevant to environmental concerns. Connected or interrelated proposed changes regarding particular areas of specific activities will be considered together in making this determination. The cumulative impacts of these changes will also be considered.

Minor changes are expected during implementation to better meet on-site resource management and protection objectives. Minor adjustments to unit boundaries are also likely during final layout for the purpose of improving logging system efficiency. This will usually entail adjusting the boundary to coincide with logical logging setting boundaries. Changes made during implementation will be reviewed, documented through the change analysis process, and approved by the Forest Supervisor.

Right to Appeal

This decision is subject to administrative review (appeal) pursuant to Title 36 Code of Federal Regulations (CFR) Part 215. Individuals or organizations who submitted comments during the comment period specified at 215.6 may appeal this decision. The notice of appeal must be in writing, meet the appeal content requirements at 215.14 and be filed with the Appeal Deciding Officer:

Denny Bschor, Regional Forester
Alaska Region
US Department of Agriculture
709 W. 9th Street
P.O. Box 21628
Juneau, AK 99802-1628

Email address: appeals-alaska-regional-office@fs.fed.us
Fax: (907) 586-7840

The Notice of Appeal, including attachments, must be filed (regular mail, fax, e-mail express delivery or messenger service) with the Appeal Deciding Officer at the correct location within 45 calendar days of the date that the legal notification of this decision is published in the *Ketchikan Daily News*, the official newspaper of record. The publication date in the newspaper of record is the exclusive means for calculating the time to file and appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

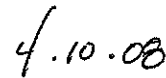
Hand-delivered appeals will be accepted at the Regional Office during normal business hours (8:00 am through 4:30 pm) Monday through Friday, excluding holidays.

Implementation of decisions subject to appeal pursuant to 36 CFR Part 215, may occur on, but not before, five business days from the close of the appeal filing period, if no appeals are received.

For additional information concerning this decision, contact Rich Jennings, District Ranger, Hoonah Ranger District, 430A Airport Road (P.O. Box 135), Hoonah, AK 99829, or call (907) 945-3631.

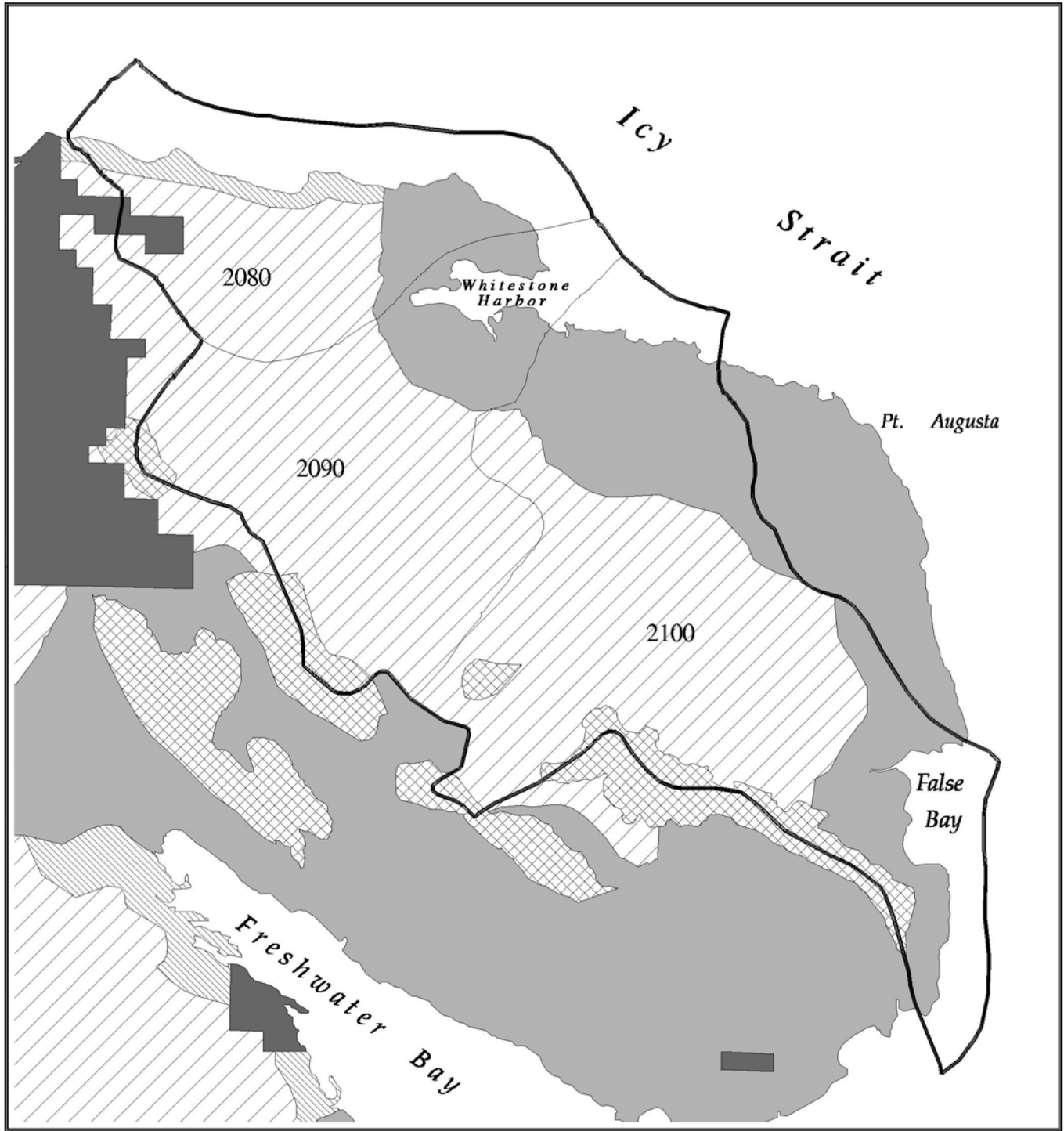







FORREST COLE
Forest Supervisor





Date

Figure R - 2
2008 Forest Plan Land Use Designation (LUD) Map



-  Old Growth Habitat
-  Scenic Viewshed
-  Special Interest Area
-  Timber Production
-  Non-National Forest Land

-  Value Comparison Unit (VCU) Boundary
-  Project Boundary
- 2090 VCU Number



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Figure R-3: Overview Map

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Figure R-4A:

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Figure R-4B

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