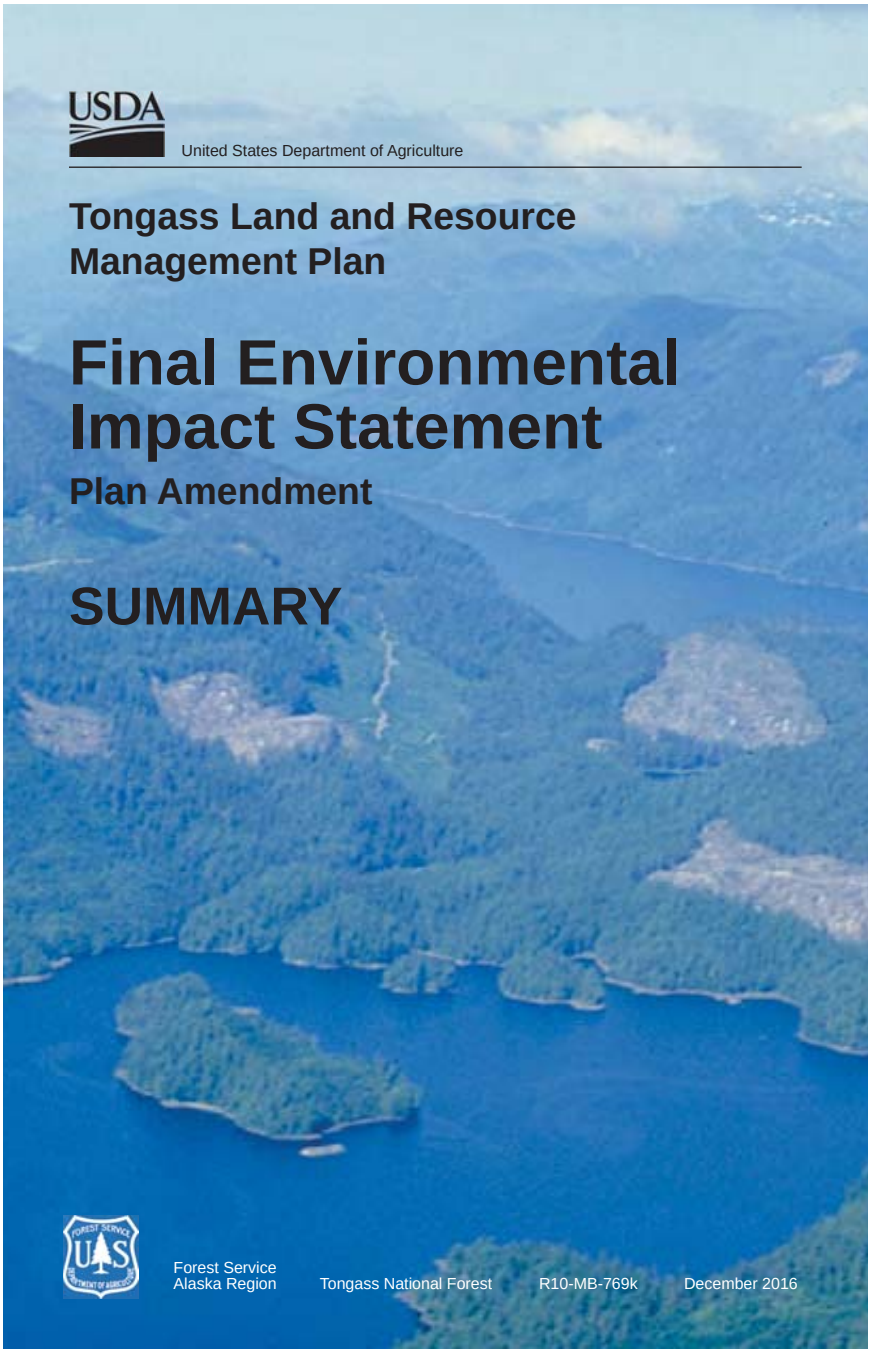

USDA

United States Department of Agriculture

Tongass Land and Resource Management Plan

Final Environmental Impact Statement

Plan Amendment

SUMMARY

Forest Service
Alaska Region

Tongass National Forest

R10-MB-769k

December 2016

Tongass National Forest

Welcome

This Summary accompanies a Final Environmental Impact Statement (EIS) and Land and Resource Management Plan (Forest Plan), which have been prepared to document the analysis of alternatives for the 2016 Tongass Forest Plan Amendment. A Final Record of Decision (ROD) and Final EIS errata are also included. Most planning participants will be receiving an electronic version of these documents on a CD. The CD contains a cover letter, ROD, Final EIS (two volumes), Final EIS errata, Forest Plan, and supporting maps. Please note that some map corrections were made in December 2016. The Final EIS is available as a complete bookmarked version in one file, as well as split into four parts in smaller files for easier opening. We recommend you start your review by reading the cover letter.

To view additional information and documents related to the Forest Plan Amendment, please visit the Tongass National Forest Plan Amendment Web site at: http://www.fs.usda.gov/goto/R10/Tongass/PlanAmend.

The Web site includes a variety of products developed in support of this project and provides convenient access to other associated Web sites.

The ROD documents the rationale for approving the Forest Plan Amendment and is consistent with the Reviewing Officer's response to objections and instructions. The effective date of the Forest Plan Amendment is 30 days after publication of notice of Forest Plan Amendment approval in the newspaper of record, the *Ketchikan Daily News*. A supplemental notice will be published in the *Juneau Empire*.

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How to Use the CD

The CD-ROM has an “autostart” feature that should start the application when you put the CD in your computer. If the application starts correctly, a Welcome page containing links to the documents should open up. If the CD does not start by itself shortly after you insert it in your CD drive, then simply double-click on the Index.htm file on the CD.

Introduction

Forest land and resource management planning is a process for developing, amending, and revising land and resource management plans for each of the National Forests in the National Forest System (NFS). Forest plans are required by the National Forest Management Act of 1976 (NFMA) (16 United States Code [U.S.C.] parts 1600-1687). The 16.7-million-acre Tongass National Forest was the first forest to complete a Land and Resource Management Plan (Forest Plan) under the NFMA in 1979. That Forest Plan was amended in 1986 and 1991 and revised in 1997. A final Supplemental Environmental Impact Statement (SEIS) was completed in 2003, which further evaluated roadless areas for their wilderness potential. The Forest Plan was amended again in 2008 in response to a Ninth Circuit Court ruling and a 5-Year Plan Review completed in 2005. The revised Plan was amended 24 times between the 1997 revision and the 2008 amendment, primarily to adjust small old-growth habitat reserve boundaries and for electronic/communication site designations. Since the 2008 amendment, the plan has been amended to establish the Héen Latinee Experimental Forest, disestablish the Young Bay Experimental Forest, add communication sites to the list in Appendix E, modify small old-growth habitat reserves, and make minor corrections to the plan.

On July 2, 2013, Secretary of Agriculture, Thomas Vilsack, issued Memorandum 1044-009, *Addressing Sustainable Forestry in Southeast Alaska* (U.S. Department of Agriculture [USDA] 2013), which expressed the Secretary's intent to transition the Tongass National Forest to a young growth–based timber program in 10 to 15 years, more rapidly than considered in the 2008 Forest Plan. The Secretary asked that the Forest Service "[s]trongly consider whether to pursue an amendment to the Tongass Forest Plan. Such an amendment would evaluate which lands will be available for timber harvest, especially young growth timber stands, which lands should be excluded, and additional opportunities to promote and speed transition to young-growth management." Recognizing the importance of retaining expertise and infrastructure, the Secretary also stated that the Forest Service "will continue to offer a supply of old growth timber while increasing the supply of young growth to provide industry in Alaska

the opportunity to develop new markets, learn new skills, and acquire new equipment." The Secretary also asked that a determination of whether to initiate an amendment be completed by September 30, 2013.

The Forest Service completed a Five-Year Review of the Forest Plan in September 2013. The results of the Five-Year Review and the Secretary's Memorandum led to the Tongass Forest Supervisor making a determination that "…conditions on the land and demands of the public require the Tongass to modify the 2008 Forest Plan" (USDA Forest Service 2013a). A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 27, 2014 (79 Federal Register [FR] 30074) initiating a 30-day scoping period. Among the comments from the Five-Year Review and from scoping were those that requested a transition to young-growth timber harvesting, ways to make renewable energy projects easier to implement, and a review of the 2001 Roadless Area Conservation Rule (Roadless Rule) inventoried roadless areas (IRAs). All comments were taken into consideration in identifying the scope of this Forest Plan amendment.

This Final Environmental Impact Statement (FEIS) is a programmatic analysis prepared by the Forest Service that describes and analyzes changes to the Forest Plan to accomplish the transition to young-growth management as provided in the Secretary's Memorandum. This FEIS evaluates which lands will be suitable for timber production, especially young-growth timber stands, and any changes or additions to management direction needed to promote and speed the transition to young-growth management while maintaining a viable timber industry in Southeast Alaska. This FEIS also describes and analyzes changes related to renewable energy development. The scope of the analysis is limited to these changes.

This FEIS analyzes in detail four action alternatives for amending the Plan, in addition to a No Action Alternative (Alternative 1). The analysis is published in two volumes. Volume 1 contains the FEIS, and Volume 2 contains the FEIS appendices. A complete Forest Plan Land Use Designation (LUD) map is provided for each of the alternatives in the Map Packet which accompanies the FEIS.

A separate document titled Tongass Land and Resource Management Plan (i.e., the Forest Plan) is published along with the FEIS and represents the selected alternative (Alternative 5). Chapter 2 and Appendix F in the FEIS describe how the other alternatives compare to Alternative 5. Instead of repeating all of the changes in management direction common to Alternatives 1-4 and Alternative 5, management direction of the alternatives is displayed in a side-by-side comparative format to demonstrate how and where direction differs from Alternative 5.

This FEIS describes and analyzes changes to the 2008 Forest Plan and tiers to and incorporates by reference the 1997 Tongass Land Management Plan Revision FEIS (1997 FEIS), the 2003 Final Supplemental EIS (SEIS) for Roadless Area Evaluation for Wilderness Recommendations (2003 FSEIS), and the 2008 Tongass Land and Resource Management Plan Amendment FEIS (2008 FEIS), and the 2008 Record of Decision (2008 ROD). Where appropriate, information in these documents that is relevant to analysis in this FEIS is cited and incorporated by reference.

Purpose and Need

The Forest Service determined that it is necessary to amend the 2008 Forest Plan. Amending the Forest Plan originates from the July 2013 memo from the Secretary of Agriculture directing the Tongass National Forest to transition its forest management program to be more ecologically, socially, and economically sustainable, while also being responsive to comments from the Five-Year Review of the Forest Plan. The purpose of this plan amendment is to:

- Review lands within the plan area to determine suitability for timber production, especially young-growth timber stands.
- Identify the projected timber sale quantity (PTSQ) and the sustained yield limit (i.e., the ecological yield of timber that can be removed annually on a sustained yield basis).
- Establish plan components (e.g., standards and guidelines)

for young-growth forest management and renewable energy development to guide future project decision-making.

- Consolidate modifications made to the Forest Plan since its approval.

An amendment is necessary for responding to the July 2013 direction from USDA Secretary Tom Vilsack outlined in the Secretary's Memorandum 1044-009. The memorandum directs management of the Tongass National Forest to expedite the transition away from old-growth timber harvesting and towards a forest products industry that uses predominantly second-growth – or young-growth – forests. Secretary Vilsack's memorandum also directs that the transition must be implemented in a manner that preserves a viable timber industry that provides jobs and opportunities for Southeast Alaska residents. USDA's goal is to effectuate this transition, over the next 10 to 15 years, so that at the end of this period the vast majority of timber sold by the Tongass will be young growth. This timeframe will conserve old-growth forests while allowing the forest industry time to adapt. The 2008 Forest Plan provides for a transition to young growth over time, but there are challenges in establishing an economically viable young-growth forest management program due to the relatively young age of the available stands, market conditions, and other factors. Secretary Vilsack's direction requires Forest Plan amendments to guide future management of NFS lands and allocation of resources on the Tongass National Forest under the multiple-use and sustained yield mandate.

The need to amend the plan is further corroborated by the Five-Year Review of the Forest Plan, completed in 2013, which concluded that conditions on the land and demands of the public necessitate the Tongass National Forest to make changes to the Forest Plan. Concerns were consistently expressed during the Five-Year Review regarding the impact of rising fossil fuel prices and increasing climate change on the quality of life in Southeast Alaska. Changes to the Forest Plan are needed to make the development of renewable energy resources more permissible, including considering access and utility corridors to stimulate economic development in

Southeast Alaska communities, and provide low-carbon energy alternatives, thereby displacing the use of fossil fuel.

Significant Issues

The Forest Service used the scoping process to determine the scope of issues to be addressed and identify the significant issues related to a proposed action.

The Forest Service identified the following significant issues during scoping.

Issue 1 – Young Growth Transition

The Secretary of Agriculture asked the Forest Service to transition to a young-growth-based timber management program on the Tongass National Forest in 10 to 15 years, which is more rapid than planned. This transition is intended to support the Tongass managing its forest for an ecologically, socially, and economically sustainable forest management program and reduce old-growth harvest while still providing economic timber to support the local forest products industry.

The issue concerns financial efficiency, salability, and volume of future timber sales. It also relates to the potential local employment and revenues generated for communities in the local area. Young-growth stand growth rates, sustainable harvest rates, the amount of old-growth harvest needed during transition to sustain the timber industry, also known as “bridge timber,” and the locations where young-growth harvest would take place are some of the factors to be considered.

Issue 2 – Renewable Energy

The development of renewable energy projects on the Tongass would help Southeast Alaska communities reduce fossil fuel dependence, stimulate economic development, and lower carbon emissions in the Region.

This issue relates to comments received during the Five-Year Review of the Forest Plan. The Forest Service should promote the

development of renewable energy projects to help Southeast Alaska communities reduce fossil energy dependence, where it is compatible with National Forest purposes and to ensure that the planning, construction, and operation of projects protect and effectively use NFS lands and resources.

Issue 3 – Inventoried Roadless Areas

Timber harvest and road building that occurred in roadless areas before the 2001 Roadless Area Conservation Rule (Roadless Rule) was enacted and during the Tongass exemption period changed the values or features that often characterize inventoried roadless areas in some locations.

Issues and concerns received during scoping as well as during the Five-Year Review process expressed concerns about roadless areas on the Tongass; both in favor of protections afforded under the 2001 Roadless Rule as well as requesting that the forest plan be amended to address the significant changes brought about by its re-instatement on the Tongass.

Some people believe roadless areas on the Tongass should be allowed to evolve naturally through their own dynamic processes and should be afforded protection that ensures this will occur. Others believe that limiting road construction and reconstruction or other management actions in roadless areas might restrict the delivery of goods, services, and activities that these areas might otherwise provide.

Roadless areas are considered important because they support a diversity of aquatic and terrestrial habitats, species, and communities, and play an important role in helping to conserve native plant and animal communities and biological diversity. They also provide people with unique recreation opportunities.

During the Tongass exemption period and before the 2001 Roadless Rule was enacted, road construction, reconstruction, and the cutting, and sale of timber in some IRAs occurred. As a result, these activities in some IRAs may have altered the roadless characteristics.

Issue 4 – Wildlife Habitat and the Conservation Strategy

Old-growth timber harvest has changed the composition and spatial patterns of terrestrial wildlife habitats. How the resulting young-growth is managed may influence the future ecological integrity of the landscape at various scales. Changes made to suitable lands designated for development, and to plan components (e.g., standards and guidelines) may affect old-growth habitat for wildlife and the Tongass Old-growth Habitat Conservation Strategy and contributing elements to old-growth reserves (e.g., riparian, beach and estuary habitats).

The Tongass National Forest supports an important assemblage of wildlife many of which are associated with or at least partially dependent on old-growth forest including one of the largest populations of brown bears in the world, high densities of breeding bald eagles, the Alexander Archipelago wolf, species of high importance for subsistence (e.g., Sitka black-tailed deer), an extensive array of endemic mammals, and other species that are dependent on old-growth habitats (e.g., marten and goshawk). The Tongass Old-growth Habitat Conservation Strategy is considered important for the continued health of old-growth associated wildlife populations in Southeast Alaska.

Timber harvest, minerals and renewable energy development, and road development can have effects on the habitat and populations of many of these species and the diversity and integrity of Southeast Alaska ecosystems. Less than 10 percent of the productive old-growth habitat on the Tongass has been converted to young growth, the percentage is much higher for certain types of old growth, such as lowland and large-tree old growth. In addition, non-NFS old growth has generally been harvested at a much higher rate. Therefore, the consideration of harvest and road building on wildlife in Southeast Alaska are greater than the effects for the Tongass by itself.

Alternatives

Forest Plan

The current 2008 Forest Plan is associated with the No Action Alternative (Alternative 1). However, a number of changes to the Forest

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Plan text are being proposed. These changes are incorporated into a Forest Plan (Land and Resource Management Plan), which accompanies the EIS. The Forest Plan was developed based on the Preferred Alternative (Alternative 5).The individual alternative descriptions on the following pages identify the major changes in the Forest Plan.

Timber Demand

In past Forest Plan revisions and amendments, varying demand scenarios were used to develop alternatives, including scenarios that allowed for growth and expansion of the current industry. In this amendment, the purpose and need identifies the need to expedite the transition away from old-growth timber harvesting and towards a forest products industry that uses predominantly second-growth – or young-growth – forests. Therefore, examination of alternatives at levels above projected demand is not warranted because these would require expansion of old-growth harvest levels, at least during the next 10 to 15 years. However, over the longer term, expansion of the timber industry is an option as more and more young growth becomes economic to harvest.

Therefore, Alternatives 1 through 5 were designed to correspond with current demand projections and produce a projected timber sale quantity (PTSQ)[1] of about 46 MMBF per year during the next 15 years, with old growth making up a decreasing percentage of the total. Old-growth volume would continue to decrease until it reaches about 5 MMBF per year and it would remain at that level, to support limited small timber operators. As more young growth becomes economic to harvest, the PTSQ would be allowed to increase. In no case, would the harvest level be allowed to exceed the sustained yield limit (SYL) (see Glossary and the *Timber* section of this EIS).

Even though Alternative 1 (no action) represents current management, it is modeled to follow the same volume production pattern. The July 2013 Secretary's memo identified a need to change direction in the 2008 Forest Plan (see Purpose and Need in Chapter 1) and without this amendment, the Tongass would be transitioning toward young-growth and away from old-growth harvest.

[1] PTSQ is a new term defined in FSH 1909.12, Chapter 60. The term allowable sale quantity (ASQ) is not used with the 2012 planning rule.

Provisions Common to all Alternatives

Under all alternatives, there is flexibility in terms of when young-growth stands may be harvested. Under Public Law 113-291, up to 15,000 acres of young growth may be harvested from 2016 through 2025, in stands less than 95 percent of CMAI. This CMAI flexibility may continue after 2025 (with annual maximums); however, the total acreage harvested at less than 95 percent of CMAI cannot exceed 50,000. In addition, young-growth sales under this provision may not be offered unless they represent non-deficit sales.[2] There is flexibility in NFMA to allow a continuation of harvesting at younger ages beyond 2025.

LUD Changes Common to the Action Alternatives

The LUD allocations for each alternative are described in the following alternative-specific descriptions. The LUDs for Alternative 1 (no action) are the same as the LUDs of the current Forest Plan. The LUDs of the action alternatives are different from Alternative 1 LUDs because of Old-growth Habitat LUD changes. Under Public Law 113-291, approximately 70,000 acres of NFS land were conveyed to Sealaska Corporation and an additional 152,000 acres were converted to LUD II. As a result of the land conveyance, old-growth reserves (OGRs) in 16 VCUs were affected. Beginning in February 2015, an interagency review team of biologists worked to develop a biologically preferred option for modifying these OGRs that meets Forest Plan Appendix K criteria and to document why other proposals are not recommended. In September 2015, the interagency review team produced a biologically preferred option (see Appendix E), which was incorporated into each of the action alternatives. Therefore, the Old-growth Habitat LUD acres vary between Alternative 1 and the action alternatives (Alternatives 2, 3, 4, and 5).

In addition, the Transportation and Utility Systems LUD would be removed under Alternatives 2, 3, 4, and 5. The LUD management prescription would be replaced by plan components under Alternatives 2, 3, 4, and 5 and would provide management direction

[2] Any sale of trees pursuant to the authority granted under subparagraph (A) shall not— (iii) be advertised if the indicated rate is deficit (defined as the value of the timber is not sufficient to cover all logging and stumpage costs and provide a normal profit and risk allowance under the appraisal process of the Forest Service) when appraised using a residual value appraisal.

for renewable energy and transportation systems corridors (see Chapter 5 in the proposed Forest Plan).

Alternative 1 (No Action)

The No Action Alternative represents current management direction (2008 Forest Plan) and includes the application of the Roadless Area Conservation Rule (2001 Roadless Rule) (36 CFR 294 Subpart B). As noted above, it also follows the direction provided in the July 2013 Secretary's memo, which identified a need to transition away from old-growth harvest. Under this alternative, timber harvest would follow the existing timber sale program adaptive management strategy (USDA Forest Service 2008c). A color map showing the phases in this strategy is provided along with the FEIS. Timber harvest is currently restricted to areas within Phase 1 of the strategy and timber harvest would have to reach 100 MMBF for two years before harvest could occur in Phase 2 areas. Timber management would be restricted to the development LUDs and would remain outside of inventoried roadless areas. No commercial harvest would be allowed in beach and estuary fringe or RMAs. All other 2008 Forest Plan management direction would be followed.

As noted previously, due to Public Law 113-291, CMAI requirements for determining the youngest age for harvest would be eliminated on up to 50,000 acres of young-growth. However, beyond that, the minimum harvest age would return to 95 percent of CMAI except under exemptions provided by the NFMA.

Alternative 1 would result in the most old-growth harvest among the alternatives over both 25-year and 100-year periods. Table 2-2 summarizes the key elements of Alternative 1 and Table 2-3 summarizes the LUD acres, mapped suitable acres, and projected harvest acres under this alternative for young growth and old growth.

This alternative would harvest timber at a rate of 46 MMBF per year (equivalent to the harvest needed to meet the projected timber demand, see Table 2-1). It would emphasize young growth and minimize old growth while maintaining 46 MMBF per year. As such, it is expected to produce about 8 MMBF of young growth and 38 MMBF of old growth per year during the first 10 years (Figure 2-1). From Year 10 through Year 25, it is projected to produce about 15 MMBF of young

growth and 31 MMBF of old growth per year. At about Year 32, the young-growth harvest is expected to increase to about 41 MMBF and the old-growth harvest would decrease to 5 MMBF per year. The young-growth harvest is expected to continue to increase at a rapid rate after Year 32 and is expected to reach an upper limit of about 133 MMBF in about Year 38. The old-growth harvest rate would be held at 5 MMBF per year to support small and micro sales.

Key Elements of Alternative 1

Old-growth Harvest

- Follows 2008 Forest Plan Timber Sale Program Adaptive Management Strategy for Phases 1, 2, and 3
- No harvest allowed in Inventoried Roadless Areas

Young-growth Harvest

- Allows harvest in Development LUDs, including Clearcutting
- Allows no harvest in Natural Setting LUDs
- Allows no harvest in Inventoried Roadless Areas
- Allows no commercial harvest in Beach and Estuary Fringe or in RMAs
- There is flexibility to harvest 50,000 acres at a younger age than 95 percent of CMAI per Public Law 113-291
- Scenery standards (SIOs) would not be modified for young growth

LUD Changes

- None

Other New Plan Components (Chapter 5)

- None

Alternative 2 (Proposed Action)

As in Alternative 1, this alternative would follow the existing timber sale program adaptive management strategy for old-growth harvest (USDA Forest Service 2008c) (see color map accompanying the FEIS); as a result, all old-growth harvest would come from Phase 1, at least during the first 15 years or so. After harvest volume exceeds 100 MMBF for two years, it is possible that limited old-growth harvest could occur in Phase 2 areas. Young-growth harvest could

come from any phase of the strategy at any time. The portions of inventoried roadless areas (IRAs) that were roaded before the 2001 Roadless Rule and during the 2001 Roadless Rule exemption period for the Tongass would be available for young-growth and old-growth harvest. This would require rulemaking to modify 36 CFR 294.13(b)(4). If selected, no harvest could occur in IRAs until rulemaking is completed. No Roadless Area harvest outside of these roaded areas would be allowed.

Alternative 2 would differ substantially from Alternative 1 in terms of lands identified as suitable for young-growth timber production. Young-growth management would be allowed in both development and natural setting LUDs (except for Congressionally designated and administratively withdrawn areas, such as Wilderness, and islands less than 1,000 acres in size), in beach and estuary fringe, RMAs outside of Tongass Timber Reform Act (TTRA) buffers, and high-vulnerability karst.

Young-growth management may include clearcutting in all areas, except in RMAs and on high-vulnerability karst, where only commercial thinning (up to 33 percent basal area removal) would be allowed. After 15 years, clearcutting would no longer be allowed in the beach and estuary fringe and only commercial thinning would be allowed. In addition, in beach and estuary fringe, the intent is to maintain an approximate 1,000-foot wide protected corridor adjacent and inland of any even-aged harvest unit to function as an alternate, low elevation, natural habitat corridor.

Scenery standards for young-growth management would be relaxed. The SIOs would be designated as Very Low for all LUDs and distance zones.

As noted previously, due to Public Law 113-291, CMAI requirements for determining the youngest age for harvest would be eliminated on up to 50,000 acres of young-growth. Beyond that, the minimum harvest age would continue to be flexible under exceptions allowed by NFMA.

The Forest Plan would include new management direction that improves flexibility in renewable energy development under this

alternative. Scenery standards for renewable energy development would be relaxed to Very Low for all LUDs and distance zones.

Among the action alternatives, Alternative 2 would provide the largest amount of timber volume (old growth and young growth combined), including the largest amount of young-growth volume from lands suitable for timber production. It would result in the smallest amount of old growth timber volume over both 25-year and 100-year periods. Table 2-5 summarizes the key elements of Alternative 2 and Table 2-6 summarizes the LUD acres, mapped suitable acres, and projected harvest acres under this alternative for young growth and old growth.

This alternative would harvest timber at a rate of 46 MMBF per year (equivalent to the harvest needed to meet the projected timber demand, see Table 2-1), emphasizing young growth and minimizing old growth. As such, it is expected to produce an average of about 22 MMBF of young growth and 24 MMBF of old growth per year during the first 10 years (Figure 2-3). From Years 11 through 15, Alternative 2 is projected to produce an average of 61 MMBF of young growth and 5 MMBF of old growth per year. Alternative 2 would likely reach a full transition harvest of 41 MMBF of young growth about Year 12. Young-growth harvest is expected to continue to increase at a rapid rate after Year 12 and is expected to reach an upper limit of about 120 MMBF in Year 17. The old-growth harvest rate would be held at 5 MMBF per year to support small and micro sales.

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Key Elements of Alternative 2

Old-growth Harvest

- Allows harvest only within Phase 1 of the 2008 Timber Sale Program Adaptive Management Strategy.
- The portions of IRAs that were previously roaded would be available for harvest after rulemaking.

Young-growth Harvest

- Allows harvest in Development LUDs, including clearcutting, and entry into all phases of the Timber Sale Program Adaptive Management Strategy without regard to harvest volumes.
- Allows harvest in natural setting LUDs, except for Congressionally designated and administratively withdrawn areas and islands smaller than 1,000 acres.
- The portions of IRAs that were previously roaded would be available for harvest after rulemaking.
- Commercial harvest is allowed in beach and estuary fringe, in high-vulnerability karst, and in RMAs outside of TTRA buffers (details below).
- Clearcutting is allowed on all lands suitable for timber production (including natural setting LUDs), except RMAs and high-vulnerability karst where only commercial thinning is allowed. The maximum removal in RMAs outside of TTRA buffers is 33 percent (basal area). Clearcutting in beach and estuary fringe is not allowed after 15 years.
- In beach and estuary fringe, the intent is to maintain an approximate 1,000-foot wide protected corridor adjacent and inland of any even-aged harvest unit.
- There is flexibility to harvest at a younger age than 95 percent of CMAI throughout the life of the Plan.
- Scenery standards would be relaxed to Very Low SIO for young-growth harvest.

LUD Changes

- Old Growth Habitat LUDs are modified to correspond with the biologically preferred option in areas where they were adversely affected by land conveyances and other changes resulting from Public Law 113-291.
- The Transportation and Utility Systems LUD is removed.

New Plan Direction (Forest Plan Chapter 5)

- Young-growth plan components added to Forest Plan.
- Renewable Energy plan components added to Forest Plan (including relaxation of SIO to Very Low for renewable energy development).
- Transportation Systems Corridors plan components added to Forest Plan.
- Forest-wide plan direction added to Forest Plan.

Alternative 3

Alternative 3 would allow old-growth harvest only in Phase 1 of the existing timber sale program adaptive management strategy (USDA Forest Service 2008c) (see color map accompanying this FEIS) but would allow young-growth harvest in all phases. This alternative would allow young-growth and old-growth harvest in 2001 Roadless Rule IRAs. If this alternative were selected, harvest in IRAs would be deferred until agency rulemaking modifies 36 CFR 294.13(b)(4) (2001).

Alternative 3 is similar to Alternative 2 in that it identifies lands as suitable for young-growth timber production in both development and natural setting LUDs (except for Congressionally designated areas such as Wilderness, administratively withdrawn areas, and islands less than 1,000 acres in size), as well as in beach and estuary fringe and high-vulnerability karst, but not in RMAs. Young-growth management may include clearcutting in all areas, except in beach and estuary fringe and on high-vulnerability karst, where only commercial thinning is allowed.

In addition, for young-growth harvest units larger than 20 acres in VCUs that have had concentrated past timber harvest, it is intended that 30 percent of the young growth stand acres should be left. This legacy provision would be described as a Management Approach in the Forest Plan.

Scenery standards for young growth management would be reduced by one level relative to the 2008 Forest Plan. SIOs would be reduced as follows: High would be reduced to Moderate, Moderate would be reduced to Low, and Low and Very Low would become Very Low.

As noted previously, due to Public Law 113-291, CMAI requirements for determining the youngest age for harvest would be eliminated on up to 50,000 acres of young growth. Beyond that, the minimum harvest age would continue to be flexible under exceptions allowed by NFMA.

The Forest Plan would include new management direction that improves flexibility in renewable energy development under this alternative. The SIO (scenery standard) for renewable energy development would Low for all LUDs and distance zones.

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Alternative 3 would provide the second largest amount of timber volume (old growth and young growth combined). It would result in the second lowest harvest of old growth over both the 25-year and 100-year periods. Table 2-8 summarizes the key elements of Alternative 3 and Table 2-9 summarizes the LUD acres, mapped suitable acres, and projected harvest acres under this alternative for young growth and old growth.

This alternative would harvest timber at a rate of 46 MMBF per year (equivalent to the harvest needed to meet the projected timber demand, see Table 2-1). It would emphasize young growth and minimize old growth while maintaining 46 MMBF per year. As such, it is expected to produce an average of about 20 MMBF of young growth and 26 MMBF of old growth per year during the first 10 years (Figure 2-5). From Year 11 through Year 15, it is projected to produce an average of 50 MMBF of young growth and about 5 MMBF of old growth per year. Alternative 3 would likely reach a full transition harvest of 41 MMBF of young growth at about Year 13. Young-growth harvest is expected to continue to increase at a rapid rate after Year 13 and is expected to reach an upper limit of about 117 MMBF in Year 17. The old-growth harvest rate would be held at 5 MMBF per year to support small and micro sales.

Key Elements of Alternative 3

Old-growth Harvest

- Allows harvest only within Phase 1 of the 2008 Timber Sale Program Adaptive
- Management Strategy.
- Inventoried Roadless Areas (IRAs) would be available for harvest after rulemaking.

Young-growth Harvest

- Allows harvest in Development LUDs, including clearcutting, and entry into all phases of the Timber Sale Program Adaptive Management Strategy without regard to harvest volumes.
- Allows harvest in natural setting LUDs, except for congressionally designated and administratively withdrawn areas and islands smaller than 1,000 acres.
- IRAs would be available for harvest after rulemaking.
- Commercial harvest is allowed in beach and estuary fringe but not in RMAs.
- Clearcutting is allowed in all areas except beach and estuary fringe and high- vulnerability karst, where only Commercial Thinning is allowed.
- Management Approach to provide legacy in young-growth harvest units larger than 20 acres in certain VCUs.
- There is flexibility to harvest at a younger age than 95 percent of CMAI throughout the life of the Plan.
- Scenery standards for young growth management would be relaxed; SIOs would be reduced by one level relative to the 2008 Forest Plan (i.e., High is reduced to Moderate, Moderate is reduced to Low, and Low and Very Low become Very Low).

LUD Changes

- Old-growth Habitat LUDs are modified to correspond with the biologically preferred option in areas where they were adversely affected by land conveyances and other changes resulting from Public Law 113-291.
- The Transportation and Utility Systems LUD is removed.

New Plan Direction (Forest Plan Chapter 5)

- Young-growth plan components added to Forest Plan.
- Renewable Energy plan components added to Forest.
- Transportation Systems Corridors plan components added to Forest Plan.
- Forest-wide plan direction added to Forest Plan.

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Alternative 4

Like Alternative 3, this alternative would allow old-growth harvest only in Phase 1 of the existing timber sale program adaptive management strategy (see color map accompanying this FEIS), but in contrast with Alternative 3, it would also limit young-growth harvest to only Phase 1. Similar to Alternative 1, this alternative includes the application of the 2001 Roadless Rule.

Alternative 4 would allow young-growth management only in the development LUDs. Harvest is allowed in beach and estuary fringe and on high-vulnerability karst, but only commercial thinning is allowed. No harvest is allowed in RMAs. Young growth management may include clearcutting in other areas.

In addition, for young-growth harvest units larger than 20 acres in VCUs that have had concentrated past timber harvest, it is intended that 30 percent of the young growth stand acres should be left. This legacy provision would be described as a Management Approach in the Forest Plan.

No change would occur in scenery standards relative to the 2008 Forest Plan.

As noted previously, due to Public Law 113-291, CMAI requirements for determining the youngest age for harvest would be eliminated on up to 50,000 acres of young-growth. Beyond that, the minimum harvest age would continue to be flexible under exceptions allowed by NFMA.

The Forest Plan would include new management direction that improves flexibility in renewable energy development under this alternative. The SIO (scenery standard) for renewable energy development would Low for all LUDs and distance zones.

Alternative 4 would provide the smallest amount of timber volume (old growth and young growth combined) and the smallest amounts of young-growth volume. It would result in the second highest harvest of old growth during both the 25-year and 100-year periods. Table 2-11 summarizes the key elements of Alternative 4, and Table 2-12 summarizes the LUD acres, mapped suitable acres, and

projected harvest acres under this alternative for young growth and old growth.

This alternative would harvest timber at a rate of 46 MMBF per year (equivalent to the harvest needed to meet the projected timber demand, see Table 2-1). It would emphasize young growth and minimize old growth while maintaining 46 MMBF per year. As such, it is expected to produce an average of about 11 MMBF of young growth and 35 MMBF of old growth per year during the first 10 years (Figure 2-7). From Year 11 through Year 15, it is projected to produce an average of 26 MMBF of young growth and about 20 MMBF of old growth per year. Alternative 4 would likely reach a full transition harvest of 41 MMBF of young growth about Year 16. Young-growth harvest is expected to continue to increase at a rapid rate after Year 16 and is expected to reach an upper limit of 87 MMBF about Year 18. The old-growth harvest rate would be held at 5 MMBF per year to support small and micro sales.

Summary

Key Elements of Alternative 4

Old-growth Harvest

- Allows harvest only within Phase 1 of the 2008 Timber Sale Program Adaptive Management Strategy.
- No harvest is allowed in IRAs.

Young-growth Harvest

- Allows harvest in development LUDs, including clearcutting, but allows entry only in Phase 1 of the Timber Sale Program Adaptive Management Strategy.
- Allows no harvest in natural setting LUDs.
- Allows no harvest in IRAs.
- Commercial harvest is allowed in beach and estuary fringe and in high-vulnerability karst within development LUDs, but no harvest is allowed in RMAs.
- Clearcutting is not allowed in beach and estuary fringe and high-vulnerability karst; only commercial thinning is allowed.
- Management Approach to provide legacy in young-growth harvest units larger than 20 acres in certain VCUs.
- There is flexibility to harvest before 95 percent of CMAI throughout the life of the Plan.
- No changes would occur in scenery standards relative to the 2008 Forest Plan.

LUD Changes

- Old-Growth Habitat LUDs are modified to correspond with the biologically preferred option in areas where they were adversely affected by land conveyances and other changes resulting from Public Law 113-291.
- The Transportation and Utility Systems LUD is removed.

New Plan Direction (Forest Plan Chapter 5)

- Young-growth plan components added to Forest Plan.
- Renewable Energy plan components added to Forest Plan.
- Transportation Systems Corridors plan components added to Forest Plan.
- Forest-wide plan direction added to Forest Plan.

Alternative 5 (Preferred Alternative)

Alternative 5 is the Preferred Alternative. This alternative is based on the recommendations from the Tongass Advisory Committee (TAC), a formally established Federal Advisory Committee (see Appendix B of the Forest Plan). The establishment of the TAC represents a turning point in Tongass management seeking new approaches, practices, and responses. The TAC offers a regionally focused, collaborative path toward an innovative opportunity for a viable young growth timber industry while honoring the suite of values – economic, ecological, social, and cultural – inherent in the Forest.

Like Alternatives 3 and 4, this alternative would allow old-growth harvest only within Phase 1 of the timber sale program adaptive management strategy (see color map accompanying this FEIS). As in Alternatives 1 and 4, the 2001 Roadless Rule would apply and no old-growth or young-growth harvest would occur in roadless areas. In addition, old-growth harvest is excluded from all Tongass 77 (T77)[3] watersheds and TNC/Audubon Conservation Priority Areas (Albert and Schoen 2007). These old-growth harvest exclusion areas are shown on the large color map for Alternative 5 that accompanies this FEIS.

As in Alternatives 2, 3, and 4, Alternative 5 would allow young-growth harvest in all three phases of the timber sale program adaptive management strategy. It would allow young-growth management in development LUDs and in the Old-growth Habitat LUD including harvest in beach and estuary fringe and RMAs outside of TTRA buffers within these same LUDs. However, young-growth harvest in the Old-growth Habitat LUD, beach and estuary fringe, and RMAs outside of TTRA buffers would be allowed only during the first 15 years after Plan approval, and created openings for commercial harvest (up to 10 acres and a maximum removal of up to 35 percent of the acres of the original harvested stand) or commercial thinning would be allowed. In beach and estuary fringe, a 200-

[3] The Tongass 77 (T77) refers to value comparison units (VCUs), which approximate major watersheds located on National Forest System lands that Trout Unlimited, Alaska Program identified as priority salmon watersheds. As a result of the Sealaska Land Entitlement Finalization in the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291), there was a net reduction in the T77 watersheds from 77 to 73. To provide clarity and consistency, the T77 nomenclature will continue to be used in this document when referring to these priority watersheds.

foot no-commercial harvest buffer adjacent to the shoreline would be required. Along lake shorelines, a 100-foot no-cut commercial harvest buffer would be established. Scenery standards (SIOs) for young growth management would be reduced to Very Low for all distance zones in the development LUDs only. This standard would also apply when young-growth and old-growth harvests are planned in the same Viewshed.

As noted previously, due to Public Law 113-291, CMAI requirements for determining the youngest age for harvest would be eliminated on up to 50,000 acres of young-growth. Beyond that, the minimum harvest age would continue to be flexible under exceptions allowed by NFMA.

The Forest Plan would include new management direction that improves flexibility in renewable energy development under this alternative. The SIO (scenery standard) for renewable energy development would Low for all LUDs and distance zones.

Alternative 5 would provide the second smallest amount of timber volume (old growth and young growth combined) among the alternatives, but the second largest amount of old-growth volume among the action alternatives. Table 2-14 summarizes the key elements of Alternative 5 and Table 2-15 summarizes the LUD acres, mapped suitable acres, and projected harvest acres under this alternative for young growth and old growth.

This alternative would harvest timber at a rate of 46 MMBF per year (equivalent to the harvest needed to meet the projected timber demand, see Table 2-1). It would emphasize young growth and minimize old growth while maintaining 46 MMBF per year. As such, it is expected to produce an average of about 12 MMBF of young growth and 34 MMBF of old growth per year during the first 10 years (Figure 2-9). From Year 11 through Year 15, it is projected to produce an average of 28 MMBF of young growth and about 18 MMBF of old growth per year. Alternative 5 would likely reach a full transition harvest of 41 MMBF of young growth about Year 16. Young-growth harvest is expected to continue to increase at a rapid rate after Year 16 and is expected to reach an upper limit of 98 MMBF about Year 18. The old-growth harvest rate would be held at 5 MMBF per year to support small and micro sales.

Key Elements of Alternative 5

Old-growth Harvest

- Allows harvest only within Phase 1 of the 2008 Timber Sale Program Adaptive Management Strategy.
- No harvest is allowed in IRAs.
- No harvest is allowed within the T77 watersheds or the TNC/ Audubon conservation priority watersheds.

Young-growth Harvest

- Allows harvest in Development LUDs, including clearcutting, and entry into all phases of the Timber Sale Program Adaptive Management Strategy without regard to harvest levels.
- Allows harvest in Old Growth Habitat LUDs, but not in other natural setting LUDs or on islands less than 1,000 acres
- No harvest is allowed in IRAs.
- Commercial harvest is allowed in beach and estuary fringe outside of a 200-foot buffer and in RMAs outside of TTRA buffers.
- A 100-foot no-cut buffer is established around all lakes.
- In Old Growth Habitat LUDs, Beach Fringe (outside of the 200-foot buffer) and in RMAs outside of TTRA buffers, clearcutting is not allowed, but patch cuts (≤10- acre openings and a maximum of 35 percent removal) is allowed, along with commercial thinning. Harvest is allowed in these land categories only during the first 15 years after plan approval.
- There is flexibility to harvest at a younger age than 95 percent of CMAI throughout the life of the Plan.
- The scenery standards (SIOs) would be reduced to Very Low in development LUDs only.

LUD Changes

- Old Growth Habitat LUDs are modified to correspond with the biologically preferred option in areas where they were negatively affected by land conveyances and other changes resulting from Public Law 113-291.
- The Transportation and Utility Systems LUD is removed.

New Plan Direction (Chapter 5)

- Young-growth plan components added to Forest Plan.
- Renewable Energy plan components added to Forest Plan.
- Transportation Systems Corridors plan components added to Forest Plan.
- Forest-wide plan direction added to Forest Plan.

Comparison of the Alternatives

This section briefly compares the environmental consequences of the five alternatives with respect to the significant issues described in Chapter 1. This comparison is based on the effects analyses presented in Chapter 3.

Issue 1 – Young-growth Transition

The purpose and need for this project is primarily based on a memorandum from the Secretary of Agriculture (see Chapter 1) that directs management of the Tongass National Forest to expedite the transition away from old-growth timber harvesting and towards a forest products industry that utilizes predominantly second-growth – or young-growth – forests. Secretary Vilsack's memorandum also guides that the transition should be implemented in a manner that preserves a viable timber industry that provides jobs and opportunities for Southeast Alaska residents. USDA's goal is to effectuate this transition, over the next 10 to 15 years, so that at the end of this period the vast majority of timber sold by the Tongass will be young growth. This timeframe will conserve old growth forests while allowing the forest industry time to adapt.

Because of the Secretary's memorandum, the existing condition emphasizes a transition to young growth and minimizes old-growth harvest, but does this within the constraints of the 2008 Forest Plan. Alternative 1 (no action) would result in full transition to a predominantly young-growth-based industry in about 32 years, well beyond the 15 year goal presented in the Secretary's memorandum. In contrast, all of the action alternatives would result in a full transition in about 12 to 16 years. Because these timeframes represent full transition, the period in which the "vast majority of timber sold by the Tongass will be young growth" is expected to be about 10 to 15 years for the action alternatives. Of the action alternatives, the fastest transition (12 years) would occur with Alternative 2 and the slowest transition (16 years) would occur with Alternatives 4 and 5.

All of the alternatives are expected to support from 184 to 231 annualized direct jobs during the first decade, depending on the

portion of total harvest that is exported. Total estimated jobs are very similar across the alternatives, with the highest number of direct jobs supported by Alternative 2 and the lowest number of direct jobs supported by Alternative 1. In addition, each alternative is expected to meet the projected demand for Tongass timber. Therefore, each alternative is expected to meet the criterion of maintaining a viable industry. However, it is unclear how quickly industry will be able to "retool" mills and harvesting equipment and how markets will react to changing from old-growth to young-growth forest products; thus, this criterion is associated with a relatively high degree of uncertainty.

Under all alternatives, the harvest of old growth would diminish over time and the harvest of young growth would increase. Therefore, all of the alternatives would "conserve old-growth forests." The largest old-growth harvest in the first 25 years would be about 39,000 acres with Alternative 1. Each of the action alternatives would harvest less old growth, ranging from 15,000 acres with Alternative 2 to 24,000 acres with Alternative 5. The same pattern among the alternatives occurs with the 100-year harvest as well.

Issue 2 – Renewable Energy

Another important part of the purpose and need for this project is the purpose of establishing new direction in the Forest Plan so that renewable energy development is more permissible. There is a need to stimulate economic development in Southeast Alaska communities, and provide low-carbon energy alternatives, thereby displacing the use of fossil fuel. Under the 2008 Forest Plan, siting of energy projects is limited in certain LUDs, and it would remain that way under Alternative 1. Under each of the action alternatives (Alternatives 2, 3, 4, and 5), changes would be made to the Forest Plan that would result in improved flexibility in siting and development of renewable energy projects.

Issue 3 – Inventoried Roadless Areas

Under Alternatives 1, 4, and 5 IRAs are withdrawn from timber production and not suitable for timber production (FSH 1909.12,

chapter 60, section 61.11). In Alternative 2, IRAs that were previously roaded would be available for road construction and timber harvest and in Alternative 3, all IRAs would be available for road construction and timber harvest. In both Alternatives 2 and 3, entry into IRAs would not be permitted without rulemaking or, in the case of Alternative 3, if the 2003 Tongass Exemption (68 FR 75136) is reinstated. Estimated acres of timber harvest in IRAs over 100 years would range from 0 acres for Alternatives 1, 4, and 5, to 11,000 acres for Alternative 2, to 29,000 acres for Alternative 3. The protection of roadless characteristics would be directly proportional to the projected acres of timber harvest with Alternatives 1, 4, and 5 providing the most protection, Alternative 2 providing the second most protection, and Alternative 3 providing the least protection.

Issue 4 – Wildlife Habitat and the Conservation Strategy

Relative to old-growth habitat conservation, Alternative 1 would have the highest harvest (1.3 percent of existing POG), followed by Alternative 4 (0.9 percent of existing POG), followed by Alternative 5 (0.8 percent of existing POG), followed by Alternatives 2 and 3 (0.7 percent of existing POG). The change in the percent of original POG remaining after 100 years would follow the same pattern. Currently, 92 percent of original POG is remaining; under all alternatives this percentage would drop by about 1 percent after 100 years. Alternative 1 would result in about 90 percent remaining and the action alternatives would each result in about 91 percent remaining. This same pattern would continue for the percent reduction in high-volume POG. The existing 86 percent of original high-volume POG remaining would be reduced to about 85 percent for all alternatives after 100 years. For large-tree POG, about 79 percent of the original acres exist. Alternative 1 would result in about 78 percent remaining after 100 years, while the action alternatives would maintain about 79 percent.

Young-growth harvest in the beach and estuary fringe would be lowest under Alternative 1 (no harvest). Under the action

alternatives, no harvest of POG would occur, but impacts resulting from young growth harvest would be highest under Alternative 2, which would include the second highest amount of young-growth acres and would allow clearcutting. Under Alternatives 3 and 4, considerable young-growth acreage would be harvested, but using commercial thinning, which would result in less effects than clearcutting. Alternative 5 would have the lowest effect on beach and estuary fringe among the action alternatives because young-growth acreage would be lowest and only patch cutting (with created openings up to 10 acres and a maximum removal of up to 35 percent of the acres of the original harvested stand) or commercial thinning would be allowed and only during the first 15 years after Forest Plan approval with a one-time entry restriction.

For RMAs, the lowest effects would be associated with Alternatives 1, 3, and 4, which would permit no harvest in RMAs. Alternative 2 would have the greatest harvest impacts in RMAs because it would include the highest amount of acreage and would allow clearcutting during the first 15 years of Forest Plan approval and commercial thinning thereafter. Effects to RMAs would be lower under Alternative 5 due to a lower amount of acres harvested and only patch cutting or commercial thinning would be permitted and only during the first 15 years after Forest Plan approval with a one-time entry restriction.

In the Old-growth Habitat LUD, Alternatives 1 and 4 would allow no young-growth harvest. The greatest amount of young-growth harvest in the Old-growth Habitat LUD would occur under Alternative 2, followed by Alternatives 3 and 5. Effects would be greatest under Alternative 2 because it would allow clearcutting and have the largest harvest acreage, and less under Alternative 3 because only commercial thinning would be allowed, followed by Alternative 5 which would allow only patch cutting or thinning and only during the first 15 years after Forest Plan approval and with a one-time entry restriction.

Summary

Average total road density across the Forest (NFS lands only) under all alternatives would be approximately 0.23 mile per square mile after 100 years, an increase of 0.03 to 0.04 mile per square mile above existing levels. Approximately 83 percent of WAAs would have total road densities ranging between 0.0 and 0.7 mile per square mile under all alternatives. Total roads are conservatively defined to include open roads, closed roads, and decommissioned roads. Average open road density across the Forest (NFS lands only) would be approximately 0.09 mile per square mile, an increase of approximately 0.005 mile per square mile under all alternatives. Approximately 96 percent of WAAs would have open road densities ranging between 0.0 and 0.7 mile per square mile under all alternatives. Therefore, any potential increase in hunter access or risk of overharvest for wildlife species would be minor and localized, and would not be measurable at the forest-wide scale under any of the alternatives.

The transition to young-growth management would slow the long-term decrease in deer habitat capability due to the reduction in POG harvest. Based on Interagency Deer Habitat Capability model outputs, deer habitat capability under all of the alternatives would decline about 1 percent over 100 years. Forest-wide all alternatives would maintain about 99 percent of the existing deer habitat capability. Results based on the Forage Resource Evaluation System for Deer (or FRESH deer model) are very similar; Forest-wide, the existing level of habitat quality would be decline about 1 percent after 100 years under all alternatives.

Cumulative POG harvest on all landownerships would be greatest under Alternative 1, followed by Alternatives 4, 5, 3, and 2 (in that order). Cumulative effects would be least under the alternatives that propose the shortest young-growth transition time. After 100 years of Forest Plan implementation and non-NFS harvests, approximately 83 percent of the original (1954) total POG forest, about 76 percent of the original high-volume POG, and 63 to 64 percent of the original large-tree POG would be maintained on all landownerships under all of the alternatives.

Summary

Cumulative road densities (all land ownerships) would be similar among alternatives (about 0.45 mile per square mile), representing an increase of about 0.11 to 0.12 miles per square mile above current conditions. Open road densities for all land ownerships would increase from about 0.22 mile per square mile to about 0.24 mile per square mile after 100 years under all alternatives.

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Main Cover Photo: Photograph taken looking northwest from above Neets Bay on north Revillagigedo Island. An unnamed cove and timber harvest on the peninsula lie in the foreground with Gedney Pass and Hassler Island in the background (right).

Inset Photo on Back: Blue Lake Hydroelectric Project (courtesy Desiree Brandis)